CANAL RECORD

VOLUME 7

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CANAL RECORD

PUBLISHED WEEKLY UNDER
THE AUTHORITY AND SUPERVISION OF THE PANAMA CANAL

AUGUST 27, 1913, TO AUGUST 19, 1914

VOLUME VII
WITH INDEX

THE PANAMA CANAL
BALBOA HEIGHTS, CANAL ZONE
1914.

THE PANAMA CANAL PRINTING PRESS
MOUNT HOPE, CANAL ZONE
1914.

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NMS 8 No 17

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CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, AUGUST 27, 1913. No. 1.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the new stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Dredge "No. 82" Passes Through Gatun Lake.

Suction dredge *No. 82* left its mooring at the edge of the lake, near the landing for small boats at Gatun, at 6.20 o'clock, Tuesday morning, August 26, and was towed by the steam launch *Balboa* to a point in the Canal channel north of the Gamboa dike, where it will be set at work within the next few days removing mud and gravel brought down and deposited there by the Chagres River. The dredge has been tied up at Gatun for several months waiting for the lake to rise to a height so that it could pass through it and begin the work of dredging. The 24-mile trip was made without incident, the dredge arriving at its destination at 3.20 p. m. It is the first large vessel that has passed through the lake channel.

Moving Employes' Effects in Panama and Colon.

A ruling has been adopted by the Quartermaster's Department to the effect that when an employe moves from Ancon or Cristobal to private quarters in the cities of Panama and Colon, team service may be provided, but where an employe moves from one house to another in those cities, the request for team service will be denied. The employe may, however, have the service on written agreement to pay the cost.

Water at South End of Miraflores Locks.

The waters of the Rio Grande diversion were turned into the Canal prism between Miraflores Locks and the dike across the Canal, 5,000 feet south of the locks proper, on the afternoon of August 23, in preparation for the removal of the dike, which will open a channel from the locks to the Pacific. The diversion was dammed at a point almost opposite the dike, at mile post 42.50, by means of a light fill of rock and earth, and the water was turned into the prism through a shallow trench. The prism is filling rather slowly, and it is probable that the Rio Grande supply will be augmented by letting in water from the sea. The tripod drills on the side of the dike toward the locks continue at work and it is proposed to shatter the dike by submerged blasts on September 1. The lower level of the locks is protected against flooding by the lower guard gates, which were closed on August 20, and by closing the Stoney gate valves at the lower ends of the culverts in the side and center walls. About 25,000 feet of railway track were removed from this section of the completed channel, in anticipation of its inundation.

New Record in Pulling Cable.

The cable gang at Gatun Locks, under Mr. G. A. Balling, supervisor of electrical installation, consisting of Foreman Williams, F. W. Hallin, P. R. Kiger, N. Owens, N. Gilbert, O. W. Steeds, and silver helpers, established a new local record in cable pulling for an 8-hour day on Thursday, August 21, by pulling 9,828 feet of 8-conductor, No. 10 lead-covered cable, and 12,300 feet of 5-conductor, No. 10 lead-covered cable, a total of 22,128 feet. A total of 9,200 feet of cable was pulled during the first three hours. It rained the entire day, and on this account, the conditions under which the work was carried on were unfavorable. The best local record for any one month is held at Gatun Locks, when 113,002 feet of cable were pulled.

New P. R. R. Time Table.

A new passenger train time table will go into effect on the Panama railroad at 2.30 a. m., on Tuesday, September 2. The new schedule provides for a through main line service from Colon to Panama, via the Gold Hill cut-off, three trains each way daily except Sunday, with changes in the arriving and leaving time. The train leaving Panama at 1.30 p. m. daily, except Sunday. has been withdrawn. Train service for the villages on the west bank of the Canal between Bas Obispo and Culebra, inclusive, is provided, with five trains each way daily except Sunday, including a train out of Panama each week day at 9 p. m. For particulars regarding the new changes, attention is invited to the regular tables which appear on Page 3 of this issue.

Visit of New Zealand Cruiser.

The New Zealand battle cruiser *New Zealand*, Captain Lionel Halsey, R. N., is scheduled to arrive in Panama Bay about August 29, for a stay of six days. The vessel is of 18,000 tons, and is at present on detached duty. A reception will be given the captain and officers of the cruiser by the British and American residents, at the Hotel Tivoli on Wednesday, September 3, at 9 p.m.

◆

The existing 6-inch water main on E street, Colon, will be extended south for a distance of several hundred feet to supply water to a new private laundry and cold storage plant, and other demands in that part of the city, at an estimated cost of $1,100.

FLOODING CULEBRA CUT.

Steamshovel Work In Cut Proper to Cease September 15—Water To be Admitted October 5.

All steamshovel operations in Culebra Cut proper will be discontinued on Friday, September 15, and between that date and October 5, when water will be admitted, all equipment and other material to be recovered, including over 36 miles of track, must be out of the 9-mile channel between Gamboa dike and Pedro Miguel Locks. At the present time, about 30 shovels are at work in the Cut, all on bottom excavation, with the exception of two on each side of the canal on the higher levels engaged in "lightening the load" as a preventive measure against future slides. The shovels formerly at work on Cucaracha slide have been withdrawn, and the material remaining in the slide will be removed by dredging. All the bottom material remaining after September 15 will be drilled and blasted, preparatory to its removal by dredges. All electric wires crossing the Canal from Tower R, north, have been taken down,

On August 1st, 998,900 cubic yards remained to be removed from inside of the theoretical Canal prism. It is estimated that steamshovel operations between that date and September 15 will reduce that amount to approximately 650,000 cubic yards, which will be taken out by dredges. This is exclusive of all slide excavation, and does not include removal of any of the inclines.

It is the intention to retain 10 of the best conditioned shovels in service, using them in the work of removing material from the east and west banks, near Culebra, to lessen the danger from slides. About six of these machines will be employed on the east bank, and four on the west bank, probably until May, 1914, and an organization sufficient to man and look after the shovels is now under consideration. Two of the shovels picked out for this work were wrecked beyond the point where it would pay to repair them, in a slide on the east bank, opposite Culebra village, on Sunday night, August 17. Empire will very likely be retained as headquarters for steamshovel supplies, as long as rail communication across the Cut is maintained. When communication is interrupted, the plan is to establish a repair outfit and small storehouse in the vicinity of the "Cotton tree" dump engine house on the east bank, with a similar outfit on the west bank. The removal of the Empire suspension bridge will probably not be undertaken until the first of next year.

Water will be admitted to Culebra Cut, under the above schedule, on Tuesday, October 5, five days in advance of the date set for the destruction of Gamboa dike. The means employed will consist of four 26-inch pipes extending underneath the dike, now used in pumping the drainage water out of the Canal. The equipment in the pump station will be removed prior to October 5, and the concrete building in which it is housed will be dynamited. It is estimated that it would take 17 days to fill the Canal to the level of the dike by this method, and the water that will be admitted in the 5-day period is mainly intended to act as a cushion against the Gamboa dike, which will be dynamited on October 10. A battery of drills is now engaged in sinking holes in the dike to the depth of about 30 feet. The blast is not expected to be spectacular, as it will probably only loosen the material, and possibly cause a small opening through which water from the lake will find its way, gradually increasing in size until a considerable stream flows into the Cut.

Gamboa dike was built in 1908 to protect Culebra Cut from inundation from freshets in the Chagres River. During the flood of December, 1906, the river rose to 81.6 feet at Gamboa but this was before the dike was built, and before the Bas Obispo section of Culebra Cut had been completed. During the flood of November, 1909, the water rose to a height of 72.6 feet, and came so close to the top of the dike, which was then at 71 feet above sealevel, that sluice gates were opened to fill the Cut with water to the level of the river to avoid heavy washing in case a break occurred. Since that year, the safety of the dike has never been menaced by freshets. When Gatun Lake rose to over 50 feet in the latter part of 1912, the dike was widened to an average of 50 feet by dumping clay on the side toward the Cut, and raised to an elevation of 78.2 feet above sealevel. When the water in Gatun Lake reached 59.1 feet on August 23, it was still 19.1 feet below the highest part of the dike, although that section over which trains have been run, is much lower.

The rise of the lake has backed up the water in the Camacho Diversion as far as Bas Obispo. The diversion parallels the Canal for several hundred yards from the point where it enters the Chagres River. A small amount of water has been seeping into the Cut through the barrier between the diversion and the Canal, and to avoid any possibility of its giving way, a row of piling, spaced on 2-foot centers, is being driven along the levee. In addition, several trainloads of earth will be dumped on the west side of the embankment.

A few days ago a hand made dike, designed to prevent the water, which drains from the Culebra dump into a lagoon near the Lirio mill, from passing into the Canal, broke through, and gave rise to several rumors. No damage was caused, and the break was speedily repaired.

Improvements at Hotel Tivoli.

Several desirable changes are to be made at the Hotel Tivoli, including the extension of the driveway and entrance, an addition to the number of bathrooms, an increase in laundry facilities, and the remodeling of the kitchen. The circle in front of the hotel will be extended to take in the bandstand, and the driveway will pass behind this, about where the carriage stand is now. The *porte cochere* is to be lengthened to permit four carriages to enter under its cover at one time. The entrance stairway will be widened and given an easier slope outward. At the foot, the stairway will be divided to form two approaches to the veranda, which will be joined by a broad platform at the top. Under the new arrangement there will be sufficient space at the entrance for two carriages to approach, and turn away again without interfering with each other.

Eight bathrooms will be added in the two wings which were opened last year. Fancy tile floors will be laid in the barber shop, bathrooms, and toilets.

The remodeling of the kitchen will make it one-third larger than at present. The ranges will be swung around to the wall that extends along the bakery, which will give more convenient space for them, as well as the dish washing stands and *bain Marie*, a container for keeping the food hot. There will be three pantries, instead of two; the bakery products will be served from one; cold meats, salads, and lunch dishes from the second; and tea, coffee, and other hot drinks from the third. The service tables will be increased in number, and be placed in parallel rows across the kitchen, with sufficient space between each to permit the waiters to pass without crowding.

Dining quarters for the women employes of the hotel are to be built in the basement. The cement flooring in this compartment is being laid.

Concrete Work in Locks and Spillways.

Concrete work in the Canal locks is nearly completed, the aggregate amount in place at the close of work on August 23, being 4,477,796 cubic yards.

A statement of the concrete laid in the three sets of locks for the Canal, and in Gatun and Miraflores spillways, as of August 23, follows:

GATUN LOCKS.

The last concrete for the locks proper, as distinguished from that necessary to finishing work by the First Division, was mixed and placed on August 16, 1913. At the close of work on that day the total amount of concrete placed by the Atlantic Division amounted to 2,045,485 cubic yards.

PEDRO MIGUEL LOCK.

	Concrete laid. Cubic yards.
Aug. 17	88
Aug. 18	53
Aug. 19	38
Aug. 20	27
Aug. 21	22
Aug. 22	41
Aug. 23	42
Total	311
Previously reported	922,952
Grand total	923,263

MIRAFLORES LOCKS.

Aug. 18	117
Aug. 19	107
Aug. 20	129
Aug. 21	80
Aug. 22	106
Aug. 23	96
Total	635
Previously reported	1,508,413
Grand total	1,509,048

GATUN SPILLWAY.*

Aug. 18	98
Aug. 19	118
Aug. 20	136
Aug. 21	120
Aug. 22	56
Aug. 23	100
Total	628
Previously reported	232,572
Grand total	233,200

MIRAFLORES SPILLWAY.

Aug. 18	126
Aug. 19	34
Aug. 20	44
Aug. 21	90
Aug. 22	76
Aug. 23	86
Total	456
Previously reported	74,990
Grand total	75,446

*Includes hydroelectric station.

SOCIAL LIFE OF THE ZONE.

Program for Visit of Shriners.

The United Fruit Company's steamship *Turrialba* is due to arrive on Thursday, August 28, bringing members of the Ancient Arabic Order, Nobles of the Mystic Shrine, who are making a pilgrimage to the Isthmus under the auspices of Osman Temple of St. Paul, Minn., to view the Canal and to conduct the ceremony of initiation in one of the locks at Miraflores. The boat will dock at pier 16, Cristobal, and upon disembarking, the Shriners will form into a parade and march along Roosevelt avenue to Colon, thence up Front and Seventh streets to the Panama Government building, thence on Bolivar street to the Hotel Washington. The steamer *Cartago*, with the remainder of the party on board, is due to arrive at Colon on Saturday, August 30. The *Turrialba* will bring Mr. J. Harry Lewis, the imperial potentate of the order, the Osman Temple band, and the patrol, together with the paraphernalia incident to the initiation ceremony.

The following program has been arranged:

Thursday, August 28—Embarkation and parade from steamer *Turrialba* to Hotel Washington. Remainder of day to be devoted to individual sightseeing in Colon and Cristobal.

Friday, August 29—Sightseeing trip to Gatun Locks, dam, and spillway. Train leaves Hotel Washington at 8 a.m.; returning, leaves Gatun at 9.50. Round trip tickets, 70 cents. The afternoon will be spent in Colon.

Saturday, August 30—Local and visiting Shriners will meet steamer *Cartago* at dock to welcome incoming members, and a special train will leave dock No. 16, on the arrival of the boat, for Panama. In the evening a reception and ball will be given in honor of the visiting Nobles, ladies, and invited guests at the Hotel Tivoli.

Sunday, August 31—A special sightseeing train will leave the Panama station, going over the Pacific and Central divisions of the Canal, including Culebra Cut. Tickets $3. *3 p. m*—Parade from Hotel Tivoli up Central avenue, Panama, and return. *8.30 p. m*—Band concert at the Tivoli by the Osman Temple band.

Monday, September 1 (*Labor Day*)—Train leaves Tivoli spur, back of hotel at 6 a. m., for Miraflores Locks. Ceremonial at 7 a. m., sharp, followed by installation of bronze tablet in the locks. *2.30 p. m.*—Special train will leave Panama station for Colon, going through without stop. *9 p. m.*—Traditional banquet at the Hotel Washington. Admission by 1913 green card only. *9 p. m.*—Reception to visiting and local Shrine ladies by ladies of the Eastern Star in the south wing of the Hotel Washington.

Tuesday, September 2—Visitors will depart for Bocas del Toro, where they will spend a few hours on their return trip.

Prize Contest for Boys and Girls.

The Cristobal Union Church announces a contest for boys and girls 15 years old, and under. For the best answer containing not less than 100 and not more than 150 words to the question, "What is your favorite book and why?" a suitable prize will be given. The essays must be in before September 1. Address "Prize Contest", Box 420, Cristobal, Canal Zone.

The annual meeting of the Tivoli Club will be held at the Hotel Tivoli on Sunday morning, August 31, at 10 o'clock.

PANAMA RAILROAD COMPANY.

PASSENGER TRAIN TIME TABLE No. 15—IN EFFECT SEPTEMBER 2, 1913.

PANAMA-COLON MAIN LINE SERVICE.

SOUTHWARD.										STATION.		NORTHWARD.							
FIRST CLASS.												FIRST CLASS.							
Saturday only.	Sunday only.					Daily except Sunday.			Daily.		Distance from Colon.	Daily except Sunday.			Sunday only.				Monday only.
71	29	27	25	23	21	7	5	3	1			2	4	6	20	22	24	26	28
P.M.	P.M.	P.M.	P.M.	A.M.	A.M.	P.M.	A.M.	A.M.	A.M.			A.M.	P.M.	P.M.	A.M.	P.M.	P.M.	P.M.	A.M.
7.35	10.45	7.10	2.50	10.50	6.45	4.00	10.40	6.00	3.00	Lv. †Colon Arr.	0	8.40	12.40	6.50	8.40	12.45	4.45	8.15	1.15
7.40	s10.50	s7.15	s2.55	s10 55	s6.50	s4.05	s10.45	s6.05	3.15	....†Mount Hope...	1.57	s8.35	s12.35	s6.45	s8.35	s12.40	s4.40	s8.10	s1.10
......	......	......	......	......	......	......	......	s6.15	3.20	....†Mindi.........	4.40	......	......	......	......	......	......	......	......
s7.50	s11.00	s7.25	s3.05	s11.05	s7.00	s4.12	s10.52	s6.20	3.25	.... New Gatun....	5.94	s8.26	s12.26	s6.36	s8.26	s12.31	s4.31	s8.01	s1.01
s7.55	s11.05	s7.30	s3.10	s11.10	s7.05	s4.17	s10.57	s6.32	3.30	....†Gatun.........	6.79	s8.22	s12.22	s6.32	s8.22	s12.27	s4.27	s7.57	s12.57
s8.08	s11.18	s7.43	s3.23	s11.23	s7.18	s4.30	s11.10	s6.45	3.53	....†Monte Lirio...	14.48	s8.08	s12.08	s6.18	s8.08	s12.13	s4.13	s7.43	s12.43
s8.21	s11.31	s7.56	s3.36	s11.36	s7.31	s4.41	s11.21	s6.56	4.05	....†Frijoles.......	20.92	s7.56	s11.56	s6.06	s7.56	s12.01	s4.01	s7.31	s12.31
8.30	11.40	s8.06	s3.46	s11.46	s7.41	s4.51	s11.31	s7.06	4.15	....†Caimito	26.13	s7.46	s11.46	s5.56	s7.46	s11.51	s3.51	s7.21	s12.21
f8.41	f11.51	f8.18	f3.58	f11.58	f7.53	f5.01	f11.41	f7.16	4.35	....†Tower "R"....	30.85	f7.34	f11.34	f5.44	f7.34	f11.39	f3.39	f7.09	f12.09
s8.51	A.M. s12.01	s8.28	s4.03	P.M. s12.08	s8.03	s5.11	s11.51	s7.26	4.50	....†New Culebra...	35.19	s7.26	s11.26	s5.36	s7.26	s11.31	s3.31	s7.01	s12.01
s9.03	s12.13	s8.40	s4.20	s12.20	s8.15	s5.23	P.M. s12.05	s7.38	5.00	....†Pedro Miguel Jc	40.23	s7.15	s11.15	s5.23	s7.15	s11.20	s3.20	s6.50	A. M. s11.50
s9.08	12.18	8.45	4.25	12.25	8.20	5.28	12.10	7.43	5.15	.... Miraflores.....	41.74	s7.10	s11.10	s5.15	7.10	11.15	3.15	6.45	11.45
s9.16	12.26	8.53	4.33	12.33	8.28	5.35	12.17	7.50	5.25	....†Corozal.......	44.24	s7.03	s11.03	s5.08	7.03	11.08	3.08	6.38	11.38
s9.18	......	......	......	......	......	......	......	......	......	.... Diablo........	44.92	......	......	......	......	......	......	......	......
9.25	12.35	9.00	4.40	12.40	8.35	5.45	12.25	8.00	5.40	Arr. Panama. Lv.	47.08	6.55	10.55	5.00	6.55	11.00	3.00	6.30	11.30
P.M.	A.M.	P.M.	P.M.	P.M.	A.M.	P.M.	P.M.	A.M.	A.M.			A.M.	A.M.	P.M.	A.M.	A.M.	P.M.	P.M.	P.M.
71	29	27	25	23	21	7	5	3	1	†Telegraph station. s Stop. f Flag station.		2	4	6	20	22	24	26	28

PANAMA-BAS OBISPO PASSENGER TRAIN TIME TABLE.

SOUTHWARD.											STATION.	NORTHWARD.										
SECOND CLASS.												SECOND CLASS.										
Sat. only.	Sunday only.					Daily except Sunday.						Daily except Sunday.					Sunday only.					Monday only.
73	59	57	55	53	51	49	47	45	43	41		40	42	44	46	48	50	52	54	56	58	72
P .M.	P. M.	P. M.	P. M.	A. M.	A. M.	P. M.	P. M.	P. M.	A. M.	A. M.		A. M.	P. M.	P. M.	P.M .	P. M.	A. M.	A. M.	P. M.	P. M.	P. M.	A. M.
11.00	11.00	6.00	2.30	10.30	6.30	6.10	3.40	1.30	10.30	6.30	Leave. Bas Obispo Arrive.	8.20	12.40	3.20	6.05	9.50	1.10	9.00	1.05	5.05	10.50	1.10
11.05	11.05	6.05	2.35	10.35	6.35	6.15	3.45	1.35	10.35	6.35	........†Las Cascadas..........	8.16	12.36	3 16	6.01	9.46	1.06	8.56	1.01	5.01	10.46	1.06
11.10	11.10	6.10	2.40	10.40	6.40	6.20	3.50	1.40	10.40	6.40	........†Empire................	8.10	12.30	3.10	5.55	9.40	1.00	8.50	12.55	4.55	10.40	1.00
11.15	11.15	6.15	2.45	10.45	6.45	6.25	3.55	1.45	10.45	6.45	........†Culebra...............	8.05	12.25	3.05	5.50	9.35	12.55	8.45	12.50	4.50	10.35	12.55
11.28	11.28	6.28	2.58	10.58	6.58	6.38	4.08	1.58	10.58	6.58	........†Paraiso Jct.	7.53	12.12	2.52	5.37	9.22	12.42	8.32	12.37	4.37	10.22	12.42
11.30	11.30	6.30	3.00	11.00	7.00	6.40	4.10	2.00	11.00	7.00	........†Pedro Miguel Jct.......	7.50	12.00	2.50	5.35	9.20	12.40	8.30	12.35	4.35	10.20	12.40
11.35	11.35	6.35	3.05	11.05	7.05	6.45	4.15	2.05	11.05	7.05	.... Miraflores.............	7.45	11.55	2.45	5.30	9.15	12.35	8.25	12.30	4.30	10.15	12.35
11.42	11.42	6.42	3.12	11.12	7.12	6.52	4.22	2.12	11.12	7.12	........†Corozal...............	7.38	11.48	2.38	5.23	9.08	12.28	8.18	12.23	4.23	10.08	12.28
11.44	11.44	6.44	3.14	11.14	7.14	6.54	4.24	2.14	11.14	7.14	.... Diablo.................	7.36	11.46	2.36	5.21	9.06	12.26	8.16	12.21	4.21	10.06	12.26
11.50	11.50	6.50	3.20	11.20	7.20	7.00	4.30	2.20	11.20	7.20	Arrive Panama. Leave.	7.30	11.40	2.30	5.15	9.00	12.20	8.10	12.15	4.15	10.00	12.20
P. M.	P. M.	P. M.	P. M.	A. M.	A. M.	P. M.	P. M.	P. M.	A. M.	A. M.		A. M.	A. M.	P. M.	P. M.	P. M.	A. M.	A. M.	P. M.	P. M.	P. M.	A. M.
73	59	57	55	53	51	49	47	45	43	41		40	42	44	46	48	50	52	54	56	58	72

COLON-GATUN SHUTTLE TRAIN SERVICE.

SUPPLEMENT NO. 1 TO TIME TABLE NO. 15.

Effective Tuesday, September 2, 1913, daily, except Sundays, shuttle trains will be operated between Colon and Gatun on following schedule, making stops as shown:

SOUTHWARD.								STATION.	NORTHWARD.							
SECOND CLASS.									SECOND CLASS.							
135	133	131	129	127	125	123	121		120	122	124	126	128	130	132	134
P. M.	P. M.	P. M.	P. M.	P. M.	A. M.	A. M.	A. M.	Leave. Arrive.	A. M.	A. M.	A. M.	P. M.	P. M.	P. M.	P. M.	P. M.
5.50	4.50	2.50	1.50	12.50	9.45	8.45	7.40	............Third Street, Colon..............	8.35	9.40	10.40	1.45	2.45	3.45	5.45	6.45
5.52	4.52	2.52	1.52	12.52	9.47	8.47	7.42	............Fifth Street, Colon..............	8.33	9.37	10.37	1.42	2.42	3.42	5.42	6.42
5.54	4.54	2.54	1.54	12.54	9.49	8.49	7.44	............Passenger Station, Colon..........	8.31	9.35	10.35	1.40	2.40	3.40	5.40	6.40
5.56	4.56	2.56	1.56	12.56	9.51	8.51	7.46	............Commissary, Cristobal...........	8.29	9.33	10.33	1.38	2.38	3.38	5.38	6.38
5.58	4.58	2.58	1.58	12.58	9.53	8.53	7.48	............Shops, Cristobal...............	8.26	9.31	10.31	1.36	2.36	3.36	5.36	6.36
6.02	5.02	3.02	2.02	1.02	9.57	8.57	7.52	............Mount Hope.....................	8.22	9.27	10.27	1.32	2.32	3.32	5.32	6.32
6.08	5.08	3.08	2.08	1.08	10.03	9.03	7.58	............Mindi..........................	8.16	9.21	10.21	1.26	2.26	3.26	5.26	6.26
6.12	5.12	3.12	2.12	1.12	10.07	9.07	8.02	............New Gatun......................	8.13	9.18	10.18	1.23	2.23	3.23	5.23	6.23
6.15	5.15	3.15	2.15	1.15	10.10	9.10	8.05	............Gatun..........................	8.10	9.15	10.15	1.20	2.20	3.20	5.20	6.20
P. M.	P. M.	P. M.	P .M.	P. M.	A. M.	A. M.	A. M.	Arrive. Leave.	A. M.	A. M.	A. M.	P. M.	P. M.	P. M.	P. M.	P. M.
135	133	131	129	127	125	123	121		120	122	124	126	128	130	132	134

Fatal Accident.

Frank D. Gartrell, a conductor in the employ of the Fifth Division, was fatally injured early Friday morning, August 22, while riding on a flat car loaded with railroad cross-ties. At the time of the accident, he was endeavoring to prevent a violent coupling with other cars, also loaded with ties, by means of the hand brake. The cars came together with sufficient force to shift the loads, and he was caught between them, sustaining injuries from which he died on the way to Ancon Hospital. He was 24 years of age, unmarried, and is survived by a sister, Mrs. V. H. Smith, living at Memphis, Tenn.

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Tours of the Canal.

Mr. H. R. Gregory, president of the travel service bureau of St. Louis, announces that the following five parties will visit the Canal on the dates mentioned: October 18, Louisville Chamber of Commerce; October 18, National Grain Dealers' Association; October 25, Mississippi Valley Medical Association; November 8, National Laundrymen's Association; November 12, Nashville Board of Trade.

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Strangers Club activities during the month of September include an informal dance on the second and fourth Thursdays; special dinners each Sunday and Thursday, with music at the Thursday dinner.

JOINT LAND COMMISSION.

Additional Awards.

The following additional awards were announced by the Joint Land Commission at a public session held on Monday, August 18:

Award No. 19—In the matter of the claims of Francisco V. de la Espriella, and José H. Stilson, to the property designated as "Miraflores"—To Francisco V. de la Espriella, for his interest in the lands of "Miraflores" located within the Canal Zone, together with any improvements which may be claimed hy the same, $17,500. To José H. Stilson, for his interest in the lands of "Miraflores" located within the Canal Zone, not heretofore acquired by the United States, together with any improvements, which may be claimed by the same, $7,500. Total, $25,000.

Award No. 20—In the matter of the claim of Serafin Achurra, for improvements on lands of Talenquera, Obispo, and Gamboa—To Serafin Achurra, for the settlement of all rights, claims, or other interests in all growing crops, fruit trees and buildings, and all other improvements of every kind, and all other rights and claims in lands designated as Talenquera, Obispo, and Gamboa on the property map of the Canal Zone, $1,190.

Award No. 21—In the matter of certain claims for houses in the town of Gorgona—In an opinion of the Joint Land Commission, dated July 25, 1913, on the demurrer of Counsel of the United States to the jurisdiction of the Commission, in the matter of the claim of Juan Sotillo, the Commission reached the decision that it had jurisdiction to consider the claims of persons who were the owners of the houses in Gorgona, for whose value they now claim, prior to the issue of leases for such property by the Isthmian Canal Commission, or are the heirs of such persons, and to make awards against the United States in favor of said claimants. The evidence before the Commission shows that the persons hereinafter named were either the owners of the properties hereinafter referred to, before they accepted any leases from the Isthmian Canal Commission, or are the heirs of such persons. In no case did the persons hereinafter named make any claim to the ownership of the land. To the owners of buildings, for the settlement of all rights, claims, or other interests which they may have in the same, together with any other improvements on the lots with houses designated by their tax numbers, as follows: Antonio Andrade, tax No. 729, [illegible]; tax No. 768, $6,500; total, $6,900; E. Cadet, tax No. 749, $1,[illegible]; tax No. 762, $630; tax No. 831, $420; total, $2,950; (This award is subject to such equities, if any, as may be possessed by third parties, and it is ordered that the amount of this award be deposited in the Circuit Court of the Second Judicial Circuit at Empire for distribution in accordance with the terms of this award;) W. H. Carrington, administrator of the estate of George Andrade, deceased, tax No. 747, $540; tax No. 751, $1,500; tax No. 752, $1,800; total, $3,840; Lillian Cookhorn, administratrix of the estate of Horatio Cookhorn, deceased, tax No. 842, $200; Ferdinand Fanfan, tax No. 829, $130; Pastora Gordon, tax No. 789, $85; tax No. 790, $80; total, $165; Charles Laurent, tax No. 784, $250; Modesta Leon, tax No. 803, $200; Guadaloupe Lopez, tax No. 815, $75; Alejandro Ramos, tax No. 755, $1,100 (This award is subject to such equities, if any, as may be possessed by third parties, and it is ordered that the amount of this award be deposited in the Circuit Court of the Second Judicial Circuit at Empire for distribution in accordance with the terms of this award.) Grand total, $15,810.

Award No. 22—In the matter of certain claims for houses in the town of Gorgona—In an opinion of the Joint Land Commission, dated July 25, 1913, on the demurrer of Counsel of the United States to the jurisdiction of the Commission in the matter of Juan Sotillo, the Commission reached the conclusion that it had jurisdiction to consider the claims of persons who were the owners of the houses in Gorgona, for whose value they now claim, prior to the issue of leases for such property by the Isthmian Canal Commission, or are the heirs of such persons, and to make awards against the United States in favor of said claimants. The evidence before the Commission shows that the persons hereinafter named were either the owners of the properties hereinafter referred to, before they accepted any leases from the Isthmian Canal Commission, or are the heirs of such persons. In the cases of the persons hereinafter named, claim was also made for the ownership of the land. The evidence submitted to the Commission does not sustain this contention, and in making awards to the persons hereinafter named for their buildings in the town of Gorgona, it is to be understood that the Commission dismisses, without award, the claims presented by them for ownership in the lands. To the owners of buildings, for the settlement of all rights, claims, or other interests, which they may have in the same, together with any other improvements located on the lots with houses designated by their tax numbers, as follows: Joaquina U. de Lasso de la Vega, tax No. 744, $950; Benita Teran, tax No. 787, $1,050. Total, $2,000.

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RULE DISMISSING CLAIMS ALREADY SETTLED.

In the matter of sundry claims on the lands of Matachin—The Disbursing Officer of the Canal Zone has certified to the Commission that payments have been made in 1913 to the persons herein named, for their houses and other improvements on the lands of Matachin, covering claims which have been before the Commission for consideration. The record of these claims, showing name, together with the tax number of houses included in such claim, and the record of the Disbursing Officer showing the voucher number of each payment, its amount, and the month of the year 1913 in which the same was paid is, as follows:

NAME.	House No.	Mo. paid.	Vou. No.	Am't
Anglin, Joseph	546	June	25.072	$50
Black, Joseph	103	July	25,837	80
Brown, Emanuel	58,	July	25,595	65
Burnett, Samuel	584	July	25,834	65
Campbell, Marion	502			
	533			
	557	July	25,847	150
Collins, John(Johanna)	97	July	25,843	300
Crossman, Christopher	65	July	25,416	150
Constantine, Hypolite	631	June	25,357	125
Daley, Wm	63	July	25,605	65
Davidson, Joseph	1,722	June	25,296	180
Davis, Aaron	573			
	574	June	25,348	125
Dellpratt, Thomas	550	July	25,849	60
Diaz, Josè Maria	1,688	July	25,607	100
Dougherty, Solomon	563	July	25,418	150
Douglas, Emily	1,759	June	25,295	50
Duncan, Eliza	454			
	1,704	July	25,594	150
Green, George	1,715	June	25,281	60
Hawkins, Zachariah	575	June	25,349	75
Heath, Wilford Samuel	632	July	25,842	115
Henry, Daniel	59	June	25,292	50
Henry, Samuel	582	June	25,359	45
Hinds, Isaac and Rebecca	86	July	25,598	100
Hunter, Francis	52	June	25,351	55
Hutchinson, James Emanuel	633	July	25,608	85
Jackson, Alexander	69	July	25,417	60
Jameson, Edgar Jeremiah(Jamieson, Edgar J.)	1,686	July	25,599	110
Kennedy, James	72	July	25,590	100
King, Benjamin	36	July	25,604	110
Lansicut, Augusta	74	July	25,606	100
Lewin, John	62	June	25.069	125
Louis, Arcas	1,556	July	25,591	65
Lynch, Martha	1,712	June	25,286	110
Mariette, Benjamin	1,553	July	25,593	70
McCarthy, John	1,711			
	1,716	July	25,845	275
McKenzie, Thomas	156			
	157	July	25,848	115
McPherson, Frederick	552	July	25,596	40
Mills, John B.	1,562	June	25,360	250
Monte, Josepha	1,755	June	25,356	110
Mullen, Mary	466			
	467			
	469	July	25,846	275
Muschette, Phillis	2,041	July	25,361	135
Pennant, Maria	1,761	July	25,600	50
Robinson, Mary	462	June	25,353	50
Rowe, James	87			
	104	June	25,290	425
Samuels, Jacob	1,745	July	25,839	80
Smith, Marion	10	June	25,354	45
Stokes, Edward	577	July	25,835	65
Torres, Josè	1,752	July	25,602	125
Tull, Conrad	44			
	1,552	July	25,592	100
Valentine, Eliza	629	June	25,362	50
Walker, Albert E.	53			
	55	July	25,603	150
Watson, David	1,719	July	25,836	125
Williams, Alexander	576	June	24,968	50
Williams, David	84	July	25,589	170
Wilmot, Philip	603			
	635	July	25,844	175

In view of the payments noted, the foregoing claims call for no further action by this Commission, and they are accordingly dismissed.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners.*

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RULE DISMISSING CLAIMS

In the matter of sundry claims on the lands of Matachin—The Disbursing Officer of the Canal Zone has certified to the Commission that vouchers have been prepared and are ready for payment in the name of the persons hereinafter named for the purchase of their houses and other improvements on the lands of Matachin, covering claims which have been before the Commission for consideration. Although these claims have not as yet been paid, the persons concerned have signed a written agreement pledging themselves to accept the sums mentioned in payment for the property in question. The record of these claims, showing name, together with the tax number of the houses included in the said claims, the register number of the account, and the amount agreed upon is, as follows:

NAME.	House No.	Reg. No.	Am't.
Barrett, Aaron A.	Farm only	28,165	$15
Bethune, Henry	61	28,234	90
Burgher, Thos. and Theadosiah	499		
	529	28,350	125
Byfield, Charles	1,728	27,384	200
Campbell, David	75	28,313	75
Chambers, Jeremiah	68	28,162	40
Chambers, Walwin R. and Evelina	445 1,703	28,547	220
Douglas, Codrington	460 Half interest	28,310	Not given
Douglas, Codrington	476	28,310	Not given
Dunckley, Sylvia	14	28,312	169
Ewers, Margeret	Farm only	28,549	15
Hanson, Robert	82		
	85	28,462	110
Knight, Henry B.	589		
	590	28,464	175
Lawrence, Richard	76	28,316	60
Lowyow, Leon	81	28,320	55
Pitkin, Stephen	79	28,317	Not given
Rankin, Edward	578	28,315	Not given
Thomas, William	460 Half interest	Not given	100
Viana, Pedro	1,747	Not given	350
Wilson, Margeret	45		
	49		
	57	28,230	125

In view of the agreements before noted, the foregoing claims call for no further action by this Commission, and they are accordingly dismissed.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners.*

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The two tanks which formerly supplied the Gorgona shops with fuel oil will be re-erected on Sosa Hill, near Balboa.

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Rainfall, August 1 to August 23, 1913, Inclusive.

STATIONS.	Maximum in one day.	Date	Total for period.
	Ins.		Ins.
Pacific Section—			
Ancon	2.61	17	6.58
Balboa	2.06	17	5.58
*Miraflores	1.04	10	3.88
Pedro Miguel	1.10	10	4.81
Rio Grande	1.28	12	6.80
Central Section—			
Culebra	2.17	23	8.28
*Camacho	2.13	23	8.84
Empire	1.86	6	9.26
Gamboa	3.31	17	13.06
*Juan Mina	1.94	23	8.73
Alhajuela	1.47	8	8.81
*El Vigia	1.37	6	8.03
*Frijoles	2.63	6	11.98
*Monte Lirio	2.00	6	6.32
Atlantic Section—			
Gatun	3.04	10	9.90
*Brazos Brook	......	......	......
Colon	3.29	10	12.38
†Porto Bello	6.06	10	18.78

*Standard rain gage, readings at 5 p. m. daily; automatic rain gage at unstarred stations—values midnight to midnight.

†To 5 p. m., August 22.

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Stages of the Chagres.

Maximum height of Chagres River for the week ending midnight, Saturday, August 23, 1913. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.			
	Vigia.	Alhajuela	Gamboa.	Gatun Lake*
Sun., August 17	129.3	94.9	57.8	57.7
Mon., August 18	129.6	95.2	58.1	57.9
Tues., August 19	128.4	94.8	58.2	58.1
Wed., August 20	127.4	93.6	58.3	58.3
Thurs., August 21	127.5	93.6	58.6	58.6
Fri., August 22	127.7	93.7	58.9	58.9
Sat., August 23	128.6	94.4	59.2	59.1
Height of low water to nearest foot	125.0	91.0	44.0	

*Sluice gates in spillway of Gatun Dam were closed on June 27, 1913, with lake at elevation 48.25.

EXECUTIVE ORDERS.

Appointment of Richard Lee Metcalfe Member of the Isthmian Canal Commission.

Richard Lee Metcalfe is hereby appointed a member of the Isthmian Canal Commission at the rate of Fourteen Thousand Dollars ($14,000) per annum, effective this date.

Commissioner Metcalfe will be allowed the use of a furnished dwelling house on the Isthmus of Panama and will be allowed and paid his actual and necessary expenses while away from the Isthmus on official business.

Woodrow Wilson.

The White House,
August 9, 1913.
[No. 1812.]

Providing for the Protection of Birds and their Nests in the Canal Zone.

By virtue of the authority vested in me, I hereby establish the following Executive Order for the Canal Zone:

Section 1. It shall be unlawful for any person to hunt, trap, capture, wilfully disturb, or kill any bird of any kind whatever, or to take the eggs of any bird, except in the form and manner permitted by the regulations provided for by this Order.

Section 2. The Isthmian Canal Commission, or the Governor of the Panama Canal after the reorganization is established, is hereby empowered and directed to enact suitable regulations, from time to time, for the protection of birds and their nests, and prescribing the form and manner in which birds may be hunted, and those that shall not be molested.

Section 3. A violation of any of the regulations established under this Order shall be punished by a fine of not more than one hundred (100) dollars or by imprisonment for not more than thirty days for each offense.

Section 4. This Order shall take effect thirty days after its publication in The Canal Record.

Woodrow Wilson.

The White House,
March 19, 1913.
(*Published in The Canal Record of April 9, 1913.*)

Pursuant to Section 2 of the above Executive Order, the following regulations for the protection of birds and their nests in the Canal Zone are enacted by the Isthmian Canal Commission:

Section 1. Birds' nests and eggs shall not be taken nor wilfully destroyed or disturbed.

Section 2. No bird shall be held or sold, nor shall any bird be snared, trapped, or captured by any device, except native, or foreign live cage birds known as parrots, parrakeets, macaws, skylarks, and canaries.

Section 3. Excepting the hereinafter named game birds, and excepting birds of prey in pursuit of their quarry, no bird shall be hunted or killed, shot at or wilfully disturbed.

Section 4. During the periods specified, but at no other times, the following named game birds may be hunted and killed, but only by a person holding a license to hunt in the Canal Zone:

From and including June 1, to and including October 15 of every year:

The various species of native wild ducks, pigeons and doves, and the native game birds belonging to the families of birds known as quail, currasows and guans.

From and including October 15, to and including January 31 of every year:

(*a*) The migratory ducks known as blue-winged teel, broad-bill, mallard, pintail, and shoveler.

(*b*) The migratory shore-birds known as Wilson's or jack-snipe, and those known as yellow-legs.

Section 5. The taking of all birds, their nests and eggs for purely scientific purposes may be authorized by the Chairman of the Isthmian Canal Commission, or by the Governor of the Panama Canal, provided that any person desiring such authority shall first submit in writing satisfactory evidence of his or her object which shall be endorsed by some known ornithologist, or the head of a scientific institution of good standing.

Section 6. Possession of a bird, or any part thereof, plumage, nest, or egg shall be *prima facie* evidence of the violation of these regulations upon the part of the person having it in possession.

Geo. W. Goethals,
Chairman and Chief Engineer.

Culebra, C. Z., *August 22, 1913.*

Changes at Pedro Miguel.

The Commission hotel at Pedro Miguel will be dismantled within the next few days, and will not be rebuilt. Arrangements have been made by the Subsistence Department to convert a part of the building containing the European laborers' mess into a dining room for the gold employes, the two sections to be entirely independent. The commissary, formerly at Gorgona, will be reerected at Pedro Miguel on a site, on the east side of the track, near the present railroad station, at a point where a flower bed existed until a few days ago. Other changes in the settlement consist of the dismantling and reerection on higher ground of bachelor quarters Nos. 100, 101, 104, and 105, using the material to construct eight smaller buildings; the removal of cottages Nos. 91 to 99, inclusive, to sites selected by the landscape architect; raising houses Nos. 85 to 89, inclusive, under which concrete piers will be placed; removal of the building in the rear of the hotel, formerly used by the waiters, to Balboa, and the removal of house No. 106, occupied by the commissary help, also to Balboa. The police station, formerly at Gorgona, has been reerected at Pedro Miguel, and the material from the Gorgona clubhouse is on the ground.

Suggested Method for Shipping Employes' Household Goods.

If employes of the Canal Commission, the Panama railroad, and of the contractors engaged in Canal work, will check their personal effects and household goods as baggage, properly boxed, the shipments will be unloaded as soon as the ship docks at New York, and can then be passed by the customs inspector, and forwarded the same day to an out-of-town destination. In this way, the delay in New York incident to waiting for freight to be discharged from ship will be obviated, and the shipper will be saved the expense incurred by entry through the office of a customs broker.

◆

Dr. C. A. Hearne, quarantine officer at Colon and Cristobal, has been detailed to visit the native village of San Juan on the Pequeni River, and inquire into the unusual mortality, which is reported to have taken place among the inhabitants at that point.

CONCRETE PLANT CLOSED.

Mixing Plant No. 1 at Gatun, Largest in Canal Work, Being Dismantled.

The dismantling of the large concrete mixing plant on the west side of Gatun Locks, known as plant No. 1, or the permanent mixing plant, was begun on Saturday, August 16. Three of the eight 64-cubic foot Chicago cube mixers have been lifted out to date, and the superstructure and electric tracks for serving material to the mixers and carrying concrete to the cableways have been removed. The Atlantic Division completed on August 15 the work of decking the lower approach and wing walls, allotted to it from the First Division, and its remaining work in the locks comprises a few parapets and the control house. The three last charges mixed at plant No. 1 were placed in a manhole of the permanent duct line from the hydroelectric station, at the spillway to the locks, on the morning of August 16. That afternoon, the dismantling began. The first concrete delivered from this plant was on August 24, 1909, for the floor of the upper lock; the plant has thus been in service almost four years. During that time, it has mixed over 1,600,000 cubic yards of concrete. A description of the plant, with its electric services from the stock piles and to the cableways, was published in The Canal Record of September 1, 1909.

The auxiliary plant, of two 2-cubic yard mixers, situated east of the upper approach to the locks, was closed on March 11, 1912, after operation since December 31, 1909, and dismantled shortly afterward. The third large plant, erected to supply concrete for the spillway of Gatun Dam, and equipped with two 2-yard mixers, remains in service. Concrete work for the spillway was 98.53 per cent completed on August 1; the placing of concrete in the walls of the hydroelectric station has just begun. The Atlantic Division is now operating two ½-yard portable mixers at the locks, for paving slope on the east dam, and constructing the control house.

The estimate of concrete to be placed in the locks by the Atlantic Division, was 2,043,730 cubic yards. The amount actually placed, as shown by monthly place measurements up to June 1, 1913, and by bucket measurement since that date, is approximately 2,045,000 cubic yards. The difference between the amount estimated and the amount placed is thus about one hundredth of one per cent in the masonry estimate for the largest concrete structure ever built.

The following records, from The Canal Record, and other official reports, give the best daily, monthly, and yearly outputs from the lock plants at Gatun:

	Day.	*Month.*	*Fiscal year.*
Cubic yards........	4,443	89,391	911,137

Missing Men.

Any one having information regarding the whereabouts of Mr. Gibson B. Smith, formerly in the Tenth United States Infantry, is requested to communicate with the American Legation, Panama.

Any one having information regarding the whereabouts of Mr. Lawrence Madden, who is believed to be on the Isthmus, is requested to communicate with Mr. Joseph F. Merritt, 858 Junction avenue, Detroit, Mich.

◆

Lost—At Bas Obispo, or Gorgona shops, a gold signet ring set with a moonstone, "A. J. Mettler" engraved on inside. Reward, if returned to Mr. Robert Richardson, House 83, Room 8, Cristobal.

OFFICIAL CIRCULARS.

Steamship Accommodations for Gold Employes Leaving the Service in October.

CULEBRA, C. Z., August 27, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

It is anticipated that, in view of the reduction in force, beginning on or about October 10, there will be an exceptionally heavy demand for accommodations on Panama railroad steamers sailing shortly after that date. In order to meet this situation, it is desired, so far as possible, all accommodations on the steamer *Colon*, sailing October 12; *Ancon*, sailing on or about October 13; *Advance*, sailing October 18, and *Panama*, sailing October 23, be reserved exclusively for employes leaving the service.

Applications for leave of absence with requests for transportation on any of the above sailings will not be approved unless good and sufficient reasons therefor are submitted, and employes are urgently requested to make their arrangements accordingly.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission.
President, Panama Railroad Company.

Rules Governing Sales of Material.

CULEBRA, C. Z., August 23, 1913.

CIRCULAR No. 399-B:

1. Effective September 1, 1913, Circular No. 399-A is cancelled, and the following rules will govern sales of material.

2. Sales of material, supplies, and equipment, including fabricated articles, rock, sand, and gravel, and excluding only sales of medical and surgical supplies, and sales of school books and supplies, which latter may continue to be sold by the Chief Sanitary Officer, and the Superintendent of Schools, as now authorized, will be made by the Chief Quartermaster, as follows:

a. Material and supplies that can be spared may be sold to officers and employes of the Isthmian Canal Commission and the Panama Railroad Company, and other departments of the United States Government, for their personal use, and to clubs, societies, and other organizations of such employes.

b. Material and supplies that can be spared may be sold to the Canal Zone Government, Panama Railroad Company, Commission clubhouses, and to other departments of the United States Government, also to steamship companies and their agents for use on ships.

c. Material and supplies that can be spared and are not obtainable in the local markets, may be sold to individuals and companies, except that if the amount of sale in any case exceeds $250, prior authority from the Chairman must first be obtained.

3. SALES OF MATERIAL:

a. Sales of regular stock material and supplies, fabricated articles, rock, sand, and gravel. Request for purchase should be made through the Chief Quartermaster, Culebra, who will deliver the material through the nearest storehouse from which the material can be supplied, at price book prices, plus the usual surcharge, except in such cases as may be otherwise provided for by contract.

b. Sales of second-hand lumber, second-hand roofing, and other miscellaneous second-hand material. Request for purchase should be made through the Chief Quartermaster, who will deliver the material at the point where it is available, at prices set by the Board of Appraisal.

c. Sales of surplus and obsolete material that has been turned into the storehouse for obsolete material at Mount Hope Requests for purchase of this class of material should be made direct upon the Depot Quartermaster at Mount Hope, who will be given blanket authority to make sales of such material, at prices set by the Board of Appraisal, a detailed report of such sales to be made monthly to the Chief Quartermaster.

4. SALES OF EQUIPMENT:

a. Sales of all surplus and obsolete equipment turned in by the various departments and divisions will be handled exclusively by the Chief Quartermaster.

b. The Quartermaster's Department will act as sales agent for the Panama Railroad Company in the sale or disposition of any surplus or obsolete equipment retired by that company.

c. All inquiries from prospective purchasers of equipment should be referred to the Chief Quartermaster.

5. BOARD OF APPRAISAL:

a. The value of all second-hand material, obsolete or surplus material, and of all equipment offered for sale, shall be appraised by the Board of Appraisal, appointed by the Chairman, which shall meet weekly. The Board of Appraisal shall fix the selling price for such material, supplies, and equipment. After such prices are approved by the Chairman, sales may be made by the Chief Quartermaster without additional authority, at the prices thus fixed, to an amount in any one case of $100.

b. All requests for appraisal of material, supplies, and equipment will be forwarded to the Board of Appraisal through the Chief Quartermaster, who will submit all data available with the request.

c. The Chief Quartermaster will furnish all necessary clerical work for the proper keeping of the records of the board, and will keep the files of all papers in connection therewith.

6. *Terms of Sale*—All sales shall be made on a cash basis unless otherwise specifically authorized by the Chairman, except the following:

a. Sales to other departments of the United States Government, the Canal Zone Government, the Panama railroad, the Commission clubhouses, and the Republic of Panama.

b. Sales to contractors with the Isthmian Canal Commission or Panama Railroad Company, and to steamship companies, and others, in cases where such individuals or companies secure payment for the material, supplies and equipment, by making a deposit of cash or satisfactory certified check, or by giving a bond in form, with sureties satisfactory to the Examiner of Accounts of the Commission, in an amount to be fixed by the Chief Quartermaster to cover the line of credit which it is deemed advisable to grant, and conditioned upon the payment for such material, supplies and equipment within thirty days from the close of the month within which delivery of the material, supplies, or equipment is made.

c. Sales to contractors with the Isthmian Canal Commission and the Panama Railroad Company, and to steamship companies, in cases where the Isthmian Canal Commission or the Panama railroad is indebted to such contractors or companies for material furnished or services rendered by them to the Commission or the railroad company, in an amount equal to or in excess of the value of any material, supplies, or equipment sold.

7. FREIGHT CHARGES:

a. On second-hand, surplus, and obsolete material and equipment, shipment over the Panama railroad will be made at the expense of the purchaser, unless otherwise provided for in the terms of sale.

b. The purchaser will, however, be granted the freight rates fixed by the tariff for Isthmian Canal Commission business, effective January 1, 1907, and supplements thereto, namely, $2.25 a ton of 2,000 pounds, minimum carload weight 20,000 pounds, and minimum charge of 20 cents, $50 for each movement dead weight in train, for special equipment, such as steamshovels, locomotives, cranes, and pile drivers, and $5 for each empty car. If the general local tariff rates are lower than the rates specified above such rates will apply.

8. DUTY PAYABLE:

a. Material, supplies, and equipment sold for use within the Republic of Panama and the Canal Zone, shall be subject to payment of customs duty by the purchaser to the Republic of Panama.

b. Delivery of such material, supplies, and equipment will not be made to the purchaser until he shall have presented to the depot quartermaster at Mount Hope, or to the district quartermaster at Ancon, two copies of bill covering sale, on which are endorsed certificates signed by the Treasurer of the Republic of Panama or his authorized representative in Panama or Colon, that customs duties on such material, supplies, and equipment have been paid, or have been remitted.

c. This provision shall not apply, however, to sales made:

1. To individuals and companies who have been granted blanket authority by the Republic of Panama to make purchases without payment of customs duties.

2. To the Panama Railroad Company, the Canal Zone Government, other departments of the United States Government, or contractors with the Commission or the Panama Railroad Company when articles purchased are for use in connection with their contracts.

3. To steamship companies and other individuals and companies when the articles purchased are for use solely outside of the territorial limits of the Canal Zone and the Republic of Panama.

4. To churches and charitable organizations.

5. To officers and employes of the Isthmian Canal Commission and the Panama Railroad Company, officers and enlisted men of the United States Army, Navy, and Marine Corps, or officers and employes of other departments of the United States Government, where the articles are purchased for personal use.

6. To clubs, societies, or other organizations of such officers, employes, and enlisted men in the Government service.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission.
President, Panama Railroad Company.

Physical Inventory of French Property.

CULEBRA, C. Z., August 20, 1913.

CIRCULAR No. 497:

Effective August 30, 1913, an inventory will be taken by all accountable officers of all French property, material, and equipment stored, or in use in the various departments and divisions. Great care must be taken to see that this inventory is properly compiled and full information must be shown, so that every article listed thereon can be readily identified. This is to be an actual physical inventory, and not to be taken from the property records.

When inventories are completed they should be transmitted direct to the Examiner of Accounts.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Surcharges on Labor.

CULEBRA, C. Z., July 31, 1913.

CIRCULAR No. 169-N:

Effective August 1, 1913, the following surcharges on labor, without machinery, for supervision and use of tools, will be applied:

BETWEEN DEPARTMENTS AND DIVISIONS OF THE COMMISSION, GOVERNMENT OF THE CANAL ZONE, AND THE PANAMA RAILROAD COMPANY.

On silver labor................Ten per cent.
On gold labor..........Twenty-five per cent.

FOR INDIVIDUALS AND COMPANIES.

On silver labor.............Fifteen per cent.
On gold labor................Forty per cent.

All previous circulars relating to surcharges on labor are modified accordingly.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Permanent Shops at Balboa.

CULEBRA, C. Z., August 26, 1913.

CIRCULAR No. 498:

The permanent shops at Balboa will hereafter be known and designated as the "Balboa shops."

The shops operated by the Sixth Division and heretofore known as the Balboa shops will hereafter be known and designated as the "Shipways shops."

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Showing Location of Equipment on Survey Request.

CULEBRA, C. Z., August 26, 1913.

CIRCULAR No. 323-D:

Accountable officers presenting rolling stock and other equipment for survey are required to show on survey requests, location of such equipment, so that the surveying officer can readily locate and pass on same, and such equipment will not be removed from location shown on survey requests until after survey has been made and approved by this office, unless the surveying officer shall have been notified of the removal.

GEO. W. GOETHALS,
Chairman.

Shop Expense Percentages.

CULEBRA, C. Z., August 22, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

In accordance with the provisions of Circular No. 169-E, the following shop expense percentage for each shop is hereby fixed, effective September 1, 1913, and will be applied, until further orders, to the distributed labor used in all shop work, in accordance with the provisions of Circular No. 264-A, viz:

DIVISION OR SHOP.	Shop expense percentum.
Mechanical Division..................	50
Dry dock shop......................	60
Balboa shop.........................	25
Porto Bello.........................	40
Toro Point..........................	40

Circular letter from this office dated March 29, 1913, is revoked.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Sample Shipments.

CULEBRA, C. Z., August 22, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

Several cases have recently been brought to the attention of this office in which samples of material to be used for testing and other purposes in connection with Commission work have been ordered by employes under personal consignment, which results in annoyance to both the employe and this office in adjusting transportation charges.

In the future, when a sample shipment is desired for official purposes, the same must be obtained through the Quartermaster's Department.

Geo. W. Goethals,
Chairman.

Appointment of Port Captain at Cristobal.

Culebra, C. Z., August 20, 1913.

Circular No. 410-c:

Mr. R. W. Bergin, receiving and forwarding agent, Colon, is hereby appointed captain of the port of Cristobal, effective September 15, 1913, vice Mr. J. St. C. Hunt.

Geo. W. Goethals,
Chairman.

Removal of Track over Dike at Gatun Locks.

Gatun, C. Z., August 27, 1913.

To All Concerned—The track across the dike at the north end of Gatun Locks will be broken at 7 a. m., on September 2, by the removal of the steel truss bridge over which this track passes.

Wm. L. Sibert,
Division Engineer.

New Account in Classified Expenditures.

Empire, C. Z., August 19, 1913.

Circular No. 48:

The following new account in classified expenditures of the Isthmian Canal Commission is hereby authorized in the Department of Construction and Engineering—general:

Account 352—PERMANENT TOWN SITES.

To this account will be charged all expenses incurred in connection with the construction of permanent town sites in the Canal Zone, including salaries and wages, material and supplies, and other incidental expenses in connection therewith.

H. A. A. Smith,
Examiner of Accounts.

Approved:
Geo. W. Goethals,
Chairman.

Ice and Cold Storage Deliveries.

Panama Railroad Commissary Department,
Cristobal, C. Z., August 20, 1913.

Circular No. 459-a:

To All Concerned—Circular No. 459, published in The Canal Record of August 13, is amended, as follows, effective today:

Deliveries will be made as specified but only to those employes on the gold roll who are entitled to make application for Commission and Panama railroad quarters.

John Burke,
Manager.

Approved:
F. O. Whitlock,
Acting Subsistence Officer.

Effective Date of New Panama Railroad Timetable.

Panama Railroad Company,
Office of General Superintendent,
Colon, R. P., August 23, 1913.

Circular No. 177:

All Concerned—Circular No. 162, dated August 16, 1913, in regard to abandoning Gorgona and Matachin stations and printing of new time table, should read that the new time card will be put into effect on Tuesday, September 2, 1913, instead of Monday, September 2, 1913.

John D. Patterson,
General Superintendent.

Panama Railroad Parlor Car Service.

Panama Railroad Company,
Office of General Superintendent,
Colon, R. P., August 19, 1913.

Circular No. 172:

All Concerned—Circular No. 138, dated July 18, in regard to parlor car service on Panama railroad trains, is hereby cancelled. Effective August 17, parlor car service will be maintained on the regular schedule, as indicated in pocket timetable No. 14.

John D. Patterson,
General Superintendent.

Change in Colon Local Freight Agency.

Panama Railroad Company,
Office of General Superintendent.
Colon, R. P., August 16, 1913.

Circular No. 161:

All Concerned—Effective September 15, 1913, the Colon local freight agency will be segregated from the Colon freight department, and Mr. J. C. Warren is appointed local freight agent, effective on that date, reporting to the freight and passenger agent.

J. D. Patterson,
General Superintendent.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

Nearly 100 entries have been received for the athletic and aquatic meet to be held at Corozal on Labor Day, September 1. The athletic events will begin at 9 a. m., and the aquatic events at 2 p. m. There will be a special train to take the spectators to the point at which the aquatic events are to be held. Music will be provided by the bands from the Marine Corps and Tenth Infantry. The work on the ahtletic field has been completed, and special arrangements are being made for the handling of the crowds that are expected.

The schedule for moving pictures for the week, September 1 to 6 is, as follows: Monday, Culebra; Tuesday, Cristobal; Wednesday, Gatun; Thursday, Corozal; Friday, Empire and Porto Bello.

COROZAL.

The Culebra basketball team defeated the Corozal team by a score of 18 to 16 on Saturday, August 23. The game was closely contested from start to finish.

The standing in the handicap tenpin tournament is, as follows: Albert, first; Ward, second; Walker, third.

High scores in bowling for the week are, as follows: *Tenpins*—Bordt, 205, 204; Start, 202, 200; Viller, 201, 213; Whiston, 204. *Duckpins*—Burke, 106; Beall, 108.

The funeral services of the late Frank Dewitt Gartrell were held at St. Luke's Chapel, Ancon, under the auspices of the Corozal Y. M. C. A., on Sunday afternoon, August 24. Mr. Gartrell was an enthusiastic supporter of the Y. M. C. A., and expecially interested in the chess and checker clubs. A number of the prominent chess and checker players have drawn up a set of resolutions in his memory.

In addition to the athletic and aquatic meet to be held at Corozal on Labor Day, there will be an invitation bowling tournament under the management of the Corozal Y. M. C. A., in which all Y. M. C. A. bowlers are invited to participate. Suitable medals will be offered as prizes.

CULEBRA.

On Friday evening, August 22, a "Smokeless smoker" was held under the auspices of the Culebra Y. M. C. A., at the schoolhouse. The following program was rendered: Mandolin orchestra, Messrs. Ramsey, Arbuckle and Pearsall; piano solo, Mr. Pearsall; reading, Mr. Silver; soprano solo, Mrs. Frank Roberts; selection, mandolin orchestra; exhibition with handcuffs, Carolo Rodriguez; "Twelve minutes in China," Messrs. Aaron and Homer; exhibition of roller skating, Miss Edith Carson. The orchestra played before and after the program. Refreshments of ice cream, homemade cake, and lemonade were served.

At the service on Sunday evening, Rev. Harry Compton gave an address on the subject, "Forget it."

High scores in tenpins during the week are, as follows Grossberg, 216; Dougherty, 223, 212, 202; Case, 201.

EMPIRE.

The Empire glee club gave a very enjoyable concert on Sunday evening, August 24, at which about 150 people were present. The program was, as follows: Prelude, piano solo, "Rachmaninoff," by Mrs. J. F. Storing; mixed chorus, "They that sow in tears," from "The Holy City;" soprano solo, "Calm as the night," Bohm, by Mrs. J. L. Caldwell; solos, duet, and chorus, "Christian, the morn breaks sweetly o'er thee," Shelley; soprano solo by Mrs. Young; bass solo by Mr. F. C. Conner; tenor solo and chorus, "Seek ye the Lord," Roberts, Mr. H. W. Dohrmann and chorus; soprano solo, "Oh, dry those tears," Mrs. Roberts; chorus, "Thine is the kingdom," from "The Holy City," by the glee club. Mrs. J. F. Storing was accompanist, and Mr. H. W. Dohrmann musical director.

About 250 men attended the "Smoker" given on Monday evening, August 18. The program consisted of moving pictures, tenor solos, wrestling, and fencing bouts, piano solos, and fancy roller skating. Refreshments were served.

The Culebra basketball team played the Empire team on Wednesday evening, August 20, and was defeated, 58 to 13.

GATUN.

The musical smoker held on Saturday evening, August 23, drew a large attendance. The program was, as follows: Tenth Infantry orchestra, opening selection; Edith Carson, roller skating; Aaron and Homer, piano duet; Otis, Burmeister, and Morrison, Barbadian talk; Tenth Infantry squad, Army calisthenics; Ramsey and Arbuckle, mandolin duet; McSparran and Simon, fencing match; Camp Elliott squad, saxaphone sextet; Aaron and company, "Thirteen minutes in China;" C. C. Pearsall, piano solo; Thomas Riley, ballad singing; Ed. King, Irish yodeling; Prince Rajah, Hindoo magic; Quynn and Huber, wrestling match.

The Tenth Infantry band will give a concert at the Gatun Y. M. C. A. on Saturday evening, August 30. The admission prices will be, members, free; nonmembers, 50 cents; children, 25 cents. All seats will be reserved. The band will be assisted by several prominent vocalists.

The standing of the popular handicap pool tournament on Saturday evening, August 23, was, as follows:

Name.	*Won.*	*Lost.*	*P.C.*
Bailey	2	0	1.000
Townsley	2	0	1.000
O'Hara	2	0	1.000
Kerruish	2	0	1.000
Dewey	1	0	1.000
Pettitt	1	1	.500
Johnson	1	1	.500
Carkeet	1	1	.500
Dennis	1	2	.333
Hammill		1	.000
Von		1	.000
Reisner		1	.000
Gray		2	.000
Bradley		2	.000
Wall		2	.000

A large crowd was present on Wednesday evening August 20, at the north end of Gatun Locks, when swimming events were conducted by the local Y. M. C. A. The results of the men's relay race were, as follows: *First, Locks team*—J. Mitchell, captain, Huber, Joe Smith, Wright. *Second, First Division team*—Reisner, captain, Schutt, Dustheimer, Gray. *Third, dredge team*—Parsons, captain, Forstrom, Gardner, Laresson. *Fourth, McClintic-Marshall team*—D. C. Galloway, captain, W. Galloway, Roberts, Farley. *Fifth, testing engineer's team*—Seeley, captain, Shaw, Wathem, Kyes. *Sixth, spillway team*—Porter, captain, Dewey, Waster, Walker.

The boys finished in a 75-yard swim in the following order: Atkins, Sisson, Christian, F. Garrison, Kerr, P. Baker, G. Butcher, C. Dewey, H. Butcher, D. Grant.

The results of the indoor baseball games in the week ending August 23 were: *Won*—First Division, McClintic Marshall office, Transportation, First Division. *Lost*—First McClintic-Marshall field, Commissary, Second McClintic-Marshall field, Commissary.

CRISTOBAL.

The Cristobal ladies reversed their defeat by the Gatun ladies' duckpin team by winning all three games on the Cristobal alleys on Wednesday, August 20. The totals were, as follows:

Cristobal... 415 419 390 Gatun...... 363 402 383

The Cristobal tenpin team won from the Empire team, two out of three, on Saturday, August 23, by the following scores:

Empire.				Cristobal.			
Simms	168	159	134	Harrison	154	211	150
Patterson	182	156	136	Buser	162	172	142
Beattie	192	150	151	Collins	174	158	170
Gilmore	138	172	157	Barnum	178	136	225
Gustavson	175	177	190	Bullard	175	228	170
	855	814	768		843	905	857

Mr. G. R. Raymond, handcuff artist, assisted in the entertainment at the moving picture show on Saturday night, August 23.

The first regular meeting of the discussion club was held on Tuesday, August 26. After the committee on nominations and the constitution had reported Mr. W. B. Childers of Gatun led in the discussion' using as his theme, "Natural law in the world of labor."

Interest in the chess club is increasing. Tuesday night, August 26, was devoted to considering the Ruy Lopez opening and the various masters' notations on it. Mr. Wm. Dubois of Culebra will play a simultaneous chess match with the members of the Cristobal club at Cristobal on Saturday night, August 30.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending Sept. 6, 1913:

Date.	Low	High	Low	High	Low
	A.M.	A.M.	A.M.	P.M.	P.M.
Aug. 31	......	2.53	9.07	3.12	9.28
Sept. 1	......	3.40	9.54	4.00	10.15
Sept. 2	......	4.25	10.38	4.45	11.00
Sept. 3	......	5.07	11.23	5.29	11.45
			P.M.		
Sept. 4	......	5.50	12.09	6.13	......
Sept. 5	12.28	6.34	12.55	7.00	......
Sept. 6	1.15	7.18	1.44	7.48	......

75th meridian time.

LOST—On Wednesday morning, August 13, a watch chain and fob on or near Cristobal beach. The fob bears the letters "A. V. F. S." Finder is requested to return article to Cristobal Y. M. C. A., and receive reward.

CANAL DIRECTORY.

ISTHMIAN CANAL COMMISSION.

Col. Geo. W. Goethals, U. S. A., Chairman and Chief Engineer, Culebra.
Col. H. F. Hodges, U. S. A., Culebra.
Lieut.-Col. D. D. Gaillard, U. S. A., Empire.
Lieut.-Col. Wm. L. Sibert, U. S. A., Gatun.
Civil Engineer H. H. Rousseau, U. S. N., Culebra.
Col. W. C. Gorgas, U. S. A., Ancon.
Mr. Richard L. Metcalfe, Ancon.
Mr. Joseph Bucklin Bishop, Secretary, Ancon.

DEPARTMENTS.

Construction and Engineering.

Office of The Chairman.

Col. Geo. W. Goethals, Chairman and Chief Engineer.
William Howard May, Secretary to the Chairman.
C. A. McIlvaine, Chief Clerk.
W. P. Copeland, Assistant Chief Clerk.
Ad. Faure, Chief Accountant.
H. S. Farish, Surveying Officer.
Lieut. Geo. R. Goethals, U. S. A., Assistant Engineer, Fortifications.

Office of The Chief Engineer.

First Division.

Col. H. F. Hodges, Assistant Chief Engineer.
C. O. Carlson, Secretary.
Edward Schildhauer, Electrical and Mechanical Engineer.
Henry Goldmark, T. B. Mönuiche, Designing Engineers.
Walter F. Beyer, Assistant Engineer.

Second Division.

Civil Engineer H. H. Rousseau, Assistant to the Chief Engineer.
J. J. Campbell, Secretary.
Lieut.-Col. T. C. Dickson, U. S. A., Inspector of Shops.
A. B. Nichols, Office Engineer.
Civil Engineer F. H. Cooke, U. S. N., Designing Engineer.
O. E. Malsbury, Assistant Engineer.
J. A. Walker, Superintendent Balboa Terminals.
W. L. Phillips, Landscape Architect.
F. D. Willson, Supervisor.
James G. Craig, Traveling Engineer
J. E. Johnson, Inspector of Lubricants and Equipment

Third Division.
(Abolished.)

Fourth Division.
Office of the Chief Clerk.

Fifth Division.
Headquarters, Corozal.

H. O. Cole, Resident Engineer.
J. C. Keller, Chief Clerk
R. B. Tinsley, Superintendent, Locks.
J. A. McCulloch, Superintendent, Steamshovel Excavation.
J. A. Loulan, Superintendent, Ancon Quarry.
W. J. Holmes, Trainmaster.
W. D. Stanton, Assistant Engineer.

Sixth Division.
Headquarters, Balboa.

W. G. Comber, Resident Engineer.
James Macfarlane, Superintendent of Dredging.

Central Division.
Headquarters, Empire.

Lieut.-Col. D. D. Gaillard, Division Engineer.
W. I Beam, Chief Clerk.
A. S. Zinn, Resident Engineer.
W. T. Reynolds, Superintendent Construction.
J. M. Hagan, Superintendent Construction.
M. W. Tenny, Superintendent Construction.
A. Sessions, Superintendent Transportation.
G. W. A. Palmer, Assistant Engineer.
Rance Ferguson, General Foreman, Relocation Dumps.
Wm. Fullman, General Foreman, Water Service.

Atlantic Division.
Headquarters, Gatun.

Lieut.-Col. Wm. L. Sibert, Division Engineer.
Lieut.-Col. Wm. V. Judson, U. S. A., Assistant Division Engineer.
Ben Jenkins, Chief Clerk.
Maj. J. P. Jervey, U. S. A., Resident Engineer.
Maj. G. M. Hoffman, U. S. A., Resident Engineer.

Mechanical Division.
Headquarters, Empire.

John J. Eason, Assistant Superintendent.
F. G. Swanson, Chief Clerk.
C. W. Fisher, Superintendent of Erection.
W. H. Bates, Superintendent Steamshovel Repairs.
Hartley Rowe, Electrical Superintendent.

Division of Municipal Engineering.
Headquarters, Gatun.

Geo. M. Wells, Resident Engineer.
Geo. B. Carson, Chief Clerk.
E. H. Chandler Superintendent, Northern District, Cristobal.
Dan E. Wright, Superintendent, Southern District, Ancon.
W. G. Spalding, Assistant Engineer, Miraflores.
J. T. B Bowles, Physiologist, Cristobal.

Subsistence.

Headquarters, Cristobal.

Lieut.-Col. Eugene T. Wilson, U. S. A., Subsistence Officer.
Capt. Frank O. Whitlock, U. S. A., Assistant Subsistence Officer.
John Burke, Manager, Commissary Department.
W. F. Shipley, Chief Clerk.

Quartermaster's.

Headquarters, Culebra.

Capt. R. E. Wood, U. S. A., Chief Quartermaster.
Joseph Birnie, Chief Clerk.
C. B Cook, Inspector, Construction and Repairs.

Frank Holmes, Resident Engineer, Permanent Buildings.
Mario J. Schiavoni, Architect.

Capt. C. Nixou, U. S. A., Depot Quartermaster, Mount Hope.
C. L. Parker, Assistant Depot Quartermaster, Mount Hope.
R. K. Morris, Storekeeper, Empire.
X. D. Holt, Storekeeper, Balboa.

District Quartermasters.

B. C. Poole, Ancon and Balboa.
R. C. Shady, Corozal and Miraflores.
O. S. Farrar, Acting, Pedro Miguel and Paraiso.
H. F. Sedwick, Culebra.
J H K. Humphrey, Empire.
Harry Dundas, Las Cascadas and Bas Obispo.
J. T. Smith, Gatun.
Roy R. Watson, Cristobal, and Toro Point.
Chas. D. Morgan, Porto Bello.

Civil Administration.

Headquarters, Ancon.

Richard L. Metcalfe, Head of the Department.
G. A. Ninas, Chief Clerk.
C. L. Luedtke, Assistant Chief Clerk.
Tom M. Cooke, Chief, Division of Posts, Customs, and Revenues, Ancon.
Arthur McGown, Deputy Collector, Ancon.
James Daly, Deputy Collector, Cristobal.
Capt. Chas. W. Barber, U. S. A., Chief of Police, Ancon.
A. G. Belknap, Assistant Chief of Police, Ancon.
C. E. Weidman, Fire Chief, Cristobal.
Chas. F. Koerner, Assistant Fire Chief, Ancon.
Frank P. Wagg, Superintendent of Schools, Ancon.
Eugene H. Ash, Treasurer of Canal Zone, Empire.
Lieut.-Col. Wm. V. Judson, Chairman, James Macfarlane, C. J. Andersou, Board of Local Inspectors.

Canal Zone Judiciary.

Headquarters. Ancon.

Supreme Court—H. A. Gudger, Chief Justice.
Walter Emery, Clerk, Ancon.
Thomas E. Brown, Jr., Associate Justice.
William H. Jackson, Associate Justice.
Circuit Court, First Circuit—H. A. Gudger, Judge.
Walter Emery, Clerk, Ancon.
Circuit Court, Second Circuit—William H. Jackson, Judge.
Elbert M. Goolsby, Clerk, Empire.
Circuit Court, Third Circuit—Thomas E. Brown, Jr., Judge.
Nelson R. Johnson, Clerk, Cristobal.
M. C. Rerdell, District Judge, Cristobal.
S. E. Blackburn, District Judge, Ancon.
Edgar S. Garrison, District Judge, Empire.

Law.

Headquarters, Ancon.

Frank Feuille, Counsel and Chief Attorney.
William K. Jackson, Prosecuting Attorney.
Charles R. Williams, Assistant Prosecuting Attorney.
R. S. Carlsou, Land Agent.

Sanitation.

Headquarters, Ancon.

Col. W. C. Gorgas, Chief Sanitary Officer.
Col. John L. Phillips, U. S. A., Assistant Chief Sanitary Officer.
Maj. Robert E. Noble, General Inspector.
Harry E. Bovay, Chief Clerk.

Lieut.-Col. Charles F. Mason, U. S. A., Superintendent Ancon Hospital, Ancon.
Surgeon C. C. Pierce, U. S P H S., Superintendent Colon Hospital, Cristobal.
Surgeon J. C. Perry, U. S. P. H. S., Chief Quarantine Officer, and Health Officer, Panama.
Dr. C. A. Hearne, Quarantine Officer, Colon.
Dr. Matthew J. Hoey, Quarantine Officer, Panama.
Joseph A. LePrince, Chief Sanitary Inspector, Ancon.
Dr. M. E. Connor, Health Officer, Colon.

Disbursements.

Headquarters, Empire.

John H. McLean, Disbursing Officer.
J. C Wood, Chief Clerk.
C. E. Gilmore, Cashier.
E. W. Heverly, Paymaster, Ancon.
E. A. Keeling, Paymaster, Cristobal.

Examination of Accounts.

Headquarters, Empire.

H. A. A. Smith, Examiner of Accounts
T. L. Clear, Assistant Examiner of Accounts.

Purchasing Department.

Headquarters, Washington, D. C.

Maj. F. C. Boggs, U. S. A., General Purchasing Officer.
C. E. Dole, Chief Clerk
Capt. Courtland Nixou, Purchasing Agent on the Isthmus.
R. E. Rutherford, Commissary Purchasing Officer, 24 State Street, New York City.
Capt. William O. Smith, U. S. A., Assistant Purchasing Agent, 614 Whitney-Central Building, New Orleans, La.

Panama Railroad Company.

Headquarters, Colon.
(General offices, 24 State Street, New York.)

John D. Patterson, General Superintendent, Colon.
R. L. Mock, Chief Clerk.
Lieut. Frederick Mears, U. S. A., Chief Engineer.
C. W. Northrop, Chief Dispatcher.
E S. Waid, Terminal Trainmaster, Colon and Cristobal.
S. W. Heald, Terminal Trainmaster, Panama and Balboa.

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings of the Panama Railroad Steamship Company; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line.

NEW YORK TO CRISTOBAL.

Panama	P. R. R.	Monday	Aug.	25
Allianca	P. R. R.	Saturday	Aug.	30
Colon	P. R. R.	Saturday	Sept.	6
Advance	P. R. R.	Friday	Sept.	12
Panama	P. R. R.	Thursday	Sept.	18

CRISTOBAL TO NEW YORK.

Advance	P. R. R.	Sunday	Aug.	31
Panama	P. R. R.	Saturday	Sept.	6
Allianca	P. R. R.	Thursday	Sept.	11
Colon	P. R. R.	Thursday	Sept.	18
Colon	P. R. R.	Friday	Oct.	24
Advance	P. R. R.	Thursday	Oct.	30
Advance	P. R. R.	Wednesday	Sept.	24

NEW YORK TO COLON.

Zacapa	U. F. C.	Wednesday	Aug.	20
Emil L. Boas	H.-A.	Saturday	Aug.	23
Sixaola	U. F. C.	Saturday	Aug.	23
Almirante	U. F. C.	Wednesday	Aug.	27
Oruba	R. M.	Saturday	Aug.	30

COLON TO NEW YORK.

Metapan	U. F. C.	Thursday	Aug.	28
Prinz August Wilhelm	H.-A.	Tuesday	Sept.	2
Tivives	U. F. C.	Tuesday	Sept.	2
Trent	R. M.	Tuesday	Sept.	2
Zacapa	U. F. C.	Thursday	Sept.	4

NEW ORLEANS. TO COLON.

Turrialba	U. F. C.	Saturday	Aug.	23
Cartago	U. F. C.	Wednesday	Aug.	27
Abangarez	U. F. C.	Saturday	Aug.	30
Heredia	U. F. C.	Wednesday	Sept.	3
Atenas	U. F. C.	Saturday	Sept.	6
Parismina	U. F. C.	Wednesday	Sept.	10
Turrialba	U. F. C.	Saturday	Sept.	13

COLON TO NEW ORLEANS.

Atenas	U. F. C.	Thursday	Aug.	28
Parismina	U. F. C.	Saturday	Aug.	30
Turrialba	U. F. C.	Thursday	Sept.	4
Cartago	U. F. C.	Saturday	Sept.	6
Abangarez	U. F. C.	Thursday	Sept.	11
Heredia	U. F. C.	Saturday	Sept.	13

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, SEPTEMBER 3, 1913. No. 2.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Opening New Passenger Station at Panama.

The north wing of the new passenger station at Panama will be opened for use about Monday, September 8. This, the second-class division, will be used by first-class passengers while the south wing is being finished. The change is made at this time, in order to allow the complete removal of the old station, the steel work of which is needed in the erection of the baggage room in rear of the new station. Second-class passengers will, for the present, enter the train shed through a gate in rear of the old station; temporary waiting benches will be provided for them under the shed at the alighting platform, and tickets will be sold from a booth erected under the runway from the platform to the old station. It is expected that the new station will be placed in full use about November 1, 1913.

Preservation of Retired Equipment.

Messrs. W. H. Bates, H. S. Farish, and C. T. Cushman, have been appointed a committee to investigate the most suitable protection against deterioration, through climatic influences, of equipment permanently retired from service. The committee is also delegated with the work of preparing a set of rules and regulations governing the procedure to be followed upon the permanent retirement from service of any piece of each class of equipment, and to recommend the most advantageous place or places at which the application of the preservative may be made.

Canal Commission Takes over Panama Street Cleaning.

A provisional arrangement has been entered into between the Panama Government and the Canal Commission, whereby the latter, as of September 1, has again taken over the work of street cleaning, garbage collecting, and street sprinkling in the city of Panama. At the outset, and up to 1908, this work was performed gratuitously by the Canal Commission. The Panama Government then served notice that it desired to take charge of the service, and the transfer took place on September 1, 1908. Since that time, the work has been handled by the Panama Government, the Canal Commisson contributing the sum of $10,000 annually toward its cost. Under the new arrangement, the Canal Commission will have complete jurisdiction over the work, and it will continue from year to year, unless 60 days' notice is given by either party, previous to the termination of the contract year, of desire for cancellation. The agreement also stipulates that Panamanian citizens be given preference in the matter of employment.

Mess Hall at Ancon for Gold Employes.

A mess hall has been authorized at Ancon for gold employes, and the hotel building at Pedro Miguel will be used for the purpose. It was the original intention to reerect the Pedro Miguel hotel as an annex to the mess hall at East Balboa, but this arrangement will not now be necessary, inasmuch as eating accommodations for bachelor employes at Ancon will relieve the congestion at the East Balboa hotel. The probability that a number of bachelors will continue to be quartered at Ancon, even after the completion of the Canal, was also taken into consideration. The new Ancon mess hall will have table accommodations for about 100 people at a sitting, and is to be situated on the road to Bishop's Hollow, near the new quarters recently erected in that locality. The hotel privileges will be extended to gold employes and their families only, and nonemployes will not be served even at the 50-cent rate.

Fill of Marshy Area Near Panama.

The low, swampy area lying between the Curundú River on the north, and that part of the Calidonia district of the city of Panama, known as San Miguel, on the south, will be filled in by the Canal Commission. This section has made an excellent breeding place for mosquitoes in the rainy season, and constitutes a menace to the health of the people living in the vicinity, besides causing continual expense in oiling. The owners of the property, with one exception, have agreed to the proposal, as it will enhance the value of their holdings, and be of no expense to them. The new sanitary rules and regulations placed in effect by the Panama Government, and published in the *Gaceta Oficial* of March 27, 1913, provide:

> Section 92. All premises must be kept in such condition as to prevent mosquito breeding, and upon failure of the owner, agent, or occupant of such premises to correct the insanitary conditions therein after notice from the health officer, or his representative, he shall be fined, and the health officer may proceed to correct such condition, the cost of same to be a charge against the delinquent person to be collected by execution against his property.

It is proposed to make the fill hydraulically, using material dredged from the terminal basin at Balboa.

MIRAFLORES TO THE SEA.

Last Barrier at Pacific End of Canal Destroyed on Sunday, August 31.

The last remaining barrier at the Pacific end of the Canal was dynamited at 9.30 o'clock on Sunday morning, August 31. This dike, composed of a trestle fill of rock and earth, prevented the water from the sealevel channel from entering the steamshovel cut 5,000 feet long, 500 feet wide, and 46 feet below mean tide, extending to Miraflores Locks. The Rio Grande Diversion was turned into this pit on August 23, but the depth of water had only reached about 15 feet by Sunday. About 37,000 pounds of 45 and 60 per cent dynamite were used, the charge being placed in 541 holes at an average depth of 30 feet. A large crowd of spectators was present, and pictures of the blast were taken by numerous kodaks, and one moving picture machine.

At the time of the explosion the water in the channel, south of the barrier, was nearly at low tide. The dynamite tore a gap in the dike about 100 feet wide, but as the bottom of the gap was still at some height above the existing tide level, no water passed through. An 18-foot tide was predicted for Sunday, with its maximum at 3.12 p. m., so that before high tide water was expected to flow over the gap in the dike. This expectation was fulfilled a little earlier than was anticipated, for, at 1.35 p. m., the water in the sealevel channel was nearly even with the top of the gap. At this moment a man with a shovel made a small trench across the dike through which a small stream of water began to flow. This rapidly increased in size until 40 minutes later, an opening 30 feet wide had been made, through which a torrent of water poured in a 30 or 35-foot fall. The rush of water ate away the sides of the opening steadily, carrying large sections of the dike, including trestle bents, and other débris, into the pit. The increasing volume of water filled the pit rapidly, and at 3 o'clock, one hour and 25 minutes after the water first began to flow over, the level in the inside channel was that of the outside channel, while the gap had been widened to 400 feet, or more. Some of the Sixth Division floating equipment was anchored in the sealevel channel just above the break of the barrier, and when the suction of the current was at its greatest, a barge was cut loose, and was carried through the gap with sufficient force to part a heavy steel cable which had been left strung across it. The barge then drifted slowly up toward the locks.

The dredge *Marmot* has begun excavating against the south side of the dike, and another dredge will pass through the gap and be set at work on the other side within a few days. It is expected that enough of the barrier will have been removed by October 1 to permit large ships to traverse the Pacific end of the Canal, a distance of 8½ miles, up to Miraflores

Locks. The launch *Birdena* made the trip from the dike to the locks on Tuesday afternoon, September 2, the first vessel to pass through this section of the Canal under its own steam.

Concrete Work in Locks and Spillways.

Concrete work in the Canal locks is nearly completed, the aggregate amount in place at the close of work on August 30, being 4,478,642 cubic yards.

A statement of the concrete laid in the three sets of locks for the Canal, and in Gatun and Miraflores spillways, as of August 30, follows:

GATUN LOCKS.

The last concrete for the locks proper, as distinguished from that necessary to finishing work by the First Division, was mixed and placed on August 16, 1913. At the close of work on that day the total amount of concrete placed by the Atlantic Division amounted to 2,045,485 cubic yards.

PEDRO MIGUEL LOCK.

	Concrete laid. Cubic yards.
Aug. 24	27
Aug. 25	34
Aug. 26	48
Aug. 27	49
Aug. 28	32
Aug. 29	29
Aug. 30	26
Total	245
Previously reported	923,263
Grand total	923,508

MIRAFLORES LOCKS.

Aug. 24	76
Aug. 25	64
Aug. 26	104
Aug. 27	106
Aug. 28	87
Aug. 29	89
Aug. 30	75
Total	601
Previously reported	1,509,048
Grand total	1,509,649

GATUN SPILLWAY.*

Aug. 25	144
Aug. 26	162
Aug. 27	144
Aug. 28	136
Aug. 29	184
Aug. 30	184
Total	954
Previously reported	233,200
Grand total	234,154

MIRAFLORES SPILLWAY.

Aug. 25	100
Aug. 26	36
Aug 27	10
Aug. 28	12
Aug. 29	
Aug. 30	6
Total	164
Previously reported	75,446
Grand total	75,610

*Includes hydroelectric station.

◆

Ancon Crusher.

The following is a statement of rock crushed at Ancon quarry during the two weeks ending August 16:

DATE.	Cubic yards.	Hours worked.
August 4	2,205	6 00
August 5	1,672	7.05
August 6	2,219	6.50
August 7	1,589	6.40
August 8	2,116	7.40
August 9	2,537	6.55
Total	12,338	41.10
August 11	2,954	8.15
August 12	3,073	9.55
August 13	2,748	11.00
August 14	2,207	7.30
August 15	2,784	9.30
August 16	1,743	6.50
Total	15,509	53.00

◆

The Fifth and Central Divisions are beginning to turn in old rail in large quantities. This rail will be sorted in two classes, serviceable, including rail in condition for reuse, and bent rail, which can be straightened; and unserviceable, which will be "scrapped."

The big tree, formerly standing near the bank of the Chagres River at Gorgona, in the vicinity of the old shops saw mill, has been destroyed by dynamite, in order that it might not prove an obstruction to future navigation.

An additional pump and motor will be installed at the Gold Hill sluicing plant.

The pay of the dock laborers at Balboa, Colon, and Cristobal has been increased one cent an hour, making their present pay 12 cents an hour.

LABOR FORCE AND QUARTERS IN JULY.

The force report for July 30 shows the actual working force of the Canal Commission to be 33,830; of the Panama railroad, 5,276, and of the contractors, 3,378, a total effective working force of 42,484 men, an increase of 222, as compared with the statement for June. The gold force on the Canal work, composed almost exclusively of white Americans, was 4,173, a reduction of 109, as compared with the previous month. A statement of the Canal force by divisions, follows:

DEPARTMENT OR DIVISION.	SILVER EMPLOYES*													Total silver.	Total gold.	Grand total
	Artisans.						European laborers.		West Indian laborers							
	Monthly	44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents	7 cents.			
Construction & Engineering	4,638	12	11	362	1,506	3 986	2,680	505	555	636	6,051	3,544	240	24,726	3,225	27,951
Civil Admn'tion	131													131	286	417
Sanitation	651			3	3	5					8	368	†2	1,040	318	1,358
Quartermaster's	886			168	298	390	14				279	959	21	3,015	193	3,208
Subsistence	715			2	1	1							16	735	48	783
Disbursements	6													6	18	24
Examination of Accounts	4													4	85	89
Total	7,031	12	11	535	1,808	4,382	2,694	505	555	636	6,338	4,871	†279	29,657	4.173	33,830
Month previous	6,949	10	11	718	1,650	4,139	3,358	768	107	394	5,924	4,655	‡248	28,931	4,282	33,213

I. C. C. force, 33,830; Panama railroad force, 3,894; Panama railroad commissary force, 1,382; total 39,106.
*All wages specified are in gold. †Includes two at five cents. ‡Includes three at five cents.

The force report of the Department of Construction and Engineering, including the employes of contractors, as of July 30, was, as follows:

DIVISION.	SILVER EMPLOYES*													Total silver.	Total gold.	Grand total.
	Artisans.						European laborers.		West Indian laborers.							
	Monthly	44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents.	7 cents			
Chief Engineer	2,795	2	1	240	969	2,691	854	195	489	231	3,965	1,271	107	13,810	1,555	15,365
Mechanical Div.	251	10	9	56	130	420	44	1			1,008	82	14	2,025	808	2,833
Atlantic Div.	555		1	52	303	547	457	140			494	237	18	2,804	263	3,067
Central Division	1,037			14	104	328	1,325	169	66	405	584	1,954	101	6,087	599	6,686
U. S. Steel Products Co.														155	190	345
Chicago House Wrecking Co														16	4	20
McClintic - Marshall Co.														2,658	355	3,013
Total	4,638	12	11	362	1,506	3,986	2,680	505	555	636	6,051	3,544	240	24,726	3,225	27,951
Month previous	4,469	10	11	391	1,343	3,855	3,315	767	106	394	5,766	3,424	231	24,084	3,224	27,30

*All wages specified are in gold. †Includes two at five cents. ‡Includes one at five cents.

QUARTERS.

A report of Commission quarters occupied on July 31, follows:

PLACE.	Gold.			Europeans.			West Indians.		
	Men	*Women*	*Children*	*Men*	*Women*	*Children*	*Men*	*Women*	*Children*
Balboa	354	36	44	409			711		
Ancon[1]	516	301	233	6			1,072	5	
Corozal	789	172	151	458			579[2]	10	6
Miraflores	16	1	1	358[3]	5	11	294[4]	8	10
Pedro Miguel	325	71	90	273	3	2	237	34	47
Paraiso	221	89	100	123	3	12	238	102	148
Culebra	365	149	156	475	50	95	401	103	168
Empire	724	289	277	396	46	76	533	147	232
Las Cascadas	196	105	142	20	12	33	234	152	177
Bas Obispo	108	53	54	126	10	23	167	45	57
Gorgona[5]	195	11	4				185	8	18
Gatun	657	205	212	1,011	20	24	674	20	12
Cristobal[6]	781	282	319	80			1,345	225	364
Toro Point	53	12	17	92			305		
Porto Bello	73	30	28	127[7]			260	2	4
Total	5,373	1,806	1,828	3,954	149	276	7,235	861	1,243

(1) Includes Sabanas Police station, Taboga Island, Culebra Island, Palo Seco and Naos Island. (2) Includes 71 Panamanians. (3) Includes nine East Indians. (4) Includes 61 Panamanians. (5) Includes Matachin. (6) Includes Colon Hospital. (7) Includes 23 Asiatics. Gold force of contractors (included above), 29 families, and 563 bachelors.

JOINT LAND COMMISSION.

Additional Awards.

The following additional awards were announced by the Joint Land Commission at a public session held on Monday, August 25:

Award No. 23—In the matter of sundry claims—An award is hereby made against the United States in favor of the persons hereinafter named, in the sum of $1,455.

This award shall be paid to the respective claimants hereinafter named, in the amounts hereinafter specified, on or before the 24th day of September, 1913, and if payment or tender of payment of any of the items of this award is not made on or before that date, such items shall thereafter bear interest at the rate of six per centum, per annum, until paid.

José. A. Alvarez, for all rights, claims, and other interests in growing crops, fruit trees, house tax No. 1846, and any other buildings and any other improvements which the said Alvarez may possess on the lands of Caimito (the said property being distinct from that indicated as 48 on the sketch map of the Lake Gatun and for which a payment was made in May, 1912, by Voucher 20185 to José Manuel Alvarez), the sum of $35.

Albert Batson, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Albert Batson may possess on the lands of Bailamonos Sur, the sum of $100.

Isabella Berry, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Isabella Berry may possess in lands located on the estate of Juan Grande (said property being distinct from that for which an award was made by the Joint Land Commission in the town of Gorgona), the sum of $40.

Albert Boulon, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Boulon may have possessed on or near the Carabali watershed on the lands of Juan Grande (the said property being distinct from that claimed by Boulon in the town of Gorgona) the sum of $45.

William Bycroft, for all rights, claims, and other interests in growing crops, fruit trees, house tax No. 1068, and any other improvements which the said Bycroft may possess on the lands of Caimito Mulato, the sum of $75.

Estate of Teresa Canoles, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Teresa Canoles may have possessed on the lands of Tabernilla, the sum of $175.

Diego Castillo, for all rights, claims, and other interests in growing crops, fruit trees, buildings and any other improvements which the said Castillo may possess or may have possessed on the lands of Peñas Blancas Abajo, the sum of $150.

Maximiliano Gomez, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Gomez may possess or may have possessed on lands located on the Curutu River, or near the headwaters of the Bailamonos River, or on the Carabali watershed, the sum of $115.

Custodio Herazo, for all rights, claims and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Herazo may possess in lands located above the 87-foot level on the lands of Caño Quebrado (said property being distinct from that below the 87-foot level, purchased from the father of the claimant, Sebastian Herazo or Erazo), the sum of $225.

Eugenio de Leon, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said de Leon may have possessed in the lands of Barbacoas or Caimito Mulato at the time he was notified to leave the same, less the value of annual crops which he has been given an opportunity to gather, the sum of $25.

Rosa Morales, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Rosa Morales may possess in the lands of Caimito Mulato, the sum of $50.

Geronimo Ortega, for all rights, claims, and other interests in growing crops, fruit trees, house tax No. 1837, and any other buildings and any other improvements which the said Ortega may possess in property located east of the Panama railroad on the lands of Caimito Mulato, the sum of $120.

Andre Phillippe (known also as Henry Phillips and Andres Felipe), for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Phillippe may possess or may have possessed in the localities known as Valdo Ospino and Mujeres Nuevas, the sum of $100.

Robert Smith, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Smith may possess on the lands of Caimito Mulato, the sum of $50.

Manuel Tuñon, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Tuñon may possess or may have possessed in lands lying above the 87-foot level on the lands of Caño Quebrado (the said property being distinct from the property which was purchased from Tuñon by the payment in February, 1912, by Voucher 18842, for improvements below the 87-foot level), the sum of $75.

Jacob Turner, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Turner may possess on lands located east of the Panama railroad on the lands of Caimito Mulato (the said property being distinct from the property which was purchased from said Turner by the payment in February, 1912, by voucher 18653, for House 1064 at Caimito, and improvements), the sum of $75. Total, $1,455.

Award No. 24—In the matter of certain claims for houses in the town of Gorgona—The evidence before the Commission shows that the persons hereinafter named were the owners of the properties hereinafter referred to before they accepted any leases from the Isthmian Canal Commission. In no case did the persons hereinafter named make any claim to the ownership of the land.

In conformity with the principles formulated in the opinion of July 25, 1913, on the demurrer of Counsel of the United States to the jurisdiction of the Commission in the matter of the claim of Juan Sotillo, and in accordance with the evidence submitted to the Commission, an award is hereby made against the United States of America for certain buildings hereinafter identified by the respective tax numbers, the said award to include all rights, claims, and interests of any persons in the said buildings, together with all claims for improvements of whatsoever nature on the part of any persons hereinafter named, and all rights claimed by them, in the sum of $700.

This award shall be paid to the respective persons named hereinafter, in the amounts hereinafter specified; on or before the 24th day of September, 1913, and if payment or tender of payment of any of the items of this award is not made on or before that date, such items shall thereafter bear interest at the rate of six per centum, per annum, until paid.

To the owners of buildings, for the settlement of all rights, claims, or other interests which they may have in the same, together with any other improvements located on the lots with houses designated by their tax numbers, as follows: Felix Armien, tax No. 779, $300; Joseph Minier, tax No. 773, $400. Grand total, $700.

Award No. 25—In the matter of certain claims for houses in the town of Gorgona—The evidence before the Commission shows that the persons hereinafter named became the owners of the properties hereinafter referred to, before November 15, 1907, and before they had accepted any leases from the Isthmian Canal Commission. In no case did the persons hereinafter named make any claim to the ownership of the land.

In conformity with the principles formulated in the opinion of July 25, 1913, on the demurrer of Counsel of the United States to the jurisdiction of the Commission in the matter of the claim of Juan Sotillo, and the further opinion of August 20, 1913, concerning the date upon which the new system of leases entered into effect, and in accordance with the evidence submitted to the Commission, an award is hereby made against the United States of America for certain buildings hereinafter identified by their respective tax numbers, the said award to include all rights, claims, and interests of any persons in the said buildings, together with all claims for improvements of whatsoever nature on the part of any persons hereinafter named, and all rights claimed by them in the sum of $1,450. This award shall be paid to the respective persons hereinafter named, in the amounts hereinafter specified, on or before the 24th day of September, 1913, and if payment or tender of payment of any of the items of this award is not made on or before that date, such items shall thereafter bear interest at the rate of six per centum, per annum, until paid.

To the owners of buildings, for the settlement of all rights, claims, or other interests which they may have in the same, together with any other improvements located on the lots with houses designated by their tax numbers, as follows: James Brown, tax No. 807, $250; W. H. Carrington, administrator of the estate of George Andrade, deceased, a total of $925, for individual houses, as follows: Tax No. 734, $700; tax No. 822, $225; total $925; Edward Gordon, tax No. 809, $275. Grand total, $1,450.

Award No. 26—In the matter of certain claims for houses in the town of Gorgona--The evidence before the Commission showed that the persons hereinafter named were the owners of the property hereinafter referred to before they accepted any leases from the Isthmian Canal Commission. In no case did the persons hereinafter named make any claim for the ownership of the land.

The evidence shows further that the buildings referred to have been partially demolished, and in making its award the Commission has taken into consideration the impairment in the value of the property caused by the partial demolition of the buildings.

In consideration of the principles formulated in the opinion of July 25, on the demurrer of Counsel of the United States to the jurisdiction of the Commission in the matter of Juan Sotillo, and in accordance with the evidence submitted to the Commission, an award is hereby made against the United States of America for certain buildings hereinafter identified by their respective tax numbers, the said award to include all right, title, and interest of any persons in the said buildings, together with all claims for improvements of whatsoever nature on the part of the persons hereinafter named, and all rights claimed by them, in the sum of $1,245. This award shall be paid to the respective claimants, hereinafter named, in the amounts hereinafter specified, on or before the 24th day of September, 1913, and if payment or tender of payment of any of the items of this award is not made on or before that date, such items shall thereafter bear interest at the rate of six per centum, per annum, until paid.

To the owners of buildings, for the settlement of all rights, claims, or other interests which they may have in the same, together with any other improvements located on the lots with houses designated by their tax numbers, as follows: D. W. Ogilvie, tax No. 826, $625; Luis de la Peña, for individual houses, as follows: Tax No. 798, $320; tax No. 832, $300; Total $620. Grand total, $1,245.

To Continue Pumping from Chagres River.

The Division of Municipal Engineering will continue in service the duplex steam plunger pump, situated on the bank of the Chagres River, near Gamboa bridge, in order to provide against a possible deficiency in the water supply on the west side of the Canal during the next dry season, and also for steamshovels that may be kept in service above the 85-foot level on the east and west banks of Culebra Cut. This pump discharges into a 10-inch water main, which crosses the Cut on the Empire suspension bridge. As this bridge will be taken down before all work is completed on the east bank of the Canal, it is proposed to lay the main across the bottom of the Cut at a suitable point in the vicinity of the present structure. In view of the fact that the rise of Gatun Lake will flood the present site of the pump, it has been moved to a point higher up on the bank.

Sale of Scrap Copper Screening and Brass Borings.

Award for the sale of all scrap copper screening has been made to H. D. Moskowitz of New York City for the period beginning July 1, 1913, and terminating June 30, 1914, at the price of $10.78 per hundredweight. The contract for the last period was held by the Nassau Smelting and Refining Works of New York City, at $12.15 per hundredweight. The prices at which the scrap screening was sold by the Canal Commission for the three years prior to 1912 have been $8.25, $8.17, and $7.75 per hundredweight, respectively.

Two proposals were received for the purchase of brass borings, one from the Chicago Housewrecking Company, at $9.25 per hundredweight, and the other from M. Rovetta, at $5.75 per hundredweight. Both bids were rejected, and it has been decided to hold the borings until the market improves. The Board of Appraisal has fixed on 10 cents a pound, as the upset price for the borings.

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The special material train operated between Balboa, Empire, and Gorgona each afternoon dropped the latter place from its itinerary on Saturday, August 16. The train will continue to operate with Empire as its most northerly stop.

COMMISSION CLUBHOUSES.

Athletic and Aquatic Meet at Corozal.

Nearly 1,000 spectators and contestants attended the athletic and aquatic meet held under the auspices of the Corozal Y. M. C. A., on Labor Day, September 1.

The selection of Corozal seems to have met with favor as 149 entries were received. The new athletic field adjoining the clubhouse proved fully adequate for the occasion and will doubtless be useful for future events of a similar nature.

The events of the morning were enlivened by a concert by the band of the United States Marine Corps.

Interest centered in the aquatic events that were held in the afternoon on account of the fact that the contests were held in the forebay of the lower lock at Miraflores, instead of near the dike as had been originally intended. A concert was given by the Tenth Infantry Band at the locks, and later at the clubhouse, when the spectators were returning.

The results follow:

ATHLETIC EVENTS.

Event No. 1, 100-yard dash—First, Detmore Witver, second, Frank W. Hoff; third, K. C. Jackson. Time, 11 1/5 seconds.

Event No. 2, 60-yard dash for boys—First, Wm. Loulan; second, Otis Roe; third, A. M. Bouche, Jr. Time, 7 4/5 seconds.

Event No. 3, Running broad jump—First S. J. Sawyer, distance, 20.7 feet; second, E. T. Baldwin, distance, 19.8 feet; third, Frank W. Hoff, distance, 17.9 feet.

Event No. 4, 120-yard low hurdles—First, L. A. Koperski; second, J. N. Kenealy; third, R. A. Koperski, Time, 17.1 seconds.

Event No. 5, Pole vault—First, J. G. DeCora; second, F. C. Purchase; third, C. Murray. Height, 9 feet 6 inches.

Event No. 6, 220-yard dash—First H. D. Simmons; second, A. J. Johnson; third, F. C. Purchase. Time, 26 seconds.

Event No. 7, Boys' relay—First, Corozal; second, Gatun. Time, 48 seconds.

Event No. 8, 12-pound shot put—First, I. R. Scheel; second, Raymond Van Horn; third, A. J. Johnson. Distance, 40 feet 3 inches.

Event No. 9, Running high jump—First R. A. Koperski; second, P. H. Chadbourne; third, Irving R. Scheel. Height, 5 feet 7 inches.

Event No. 10, 880-yard run—First, P. C. Hulsebosch; second, Wm. R. Anderson; third, S. C. Russell. Time, 2 minutes 19 seconds.

Event No. 11, 440-yard dash—First, H. D. Simmons; second, J. W. Harper; third, H. Laundry. Time 60 3/5 seconds.

Event No. 12, Three-legged race—First, Hoff and Hulsebosch; second, Frey and Russell.

Event No. 13, Tug-of-war—Won by Camp Elliott.

Event No. 14, One mile relay race. (Four laps only)—First, Corozal; second, Camp Elliott; third, Ancon. Time, 3 minutes 2 seconds.

AQUATIC EVENTS.

Event No. 1, 50-yard swim—First, D. E. Simons; second, J. R. Stapler; third, Leon Giavelli.

Event No. 2, 50-yard swim for boys—First, Hal Wardlow; second, John Sweek; third, Clarence Atkins.

Event No. 3, 100-yard swim—First D. C. Galloway; second, D. E. Simons; third, J. R. Stapler.

Event No. 4, Fancy diving—First, J. M. Jimenez; second, Waldo A. Reisner; third, Raymond Smith.

Event No. 5—Equipment race was called off.

Event No. 6, Relay swimming race—First, Gatun.

Event No. 7, One-mile race—First, J. W. Greene; second, Jas. A. McGrath; third, J. A. Fraser.

POINTS BY TOWNS.

The total of points, by towns, follows:

Position.	Town.	Points.
1	Camp Elliott	46
2	Corozal	36
3	Cristobal	27
4	Culebra	23
5	Gatun	16
6	Ancon	12
7	Empire	5
8	Toro Point	5

GENERAL.

The moving picture schedule for the week September 8 to 13 is, as follows: Monday, Gatun; Tuesday, Cristobal; Wednesday, Culebra; Thursday, Empire; Friday, Corozal and Porto Bello. A special reel, "The inauguration of President Wilson," will be shown as a feature this week. Other reels are entitled: "Turpentine industry"; "No trespassing;" "Father had his way;" "Pathe Weekly;" "Saved at the altar;" "Broncho Billy for sheriff;" "From Lautherbrunnen to Murren, Switzerland;" "Small game at the Zoo;" "An eccentric sportsman;" "Stern papa;" "Love's messenger." For next week, September 8 to 13, the following reels will be shown: "Hindoo charm;" "Spring log rolling;" "Harriet Quimby's flight;" "For her Lord;" "The Pickwick predicament;" "The Laird's daughter;" "The convalescent;" "The little wanderer."

CULEBRA.

Moving pictures will be shown on Saturday evening at 8 o'clock. A special reel showing the inauguration of President Wilson will be a feature.

High scores in tenpins for the week were, as follows: Schmeck, 204; Bechlem, 204; Case, 204, 201; Dougherty, 218, 223, 215, 200; DeCora, 209. 208.

EMPIRE.

The Empire basketball team defeated the Corozal team on Saturday evening, August 30 by a score of 32 to 11. The Empire men are to form a local league to play prior to the opening of the Isthmian League. There are enough men interested to form five teams.

The "American" Isthmian duckpin tournament, which resulted in a tie between Empire and Cristobal, was rolled off on the Gatun alleys on Saturday evening, August 30. Empire won the first two games, thereby winning the tournament and prizes. The Empire team was composed of the following men: Hill (captain), Huson, Grund, King, Mengel, and Lowande.

An A. B. C. class pool tournament has been arranged The entries will close on September 6. Those wishing to enter are requested to see pool room manager.

GATUN.

The Tenth Infantry band, under the direction of Chief Musician Coe, gave a concert at the clubhouse on Saturday evening, August 30.

The "Metropolitan" basketball league was organized on Wednesday evening, August 27. Joseph P. Mitchell is president and Harry Foman, secretary. The following teams and men will participate in the league:

McClintic—M. Conley, Hess, Randill, Roudebush, Rothgeb. *First Division*—Martinoff, Tuttle, Bradley, Wathen, Sherrard, Gray, Reisner. *Unattached*—Fitzpatrick, Thompson, L. Mitchell, Bailey, Bruce, Jensen, Cauthers, Giddings, M. Omeara, Chandler. *Commissary*—Kerruish, Grabb, Hallowell, Lutz, Garrison. *Atlantic Division*—J. Mitchell, F. Huber, Wright, Whiston, Roberts, Coleman.

The first two games scheduled are: September 3, Atlantics *vs.* Unattached; September 4, McClintic-Marshall *vs.* First Division. Gold medals will be given as prizes. E. D. Christopherson will act as official referee.

The "Red Hot" indoor baseball league was brought to a close on Thursday evening, August 28, with final results, as follows:

Team.	*Won.*	*Lost.*	*P. C.*
Atlantic Division	6	0	1.000
First Division	5	1	.833
Office, McClintic-Marshall	3	3	.500
(1) Field McClintic-Marshall	3	3	.500
Transportation	2	4	.333
Commissary	2	4	.333
(2) Field McClintic-Marshall	0	6	.000

The following is the present standing of the popular handicap pool tournament:

Name.	*Won.*	*Lost.*	*P.C.*
Duey	3	0	1.000
Townsley	3	0	1.000
Kerruish	3	1	.750
Bailey	2	1	.666
O'Hara	2	1	.666
Johnson	2	1	.666
Carkeet	2	1	.666
Pettit	1	1	.555
Reisner	1	1	.555
Gray	1	1	.555
Bradley	1	2	.333
Von	1	2	.333
Dennis	1	3	.250
Hamill	0	1	.000
Wall	0	4	.000

The final results of the First Division duckpin tournament conducted during the month of August is, as follows:

Team.	*Won.*	*Lost.*	*P. C.*
Dubbs	16	2	.888
Billikens	14	4	.777
Shuttles	14	4	.777
Transmitters	7	11	.388
Nut splitters	5	13	.277
Boosters	4	14	.222
Chronics	3	15	.166

CRISTOBAL.

Thirty men attended the opening meeting of the discussion club on Tuesday night, August 26. Following the address by Mr. W. B. Childers, an animated discussion was held.

In the simultaneous chess tournament on Saturday, August 30, Mr. William Dubois of Culebra took four games and lost five to members of the Cristobal chess club. Messrs. Verner, Hurt, Taylor, Ogden, and Dubois won from Mr. Dubois, and Messrs. Wilson, Wechsler, Salzburg, and Martin lost. The members of the chess club favor the proposal to hold an "All-Isthmian" chess tournament.

Mr Frank Reynolds featured a monologue and song at the moving picture entertainment Saturday night, August 30. Following the entertainment, an informal reception was held in honor of Mr. and Mrs. Irving DeLong, whose marriage had just been announced.

An outing was given the children at the Washington Hotel swimming pool on Labor Day.

PORTO BELLO.

W. B. Childers, superintendent of the McClintic-Marshall Construction Company at Gatun, spoke to a good sized audience at the Porto Bello Y. M. C. A., on Sunday evening. August 24. His subject was "Natural law in the world of labor."

A handicap pool tournament is being played with the following entries and results to date:

Name.	*Won.*	*Lost.*	*P. C.*
Murray	3	0	1.000
Doyle	1	0	1.000
Bucklin	8	1	.889
Heil	5	1	.833
Bowen	6	2	.750
Smith	2	1	.667
Keene	3	2	.600
Cummings	6	4	.600
T. W. Sherrard	1	4	.200
Colberg	3	4	.428
Thompson	1	5	.167
J. D. Sherrard	1	6	.143
Chase	0	2	.000
Englebrecht	0	7	.000

The interest in gymnasium work is increasing. The following are among those enrolled in classes: Messrs. Hoehne, Medd, Chase, Jensen, Bradberry, Geyer, Bucklin, Sherrard, Claude Smith, and Wm. Smith.

Handball seems to be the favorite game in the gymnasium, and a local tournament will probably be organized in the near future.

A new supply of gymnasium shoes has been received.

The Sunday evening song services have an average attendance of about 40 people. Mr. Walter Thompson has charge of the singing.

Seven new pianola rolls have been added to the collection.

The "Exiles Dance Club" will have a dance at the clubhouse on September 13. The Tenth Infantry orchestra has been engaged.

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Canal Zone Postal Savings Bank Transactions.

A statement of the postal savings bank transactions at Canal Zone post-offices for the month of July, follows:

NAME OF OFFICE.	Postal savings certificates issued.	Postal savings certificates paid.
Ancon	$17,212.00	$15,[illegible]3.00
Balboa	16,020.00	16,[illegible].00
Bas Obispo	9,336.00	[illegible]
Corozal	33,546.00	23,[illegible].00
Cristobal	11,594.00	10,230.00
Culebra	9,761.00	12,200.00
Empire	18,372.00	13.331.00
Gatun	15,512.00	19,452.00
Gorgona	5,245.00	20,120.00
Las Cascadas	13,863.00	14,224.00
Matachin	201.00	7,178.00
Miraflores	4,916.00	7,642.00
Paraiso	12,069.00	14,193.00
Cristobal, Sta. "A"	2,845.00	1,620.00
Cristobal, Sta. "B"	1,019.00	1,453.00
Pedro Miguel	12,425.00	8,161.00
Total	$183,936.00	$192,471.00
Deposits on hand on July 1, 1913	$645,690.00	
Amount deposited in July	183,936.00	
Amount withdrawn in July		$192,471.00
Balance on hand August 1, 1913		637,155.00
	$829,626.00	$829,626.00

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Married.

DELONG–ROGERS—At the Union Church, Cristobal, Miss Esther A. Rogers of Thonotosassa, Fla., to Mr. Irvin Newton DeLong of Easton, Pa., the Rev. Carl H. Elliott officiating. Canal Zone residence, Cristobal.

McEWEN–ASSY—At the Union Church, Cristobal, on Monday, September 1, Miss Josephine Louise Assy of New York City to Mr. John Alex. McEwen of Boston, the Rev. Carl H. Elliott officiating. Canal Zone residence, Culebra.

SOCIAL LIFE OF THE ZONE.

Centralization of Church Work.

The Woman's Foreign Missionary Society of the Methodist Episcopal Church has issued invitations to the members of the church societies throughout the Canal Zone for a rally to be held in the church parlors of the sea wall church on Saturday, September 6, at 2.30 o'clock. The object of this meeting is to discuss the possibility of forming a central society for the carrying on of Christian work among the women after the disbandment of such societies as now exist. It is thought that if the women concentrate in one strong organization, the work can be done without much tax on their time. It is believed that the women of Corozal, Paraiso, Pedro Miguel, Culebra, and Empire will be interested in the project, and it is to residents in those villages that the appeal is especially made. In addition to the discussion of these plans, there will be a short program, which will include one number by pupils of the mission school, and an address on missions by Mrs. Harry Compton. For the convenience of those ladies who wish to combine a morning business trip with the meeting, Mrs. E. M. Keyser of Ancon will serve luncheon at her home near the hospital gate at 12 o'clock. Those having children to be cared for will find special provision for their entertainment. Women who wish to avail themselves of this hospitality should send word of acceptance to Mrs. E. M. Keyser, Ancon. The committee in charge of the arrangements for the meeting is composed of Mrs. Compton, president of the society, Mrs. C. H. Ports, secretary, and Mrs. James Stokoe, chairman of the committee.

At the meeting of the society on August 2, Mrs Ports was elected secretary, vice Miss Elise Keyser, resigned. Miss Keyser has left the Isthmus for her home in the United States. It is possible that she may return in the service of the Methodist Missionary Board.

The Methodist Mission School in Panama has an enrollment of 90, and the last report showed an average attendance of 83 pupils. There are three teachers, and one teacher to supervise the children in their play. It has been decided to devote one day in each week to instruction in industrial work. The boys will be taught carpentry and manual work, and the girls will be taught sewing, cooking, and household economics. The missionary society will provide suitable playground equipment for the school.

Miscellaneous Notes.

A large, clear map of the United States is desired by the instructor in a class in English for Chinamen. Any one wishing to donate such a map may address Box 420, Cristobal.

The Cristobal Union Sunday school has forwarded a donation to the Jacob Riis Settlement for its fund for sending a poor family to the country for a few days in the hot weather. Five dollars will take care of a good sized family for one week. Mr. Kromer, superintendent of the Cristobal Union Sunday school, Mr. Simka, Cristobal, and Mr. Page, secretary of the Commission clubhouse at Cristobal, will receive further subscriptions for this purpose.

Mrs. R. C. Warringer of Johannesburg, South Africa, was the guest of honor at the meeting of the Woman's Altar Guild of St. Luke's Church, Ancon, on Tuesday afternoon, September 2. She spoke informally on the work of the women of the church in the Transvaal. The meeting was held at the home of Mrs. R. E. Noble, and was well attended. The guild will celebrate its sixth anniversary in October. The next meeting will be held at the home of Mrs. S. T. Darling, Ancon Hospital grounds, on Tuesday, October 7. The hour has been changed from 3.30 to 4 o'clock.

Dr. George Chalmers Richmond, D. D., rector of Trinity Church, Philadelphia, has been a recent visitor to the Isthmus. He preached at Christ Church, Colon Beach, on Sunday evening, August 24; at St. Luke's Hospital chapel, Ancon, on Sunday morning, August 31, and at St. Paul's church, Panama, on the evening of the same day. Dr. Richmond sailed for New York on the *Trent* on Tuesday, September 2.

A special service was held at the Cristobal Union Church on Monday evening, September 1, in commemoration of those who have lost their lives in connection with the construction of the Panama Canal. The pastor, Rev. Carl H. Elliott, preached a memorial sermon.

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Personal.

Congressman Wyatt Aiken of South Carolina, accompanied by his son, arrived on the *Panama*, on Sunday, August 31, to look over the Canal work.

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Visit of Shriners.

One hundred and nine members of the Ancient Arabic Order, Nobles of the Mystic Shrine, arrived on the *Turrialba* from New Orleans on Thursday, August 28, and 81 on the *Cartago* on Saturday, August 30. The most noteworthy event of their stay was the ceremony of initiation which was held in the forenoon of Labor Day in the west chamber of the upper lock at Miraflores, where the setting was made to represent the interior of a Shriners' temple. After the secret work, a bronze tablet was placed on the center wall, commemorative of the event, which bears the following inscription:

Es Selamu Aleikum
Osman Temple, A. A. O. N. M. S., St. Paul, Minnesota, U. S. A.
J. Harry Lewis, Illustrious Potentate.
John Fishel, Recorder.
Will O. Washburn, Chief Rabban.

This tablet marks the oasis where, on "Ailoul Ahaad 1327," (September First Nineteen Hundred and Thirteen) a caravan from Osman Temple paused in its journey toward the setting sun and conferred in full form the Ancient Arabic Order of the Nobles of the Mystic Shrine on 171 sons of the desert in service under the Isthmian Canal Commission.

May Allah protect and sustain them.
Aleikum Es Selamu.

The trip was made under the auspices of Osman Temple of St. Paul, Minn, and its band and patrol was brought along. The social features of the visit consisted of a ball at the Hotel Tivoli on Saturday evening, band concerts in Panama and Colon, sightseeing trips, and a banquet at the Hotel Washington on Monday evening. Mr. W. W. Irwin, Imperial Potentate of the Order, and Mr. J. Harry Lewis, potentate of Osman Temple, were among the visitors.

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Examination by Board of Local Inspectors.

The Board of Local Inspectors will conduct examinations at the Administration Building, Ancon, on Wednesday, September 10, 1913, beginning promptly at 2 p. m., for persons desiring to procure the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for licenses must procure from the Executive Office, Ancon, forms of application and information respecting the filling out of same, at least one day before the examination. Applicants for chauffeurs' licenses must also bring automobiles.

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Tivoli Club Election.

The annual meeting of the Tivoli Club was held on Sunday, August 31, when the following officers were elected: President, Col. William C. Gorgas; vice-president, Dr. W. E. Deeks; secretary-treasurer, J. W. Tannehill, reelected. Messrs. B. C. Poole and W. K. Jackson were elected members of the executive committee.

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Cristobal Marine Association.

The Cristobal Marine Association meets every first and third Sunday of each month in Cristobal lodge hall, building No. 1. The next meeting will be September 7, at 8 p. m.

L. PETTOLETTI,
Recording Secretary.

Cristobal, C. Z., August 27, 1913.

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The dismantling of chamber cranes Nos. 2 and 4, and berm cranes E and F at Miraflores Locks will be done by forces of the Fifth Division.

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Family Quarters.

Applications for married quarters on file on July 31, were, as follows:

DISTRICT.	List No. 1.	List No. 2.
Ancon	18 (8)	97 (19)
Ancon Hospital	1	5
Balboa	1	57 (3)
Bas Obispo	....	12 (2)
Corozal	....	129 (5)
Cristobal	....	150 (8)
Culebra	4	35 (4)
Empire	5 (4)	88 (11)
Gatun	....	82
Las Cascadas	....	25 (6)
Pedro Miguel	1	60 (6)
Porto Bello	1 (1)	14 (9)
Toro Point	....	4
Total	31 (13)	758 (73)

NOTE—The figures in parentheses show the number of applicants already occupying regular or nonhousekeeping family quarters at stations other than those at which applications are filed.

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Tide Table.

The following table shows the time of high and low tides at Panama for the week ending September 13, 1913:

DATE.	High	Low	High	Low	High
	A.M.	A.M.	A.M.	P.M.	P.M.
Sept. 7	......	2.05	8.08	2.37	8.44
Sept. 8	......	3.02	9.05	3.38	9.50
Sept. 9	......	4.10	10.16	4.52	11.18
Sept. 10	......	5.30	11.43	6.08	......
			P.M.		
Sept. 11	12.45	6.48	1.05	7.17	......
Sept. 12	1.50	7.51	2 07	8.12	......
Sept. 13	2.38	8.40	2.55	8.57	......

75th meridian time.

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Stages of the Chagres.

Maximum height of the Chagres River for the week ending midnight, Saturday, August 30, 1913. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.			
	Vigia.	Alhajuela	Gamboa.	Gatun Lake*
Sun., August 24	128.7	94.4	59.4	59.4
Mon., August 25	127.5	93.7	59.5	59.5
Tues., August 26	126.7	93.1	59.7	59.6
Wed., August 27	131.4	96.4	60.0	59.8
Thurs., August 28	127.4	93.8	60.1	60.1
Fri., August 29	127.3	93.5	60.2	60.2
Sat., August 30	126.8	93.2	60.3	60.3
Height of low water to nearest foot	125.0	91.0	44.0	

*Sluice gates in spillway of Gatun Dam were closed on June 27, 1913, with lake at elevation 48.25.

OFFICIAL CIRCULARS.

Red Cross Ball.

CULEBRA, C. Z., August 28, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

A ball will be given at the Hotel Tivoli on September 17, under the auspices of the National Red Cross Society for the benefit of the Canal Zone Chapter, in celebration of the completion of dry excavation in the Canal.

The ball has received official sanction and payments of amounts subscribed by employes for tickets or other purposes in connection with the ball may be made by pay roll deduction, if the employe so requests in writing.

GEO. W. GOETHALS.
Chairman, Isthmian Canal Commission.
President, Panama Railroad Company.

Analysis of Water Supply.

CULEBRA, C. Z., August 26, 1913.

CIRCULAR No. 444-A:

Paragraph D under Section 3 of the "Rules and regulations regarding the examination, treatment, and care of water supplies under the jurisdiction of the Isthmian Canal Commission and Panama Railroad Company from a sanitary standpoint" is changed to read, as follows:

> The methods of analysis are to be those of the American Public Health Association.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission.
President, Panama Railroad Company.

Standard Oils and Lubricants.

CULEBRA, C. Z., September 1, 1913.

CIRCULAR No. 314-K. (SUPERSEDING CIRCULAR No. 314-I)

The following list of illuminating oils, and lubricating oils and greases will be considered as standard for the Isthmian Canal Commission and Panama Railroad Company, and will be used only for the purposes indicated, excepting only as indicated in the last paragraph of this order. All requisitions on the Quartermaster's Department shall specify the oil or lubricant desired, either by the I. C. C. number given below or by name, or by both, and no name other than that given below for each particular oil or lubricant shall be used in designating the same on requisitions, etc. No oils or lubricants will be requisitioned for unless the same are included in the following list, until after application for authority to procure same, showing the necessity therefor, has been first submitted to, and approved by me.

The metal drums in which most of the lubricating oils are furnished is the property of the oil contractors and have to be returned to them in good condition. Care should, therefore, be exercised in their handling to prevent both damage and loss of oil, and in no case should they be used as a continuous container for same or any other oils, but when empty should be returned promptly to the Quartermaster's Department.

The prices given below indicate the actual cost to the Commission and Panama Railroad Company of all oils, and lubricants, delivered at Cristobal, under the present annual contract (cost of drums not included), and are not intended to supersede the prices given in the price book of the Quartermaster's Department, and should not be used in the material accounts.

I. C. C. No.	Cost per gal. *Drums.*	*Cans.*
1. Valve oil	$.25	......

For the internal lubrication of steam valves and cylinders on all classes of equipment. For use on the crank case of Westinghouse vertical compound engines.

2. Air compressor cylinder oil	.20	......

For the internal lubrication of air cylinders of air compressors, and for pneumatic hammers and drills.

3. Marine engine oil	.22	......

For marine engines, but not in crank cases, where it would be agitated and mixed with water, for, being a compound oil, it would emulsify if so used; also, for the block bearings of suction dredges.

4. Stationary engine oil	.17	......

For stationary engines, electric dynamos, and motors, wood and metal working machinery, and for the general lubrication of machinery; also, for dies of bolt cutters, turret lathes, etc., except where the use of lard oil is permitted. (See note under lubricant No. 11).

5. Locomotive engine oil	.15	......

For all locomotives, running gear of all locomotive cranes, deck machinery of dredges (except engines) and for cold saws in machine shops.

6. Turbine engine oil	.18	......

For all step bearings of turbines in the Miraflores and Gatun power plants only. This oil is also known as step bearing oil.

7. Gas engine oil	.20	......

For the cylinders of internal combustion engines.

9. Car oil	.13	......

For the journals of all cars, passenger coaches, locomotive tenders, and rolling stock generally; for steam shovel bearings where not equipped with grease cups, and for tripod drills and switches.

10. Transformer oil	.28	......

For use in the electrical subdivision in air-cooled transformers only.

11. Lard oil	.....	.6575

For hand torches for illuminating purposes only on marine equipment. On land, for shop use on pipe-threading machines; and it may be substituted for stationary engine oil (I. C. C. No. 4) when necessary, on dies and turret machines and on bolt cutters, when working refined iron or tough machinery steel. The use of this oil should be minimized to the greatest possible extent on account of its high cost.

12. Ammonia cylinder oil	.35	......

For the internal lubrication of cylinders of ammonia compressors only.

		In bbls.
13. Crude oil	.....	.0262

For the lubrication of steamshovel chains, cables where designated, and general purposes where oils and greases have been used as a preservative.

LUBRICATING GREASES.

		Cost per Lb. *In bbls*
20. Nonliquid oil	.....	.045

This is an oil of the consistency of vaseline, for the lubrication of sheaves of carriages on the Lidgerwood cableways at Gatun, for air brake cylinders and triple valves, and such pneumatic drills and motors as may be equipped for the use of grease.

		Cost per Lb. *In Cans*
21. Cup grease (yellow)	.....	.065

For all classes of lubrication where grease is used in compression cups. This grease is being received in two consistencies, No. 3 and No. 5, the No. 3 of lesser consistency to be used on machinery subject to normal temperature, and the No. 5 of heavier consistency to be used on machinery subject to higher temperatures.

22. Gear grease	.....	.027

For all classes of lubrication requiring grease for which compression cups are not adapted. This includes the center and side bearings of cars, cranes, and steamshovels, also wire cables, both standing and running, etc.

		Cost per Lb. *In bbls*
23. Cable grease	.....	.04

For the "Interlocked-wire" track cables of the Gatun cableways exclusively.

24. Crank pin grease	.....	.085

For use on locomotive crank pins only where pressure cups are used. Care should be exercised not to confound this grease with cup grease Nos. 3 and 5 (I. C. C. No. 21, which is not suitable for this purpose).

ILLUMINATING OILS.

	Cost per Gal. *Drums*	*Cans.*
30. Signal oil	.....	.44

For use in railroad lanterns only, and in the cab lights of engines.

31. Kerosene oil	.102	.169

For use in locomotive headlights, passenger coach, and similar lamps, ordinary lanterns, and for cleaning purposes.

GASOLINE.

40. Gasoline	.254	.318

For use on gasoline launches, motor cars, blow torches, cleaning, etc.

Standard hand oilers and oil cans should be used as provided in Circular No. 338-D.

A copy of this circular shall be posted in all stationary plants, shops, engine houses, storehouses, oil houses, on all marine equipment, and in such other places as may be necessary to insure the cognizance of same by all concerned.

Substitutions of cheaper grades of the standard I. C. C. and P. R. R. lubricants given above, may be approved by the traveling engineer, or the inspector of lubricants and equipment, whenever practicable, the above circular defining in a general way their accepted uses.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission.
President, Panama Railroad Company.

Quartermaster's Department to Take over Oil Houses.

CULEBRA, C. Z., August 23, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

Effective September 1, 1913, the Quartermaster's Department will take over all field oil houses of the Commission on the Isthmus. The necessary arrangements for the issuance of lubricants and greases will be made directly by the Quartermaster's Department with the various departments and divisions interested.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Tracks Over Gamboa Dike To Be Cut September 10, 1913.

EMPIRE, C. Z., September 3, 1913.

CENTRAL DIVISION CIRCULAR No. 377:

The tracks over Gamboa dike will be cut on September 10, 1913. On and after that date, all trains crossing the Canal will have to use Bridge 57½.

A. S. ZINN,
Acting Division Engineer.

Chief Accountant, Central Division.

EMPIRE, C. Z., August 21, 1913.

CENTRAL DIVISION CIRCULAR No. 374.

Effective this date, Mr. J. J. Melgord is appointed chief accountant, Central Division, vice Mr. R. K. Booth, resigned.

A. S. ZINN,
Acting Division Engineer.

Change in Sailing Dates of P. R. R. Steamers.

PANAMA RAILROAD COMPANY.
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., August 28, 1913.

CIRCULAR No. 187:

All Concerned—On account of withdrawing the steamship *Allianca* from the service for necessary repairs, and inability to charter suitable steamer to take its place, the following changes will be made in our steamship schedule:

STEAMERS.	Leave New York	Arrive Cristobal	Leave Cristobal	Arrive New York
Advance ..	....	....	Aug. 30	Sept. 6
Colon.....	Sept. 2	Sept. 8	Sept. 14	Sept. 20
Advance..	Sept. 9	Sept. 16	Sept. 23	Sept. 29
Panama...	Sept. 16	Sept. 22	Sept. 28	Oct. 4
Allianca...	Sept. 22	Sept. 28	Oct. 4	Oct. 10

JOHN D. PATTERSON,
General Superintendent.

Appointment of Terminal Trainmaster.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT.
COLON, R. P., August 19, 1913.

CIRCULAR No. 174:

All Concerned—Effective Wednesday, August 20, Mr. E. S. Waid is appointed terminal trainmaster, in charge of Cristobal and Colon yards.

JOHN D. PATTERSON,
General Superintendent.

Appointment of Port Captain at Colon.

COLON, R. P., August 16, 1913.

CIRCULAR No. 166:

All Concerned—Effective September 15, 1913, Mr. R. W. Bergin is appointed port captain of the port of Colon, in addition to his duties as receiving and forwarding agent, vice Mr. J. St. C. Hunt.

J. D. PATTERSON,
General Superintendent.

Appointment of Terminal Trainmaster.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., August 25, 1913.

CIRCULAR No. 183:

All Concerned—Effective Monday, September 1, 1913, Mr. S. W. Heald is appointed terminal trainmaster in charge of Panama and Balboa yards.

JOHN D. PATTERSON,
General Superintendent.

Charge for Brake Service Sundays and Holidays

CULEBRA, C. Z., August 12, 1913.

ALL DISTRICT QUARTERMASTERS:

The Chairman has approved recommendation that, inasmuch as brake service furnished private individuals is usually required on Sundays and holidays, or in the evenings, and the drivers of the brakes receive no overtime for this service, the district quartermasters be authorized to collect from the parties using the brake, one dollar, ($1) United States currency, which sum is to be paid to the driver performing the service, his receipt to be taken therefor.

Please be governed accordingly.

R. E. Wood,
Chief Quartermaster.

District Quartermaster Changes.

Culebra, C. Z., August 18, 1913.

All Concerned—Effective September 1, the following changes will be made in stations of district quartermasters:

R. C. Shady, district quartermaster, from Gorgona to Corozal.

J. H. K. Humphrey, district quartermaster, from Corozal to Empire.

J. T. Smith, district quartermaster, from Pedro Miguel to Gatun.

R. E. Wood,
Chief Quartermaster.

Transfer Slips to Show Accrued Vacation Leave.

Culebra, C. Z., August 5, 1913.

Heads of Departments and Divisions:

In order to comply with the circular of the Chairman and Chief Engineer of July 26, to Heads of Departments and Divisions, relative to charging the divisions transferring an employe with accrued vacation leave instead of charging the expense to the division requesting the transfer, it will be necessary, effective August 1, to show on the transfer slips furnished the departments and divisions the amount of accrued vacation leave due. Two copies of transfer slips should be sent to the Chief Engineer.

As this information has not been shown on the transfer slips issued during the month of July, please furnish me statement, giving the names, amount of accrued vacation leave, and the department to which transferred, of all employes who have been transferred during July.

In future, the division to which employes are transferred will render hills on the basis of the accrued vacation leave shown on transfer slips.

Ad Faure,
Cost Keeping Accountant.

Invoicing Accrued Vacation Leave.

Culebra, C. Z., August 18, 1913.

Heads of Departments and Divisions:

Referring to the Chairman's circular to the Heads of Departments and Division authorizing bill against the department or division transferring employes for accrued vacation leave:

It is not intended that any invoice be rendered for less than 21 days, or six months' leave, as, under the regulations, no vacation leave is earned under six months.

Bills should only be rendered where the accrued leave is for a period of more than six months.

Ad Faure,
Cost Keeping Accountant.

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Supplies for the Canal.

The following steamers with supplies for the Isthmian Canal Commission and Panama Railroad Company, arrived at the ports of Balboa, Cristobal, and Colon, during the two weeks ending August 30, 1913:

Colon, August 18, from New-York, with four boxes machinery for Mt. Hope pumping station, for Atlantic Division; five cases tarpaulins, for stock; signal material, for Panama railroad; one box brass cocks, one case repair parts for monotype, for stock; one case drawing material, for Fourth Division; one case drawing material, for stock; 29 reels copper cable, for First Division; 10 boxes plumbing material, 10 cases paint, 213 bundles pipe, 190 bundles tie plates, 200 kegs wire nails, for stock; 52 cases electric fixtures, 20 bundles derailers, for Panama railroad; two packages medical supplies, for Sanitary Department; 38 barrels foundry supplies, for Mechanical Division; 80 crates roofing tile, for First Division; 242 bundles steel bars, for Fifth Division; 25 pieces lumber, for stock.

Pastores, August 17, from New York, with one case file cases, for stock; three cases pipe fittings, for Mechanical Division; two cases packing, 16 pieces chains, for stock; 34 barrels transil oil, for Mechanical Division; one rail bender and attachments, for Panama railroad; 16 bales life preservers, for stock.

Carl Schurz, August 18, from New York, with two cases vises, 121 pieces pipe, for stock; 151 crates fire brick, 13 sacks fire clay, for Mechanical Division; three boxes bar steel, five cases paper, for stock.

Heredia, August 18, from New Orleans, with 2,188 pieces lumber, for Mechanical Division; 3,691 pieces lumber, for stock; 20 pieces lumber, for fortifications; one box chipping hammers, for First Division; 133 bundles pipe fittings, for stock; 807 barrels paving brick, for Panama railroad.

Olaf, August 18, from St. Marys, Georgia, with 1,507 pieces untreated piling, 151 pieces treated piling, 1,439 pieces lumber, for stock.

Metapan, August 20, from New York, with one reel copper cable, for First Division; 150 cases linseed oil, seven bales steam hose, two cases belt lacing, for stock; one crate steel plates, for First Division.

Atenas, August 21, from New Orleans, with two cases brushes, 29 rolls canvas, four cases sledges, 50 cases soap, 183 crates handles, 698 pieces lumber, for stock; 19 cases iron railings, for Panama railroad.

Advance, August 26, from New York, with 5,500 packages hollow tile, for Second Division; two boxes brass cocks, 101 drums oil, 12 cases stationary supplies, for stock; four crates concrete tile machines, for Second Division; 14 barrels crucibles, for foundry, for Mechanical Division; three cases sledges, for stock; one launch propeller, for Second Division; 11 boxes electric lamps, for Mechanical Division; 121 cases steel wire, 18 cases electric fixtures, for Panama railroad; one box brushes, for stock; two crates rail benders, for Panama Railroad Company; 70 boxes burial caskets, for Sanitary Department; one box motors, for Mechanical Division; one box tickets, for Panama Railroad Company; four cases stationary supplies, for stock; one box electrical material, for First Division; six boxes mower repair parts, for stock; two boxes dynamometers, for First Division; 130 barrels molding sand, for Mechanical Division; 26 boxes stationary supplies, eight boxes bolts, for stock; one case motor car parts, for Mechanical Division; one barrel crockery, for Sanitary Department; three cases paint, for stock; one box machinery, for Sixth Division; two boxes electrical material, for Mechanical Division; seven barrels cable fittings, for First Division; three boxes insulators, for Mechanical Division; one box castings, for Panama Railroad Company; 19 bundles car castings, for Mechanical Division; five pieces fittings, for Sixth Division; and a miscellaneous cargo, the whole consisting of 6,286 packages, weighing 146 tons.

Prinz August Wilhelm, August 24, from New York, with 1,203 pieces pipe, for First Division; eight barrels iron pipe fittings, for stock; 120 pieces iron rods, two kegs nuts, for Second Division.

Tivives, August 24, from New York, with 51 cases caustic soda, 15 cases paint, for stock; 20 cases machinery, four reels cable, for First Division; one reel cable for Mechanical Division; 13 cases electrical material, for First Division; two cases telephone equipment, for Panama Railroad Company; 10 barrels copper wire, for Mechanical Division; 1,583 pieces, 373 bundles, 12 cases, 216 pieces, 35 cases structural material, for First Division.

Pennsylvania, August 25, from San Francisco, with 2,046 pieces lumber, for Fortifications Division; 13 cases machinery, for Sixth Division; two cases paint, for stock.

Haakon, August 27, from Jacksonville, Florida, with 469 long tons pig iron, for Mechanical Division; 5,730 pieces lumber, 1,113 pieces piling, 2,500 cross-ties, for stock; five pieces dipper stick, for Sixth Division.

Parismina, August 25, from New Orleans, with 3,936 pieces lumber, 100 switch stands and rods, 10 boxes chisels, 50 draft mules, for stock; 954 barrels paving brick, for Panama Railroad Company.

Zacapa, August 27, from New York, with 71 reels wire rope, 447 bundles shovels, four cases packing, 15 packages copper, for stock; 20 reels copper-clad wire, 1,000 crates insulators, 34 cases parts, one box castings, for First Division; 354 bundles reinforcing rods, for Second Division.

Turrialba, August 28, from New Orleans, with 625 pieces lumber, three cases paint brushes, for stock; 60 barrels brake shoes, for Mechanical Division; 550 creosoted blocks, for Second Division; one piece rock crushing machinery, for Fifth Division; 5,000 pounds compound, for First Division.

Edenhall, August 28, from Baltimore, with 3,000 pieces sewer pipe, 1,500 kegs spikes, 56,000 pieces vitrified tile, 375 barrels sulphate ammonia, 250 bundles brooms, for stock; eight cases miter gate moving machinery, four cases, 18 pieces castings, for First Division; 507 pieces, 44 bundles, 32 boxes structural material, for Panama Railroad Company; 20 boxes ether, for Sanitary Department.

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Sale of Building No. 204, Cartagenita.

Office of Chief Quartermaster,
Culebra, C. Z., August 29, 1913.

Sealed proposals will be received at this office until 3 p. m., Thursday, September 11, 1913, and then opened, for the purchase of building No. 204, located at Cartagenita, near Paraiso.

Proposals should be accompanied by certified check, post-office money order, or cash, for five per cent (5%) of the amount bid.

Successful bidder will be granted the Commission freight rate of $2.25 per ton over the Panama railroad for material recovered from the building, and will be required to remove the building within 30 days from acceptance of bid.

Intending bidders will be shown the building offered for sale, or given any information desired, upon application to Mr. O. S. Farrar, acting district quartermaster, Pedro Miguel.

Envelopes containing proposals should be marked "Proposal for purchase of building No. 204" and addressed to Capt. R. E. Wood, Chief Quartermaster, Culebra, C. Z.

The right is reserved to accept or reject any or all bids.

R. E. Wood,
Chief Quartermaster.

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Misdirected Letters.

Ancon, C. Z., September 3, 1913.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressees:

Amey, Joseph
Atkinson, O. C.
Beeler, W. D.
Broadhurst, Geo.
Clark, Geo.
Cole, Charles B.
Drumm, Jos.
Ellis, Richard
Finley, G. I.
Flynn, Patrick J.
Garrison, A. S.
Gorman, John C.
Harris, S. B. (3)
Holmes, Mr. Dr.
Johnson, Harry L.
Jones, W. C.
Kibel, Max

Logan, C. H.
Malloy, J. E.
McLeod, M. W. (photo)
Myrick, J. C. (daily paper)
Passailaigan, A. E.
Pfuhl, Fred P. (pamphlet)
Ramey, Wm.
Rounds, Wm. J.
Sangan, James
Seales, Joseph
Shaw, Miss Ester
Smith, George R.
Smith, James H.
Thompson, John C.
Triton, Miss Emily
Wells, J. T.
Work, Leonard (2)

LETTERS UNCALLED FOR AUGUST 27, 1913.

Blackburn, Ray
Blockwood, John
Callahan, John
Catlin, W. R.
Clarke, Oscar
Colby, F. G.
Colgan, Jas.
Ellam, Dr. Herbert W.
Gibson, James
Gitlin, Miss R.
Guess, P. R.
Hall, Mrs. Fred P.
Henry, H. J.
Holmes, Frank
Johnson, Harry C. (2)
Kistner, Otto
Marchalleck, Clan H.
McGarvey, Edward
McCord, F.

Mena, Luis
Michie, E. M.
Murphie, Miss Fidelna
Murran, Samuel
Nicholson, William
Nock, Ivan F.
Parker, David (2)
Railey, Hilton H.
Russell, S. M.
Sensenbach, Mrs. Walton F. R.
Smith, Miss Mary L.
Sullivan, J. E.
Sweeney, Mrs. John
Tembrom, Rupurth
VanNess, Albert
VanNess, Walter
Webb, E.
Williams, Gersham

Wright, John L. (6)

LETTERS UNCALLED FOR AUGUST 20, 1913.

Baird, Rev. Phil C.
Blanton, Benton
Brasile, Mrs. B. G.
Casil, Tomas
Charnley, T. Larkins
Davis, Mrs. Irene Douglas
Devoins, John C.
Drum, Joseph
Dwyer, Martin J.
Erl, Henry
Emerson, Harry
Foster, S.
Frampton, Jack
Frostholen, Miss Marie
Godwin, Clifford B.
Green, Alfred
Harris, S. B.
Hatch, Fletcher
Heimer, Floyd B.
Hobson, Wm.
Hopkins, Charlie

Johnson, John B.
Kemper, Wm. Eugene
King, L. A.
London, Pablo (pkg)
Lucas, Joe H.
Matthew, Geo. E.
McArthur, Capt. John C.
Miller, Walter
Pflaume, Rev. William O.
Randall, Charley (2)
Rawlinson, Oscar
Rennan, George
Russeau, William
Snapp, Dr. J. H.
Strauss, J. R.
Talty, Thos.
Trower, Jno. H.
Uderitz, Mrs. W. J.
Wieben, John
Wright, Walter J.
Zissa, Frank F.

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Sale of Material in Boiler Shed at Gorgona Shop.

Office of Chief Quartermaster,
Culebra, C. Z., August 29, 1913.

Sealed proposals will be received at this office until 4 p. m., Saturday, September 6, 1913, and then opened, for the purchase of the structural material in this building. The measurements of the building are approximately 40 feet by 104 feet by 24 feet high. This building has been torn down and material shipped to Mount Hope where it can be inspected. Bidders must familiarize themselves with condition of material, etc., as the Commission makes no guarantee whatever. Bid will be made in a price per gross ton.

Certified check, money order, or cash for ten per cent (10 %) of the amount of the bid must accompany hid.

Envelopes containing proposals should be marked "Proposal for purchase of material formerly in boiler shed at Gorgona," and addressed to Capt. R. E. Wood, Chief Quartermaster, Culebra, C. Z.

R. E. Wood,
Chief Quartermaster.

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Lost—An Eastman kodak, in case, on train leaving Panama at 7 p. m., on Sunday, August 31. Finder is requested to communicate with J. Langlois, Box 26, Paraiso, C. Z. Reward.

COMMISSARY DEPARTMENT.

Deliveries of Bread Under New Train Schedule.

PANAMA RAILROAD COMPANY,
COMMISSARY DEPARTMENT,

CRISTOBAL, C. Z., August 30, 1913.

CIRCULAR No. 470:

To All Storekeepers—Under the train schedule of the Panama Railroad Company, effective September 2, 1913, commencing at midnight, September 1, bread will be forwarded from the Cristobal bakery, as follows:

For the following points, bread will be forwarded on train No. 3, leaving Colon at 6 a. m.: Colon, Monte Lirio, Frijoles, Caimito, Tower "R," New Culebra, Pedro Miguel, Paraiso, Miraflores, Corozal, Panama, Balboa.

Bread for the following points will be transferred at Pedro Miguel Junction from train No. 3 to train No. 40: Culebra, Empire, Las Cascadas, Bas Obispo.

The district quartermaster at Paraiso will arrange to handle the bread arriving on train No. 3 from Pedro Miguel Junction to Paraiso.

The district quartermaster at Ancon will handle the bread for Ancon and Balboa promptly on arrival of train No. 3 at Ancon.

Bread for Gatun will be handled on train No. 121, leaving Colon at 7.40 a. m.

The afternoon delivery of rolls will be forwarded from Colon on train No. 7, leaving Colon at 4 p. m., handling the bread for points between Colon and Panama, transferring for points between Pedro Miguel Junction and Bas Obispo to train No. 46, leaving Pedro Miguel Junction at 5.35 p. m.

In order that bread may be delivered as soon as possible after baking, deliveries will be made on the following schedule, at the several points:

Gatun—Deliveries to be made on the 10 a. m. grocery delivery.

Paraiso—Deliveries to be made on the 10.30 a. m. grocery delivery.

Pedro Miguel—Deliveries to be made on the 9.30 a. m. grocery delivery.

Corozal—Deliveries to be made on the 8 a. m. grocery delivery.

Ancon—Deliveries to be made from Balboa on the 10.30 a. m. delivery.

East Balboa—Deliveries will be made from Balboa on the 10.30 a. m. delivery. If any deliveries are made at Old Balboa, they can be made by special messenger, there being but few white families located in that place.

Culebra—Deliveries to be made on the 9.30 a. m. delivery.

Empire—Deliveries to be made on the 10.30 a. m. delivery.

Las Cascadas—Deliveries to be made on the 9 a. m. delivery.

Bas Obispo—Deliveries will be made on the 8.30 a. m. delivery.

District quartermasters will arrange to handle the afternoon deliveries leaving Colon on train No. 7, which are transferred to train No. 46, as they are doing at present.

Approved: JOHN BURKE,
Manager.
F. O. WHITLOCK,
Acting Subsistence Officer.

◆

The commissary stores are open during the following hours:

Cristobal, 8 a. m. to 12.30 p. m., and 2 to 7 p. m.
Balboa, 8 a. m. to 12.30 p. m., and 2.30 to 7 p. m.
Ancon, 8 a. m. to 1 p. m., and 3 to 6 p. m.
All others, 8 a. m. to 1 p. m., and 3 to 7 p. m.

Retail prices of cold storage provisions for the week beginning September 1, 1913:

FRESH MEAT.	*Price.*
Mutton—Stewing, per pound	6
Shoulder, neck trimmed off (4 pounds and over), per pound	9
Entire forequarter (not trimmed, 10 pounds and over), per pound	8
Legs (8 to 10 pounds), per pound	17
Cutlets, per pound	18
Short cut chops, per pound	20
Lamb—Stewing, per pound	6
Entire forequarter, neck trimmed off, per pound	9
Legs (5 to 8 pounds), per pound	20
Chops, per pound	24
Cutlets, per pound	24
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	12½
Chops, shoulder, per pound	17
Chops, per pound	26
Loin for roasting, per pound	26
Cutlets, per pound	30
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	8
Plate, per pound	9
Corned, No. 1, per pound	14
Corned, No. 2, per pound	12
Chuck roast, 3 lbs. and over, per pound	12
Rib roast, second cut (not under 3½ pounds), per pound	16
Rib roast, first cut (not under 3 pounds), per pound	18
Pot roast, per pound	19
Rump roast, per pound	19
Porterhouse roast, per pound	20
Steak, Chuck, per pound	12½
Round, per pound	13
Rib, per pound	18
Sirloin, per pound	19
Rump, per pound	19
Porterhouse (not less than 1½ pounds), per pound	20
Tenderloin (Western), per pound	30
Pork—Loin chops or roast, per pound	17
Hams, fresh, per pound	§20
Shoulders, fresh, per pound	§17
Spare ribs, per pound	15
Backbones, per pound	15
Pigs' feet, each	7
Pigs' head, ½ head	60
Sausage meat, fresh, per pound	20
MISCELLANEOUS.	
Livers—Beef, per pound	11
Calf, each	60
Half, each	30
Steak, Hamburger, package	13
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Devonshire Farm, per pound	20
Sweetbread, beef, per pound	40
Eggs, fresh, dozen	†34
one-half dozen only	†17
Bluefish, per pound	*12
Halibut, fresh, per pound	15
Salmon, per pound	†15
Roe shad, each	75
Shad roes, pair	40
POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, large, each	1.40
Fancy roasting, milk fed, med., each	1.10
Fancy roasting, corn fed, about 5½ pounds, each	1.25
Fancy roasting, corn fed, about 4½ pounds, each	1.00
Fowls, each ††60, 70, 80, 90 and	1.00
Ducks, (Western, about 4½ pounds), each	1.25
Capon, each	2.00
Broilers, milk fed, each	70
Broilers, corn fed, each	60
Turkeys, per pound	†28
Squabs, each	50
Rabbits, skinned, each	30
Partridges, pair	1.30
Grouse, per pair	1.30
Pheasants	1.30
CURED AND PICKLED MEATS.	
Ham—Genuine Westphalia, per pound	40
Ham—Sugar cured, per pound	20
Sliced, per pound	22
Half, for boiling, per pound	21
Boiled, per pound	28
Hocks, per pound	‡8
Beef, salt, family, per pound	12
Bacon—Breakfast, whole piece, per pound	25
Sliced, per pound	26
Ham, lunch, per pound	32
Pork, salt, family, per pound	14
Ox tongues, each	1.00
Pigs' feet, per pound	9
Tongues, per pound	18
DAIRY PRODUCTS.	
Butter—Creamery, special, per pound	34
Sheffield Farms, extra fancy, per lb	46
Cheese—Philadelphia cream, cake	10
Roquefort, per pound	35
Young America, per pound	22
Swiss, per pound	28
Edam, each	1.00
Edam, tin	25
Parmesan, per pound	35
Gouda, per pound	30
Snappy, per cake	10
Milk (certified), per bottle	**20
Fer-mil-lac, bottle	**20
Ice cream, quart	‡25
½-gallon	‡50
VEGETABLES AND FRUITS.	
Beets, per pound	3
Celery, per head	6
Cabbage, per pound	4
Cucumbers, per pound	4
Carrots, per pound	4
Egg plant, per pound	4
Lettuce per pound	†14
Onions, per pound	3
Potatoes, white, per pound	3
sweet, per pound	2
Parsley, bunch	5
Peppers, green, per pound	*6
Squash, per pound	3
Turnips, per pound	4
Tomatoes, per pound	6
Yams, per pound	3
Canteloupes, each	5
Grape fruit, tropical, each	4
American, each	15
Lemons, dozen	24
Limes, per hundred	80
Peaches, per pound	*8
Plums	10
Oranges, Jamaican, per dozen	18
Watermelons, each	*25

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

††Fowls weigh each, about as follows: 3, 3½, 4, 4½, and 5 pounds. Prices are based accordingly; when size ordered is not in stock, next lightest weight is supplied and refund note sent for difference.

‡Sold only from commissaries; no orders taken for delivery.

§Not less than half of a fresh ham or shoulder will be sold.

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings of the Panama Railroad Steamship Company; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.*

Panama	P. R. R.	Monday	Aug.	25
Colon	P. R. R.	Tuesday	Sept.	2
Advance	P. R. R.	Tuesday	Sept.	9
Panama	P. R. R.	Tuesday	Sept.	16
Allianca	P. R. R.	Monday	Sept.	22
Colon	P. R. R.	Tuesday	Sept.	30
Advance	P. R. R.	Monday	Oct.	6
Panama	P. R. R.	Saturday	Oct.	11
Allianca	P. R. R.	Saturday	Oct.	18
Colon	P. R. R.	Friday	Oct.	24
Advance	P. R. R.	Thursday	Oct.	30

CRISTOBAL TO NEW YORK.*

Panama	P. R. R.	Saturday	Sept.	6
Colon	P. R. R.	Sunday	Sept.	14
Advance	P. R. R.	Monday	Sept.	22
Panama	P. R. R.	Sunday	Sept.	28
Allianca	P. R. R.	Saturday	Oct.	4
Colon	P. R. R.	Sunday	Oct.	12
Advance	P. R. R.	Saturday	Oct.	18
Panama	P. R. R.	Thursday	Oct.	23
Allianca	P. R. R.	Thursday	Oct.	30

NEW YORK TO COLON.

Almirante	U. F. C.	Wednesday	Aug.	27
Oruba	R. M.	Saturday	Aug.	30
Carrillo	U. F. C.	Saturday	Aug.	30
Prinz Joachim	H.-A.	Saturday	Aug.	30
Santa Marta	U. F. C.	Wednesday	Sept.	3
Carl Schurz	H.-A.	Saturday	Sept.	6
Pastores	U. F. C.	Saturday	Sept.	6
Metapan	U. F. C.	Wednesday	Sept.	10
Prinz August Wilhelm	H.-A.	Saturday	Sept.	13
Tivives	U. F. C.	Saturday	Sept.	13
Trent	R. M.	Saturday	Sept.	13
Zacapa	U. F. C.	Wednesday	Sept.	17
Emil L. Boas	H.-A.	Saturday	Sept.	20
Sixaola	U. F. C.	Saturday	Sept.	20

COLON TO NEW YORK.

Zacapa	U. F. C.	Thursday	Sept.	4
Emil L. Boas	H.-A.	Tuesday	Sept.	9
Sixaola	U. F. C.	Tuesday	Sept.	9
Almirante	U. F. C.	Thursday	Sept.	11
Prinz Joachim	H.-A	Tuesday	Sept.	16
Carrillo	U. F. C.	Tuesday	Sept.	16
Magdalena	R. M.	Tuesday	Sept.	16
Santa Marta	U. F. C.	Thursday	Sept.	18
Carl Schurz	H.-A.	Tuesday	Sept.	23
Pastores	U. F. C.	Tuesday	Sept.	23
Metapan	U. F. C.	Thursday	Sept.	25
Danube	R. M.	Tuesday	Sept.	30
Tivives	U. F. C.	Tuesday	Sept.	30
Prinz August Wilhelm	H.-A.	Tuesday	Sept.	30

NEW ORLEANS TO COLON.

Abangarez	U. F. C.	Saturday	Aug.	30
Heredia	U. F. C.	Wednesday	Sept.	3
Atenas	U. F. C.	Saturday	Sept.	6
Parismina	U. F. C.	Wednesday	Sept.	10
Turrialba	U. F. C.	Saturday	Sept.	13

COLON TO NEW ORLEANS.

Turrialba	U. F. C.	Thursday	Sept.	4
Cartago	U. F. C.	Saturday	Sept.	6
Abangarez	U. F. C.	Thursday	Sept.	11
Heredia	U. F. C.	Saturday	Sept.	13

*Amended schedule, covering temporary withdrawal of the *Allianca* for repairs.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 1 p. m.; for Southampton on alternate Tuesdays at 10. a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays and Saturdays at 3 p. m.; ships for New York via Kingston, on Tuesdays at 1.30 p. m. and Thursdays at 1.30 p. m.; for Bocas del Toro, on Mondays at 5 p. m.; for Limon, via Bocas del Toro, on Tuesdays at 5 p. m., and for Limon direct, Tuesdays at 3 p. m.

Hamburg-American steamers sail for New York, via Kingston and Santiago de Cuba, on Tuesdays, the *Prinz Joachim* and *Prinz August Wilhelm* at 10 a. m. and the *Emil L. Boas* and *Carl Schurz* at 2 p. m.

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LOST—On P. R. R. train leaving Panama at 2 a. m., on Sunday, August 31, Elks card case with Elks and Shrine cards enclosed. Finder kindly mail to W. H. V. F., Box No. 1, Bas Obispo, C. Z.

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LOST—Between house No. 257-B, Ancon, and Hotel Central, Panama, one gold brooch of conventional design, with two ruby and one pearl sets. Return to above address, and receive reward.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, SEPTEMBER 10, 1913. No. 3.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Closing Down in Culebra Cut.

All steamshovels in the Empire district of the Culebra Cut section were withdrawn on Saturday, September 6, and only three were working on the bottom in the Culebra district on Monday, September 8. These will stop work by Saturday, September 13. Seven crews were laid off on Saturday night, and 17 more will be laid off during the present week. The removal of the construction tracks in the Cut was begun on September 2, and the work is well ahead of the schedule. The last sightseeing train to go through the Cut was on Friday, September 5.

Opening Channel from Ocean to Gatun Locks.

Since the removal of the railroad track across the lower approach to Gatun Locks, on September 2, two pipeline suction dredges have been engaged in excavating the barrier of earth over which railway communication had been maintained with the west side of the locks and Gatun Dam. Two steamshovels, six locomotives, and an assortment of box, flat, and dump cars, have been left isolated on the west side for the completion of the dam and spillway, and the general work of clearing up. Such traffic as may be necessary with the west side may be effected by means of barges, traversing the French canal to the unloading wharves for sand and rock, and articles weighing up to six tons may be carried across the lower end of the locks by the cableways. Rock and sand, however, sufficient for the completion of concrete work, are in storage near the cement shed, and the quantity of structural steel and other building materials, and operating machinery to be handled for the completion of the locks and spillway is relatively small.

At the time of the removal of the railway, the barrier was approximately 75 feet wide at the top, which is about eight feet above sealevel, with a slope of about one on two to the depth of the completed channel on either side, 41 feet below mean sealevel. It contains about 180,000 cubic yards of material, which will probably be removed by October 1. Communication is now open to the lower end of the locks, through the gap which the railroad crossed on a removable span, and in the progress of excavation the gap is being continually enlarged.

Dredge "No. 82" Set at Work.

Suction dredge *No. 82*, which was towed through the lake channel from Gatun on August 26, began its task of removing the accumulation of mud and gravel from the bed of the Canal a few hundred yards north of Gamboa dike, on Tuesday, September 2. The material is forced through the discharge pipe across an island in the lake, thence over the old channel of the Chagres River to the west bank, where it is wasted into low places in the vicinity of Matachin. Recent measurements show that about 750,000 cubic yards of material will have to be removed to restore the Canal channel to its original depth. About 300,000 cubic yards were left by the Central Division, and the remainder has been brought down by the Chagres River since the steamshovels finished work in that section about three years ago. Dredge *No. 82*, which was used in making the hydraulic fill of Gatun Dam, has been idle since June, 1912. It has been overhauled for the present work.

First Aid Packages at the Canal Locks.

First aid packages will be placed at all of the locks to cover cases of possible electrical burns. These packages will be small, containing a bottle of oil, bandages, and probably an antiseptic wash, and will be distributed, as follows: Gatun, nine; Pedro Miguel, three; Miraflores, six. They will be placed in the transformer rooms, where convenient cabinets for their protection will be available.

Removal of People from Watersheds.

People living on the watersheds of the Caimitillo, Cameron, and Dominica Rivers will be required to tear down or remove their houses on or before October 1. These streams will become tributaries of Miraflores Lake when the lake is formed, flowing into that arm of the lake on which will be situated the new water works for the Pacific end of the Canal.

Transfer of Work on Hydroelectric Plant.

Effective September 8, the construction of the building, and installation of machinery in the hydroelectric plant at Gatun was placed under the supervision of the First Division, Office of the Chief Engineer. The construction of the building will be in charge of Mr. Frank Holmes, resident engineer, Quartermaster's Department, subject to supervision by the Assistant Chief Engineer.

CROSSING THE CANAL.

Wooden Pontoon Structure To Take the Place of Bridge 57½ at Paraiso.

The construction of a wooden pontoon bridge as a means of crossing the Canal after it becomes necessary to dismantle bridge No. 57½, at Paraiso, has been approved. The crossing will be made a little north of this bridge, and the work of excavating for the east approach has already been begun. The plans are based upon designs obtained from the Chicago, Milwaukee and St. Paul Railway, which has used pontoon bridges of this type for many years. One of the most notable of its bridges is that over the Mississippi River at Prairie du Chien, Wis., which has been in service 35 or 40 years. In the construction of the Canal pontoon bridge, a somewhat simpler design will be followed, consisting of a timber scow 55 feet wide, 378 feet long, and six feet deep. On top of this hull, a wooden trestle, following quite closely the ordinary type of construction, will be built to an elevation of about 113.5 feet, and on this will be placed a railroad track and a highway for vehicles. The spans will be 14 feet between centers, and at these points, a transverse wooden truss, with iron rods, will be placed in the hull to carry the concentrated loads. Lighter trusses, without rods, will be placed at 2-foot intervals between the heavier trusses. The sheathing on the hull will be four inches thick at the bottom and sides, and three inches on top. To minimize the bending and shearing stresses to which the structure will be subjected, the design includes two heavy stiffening trusses, the stringers under the rails being utilized as top chords, while the lower chords are placed at the bottom of the hull. In addition, there will be heavy longitudinal keelsons.

The bridge is designed for a train load of 4,000 pounds per running foot. In order to reduce the expense of the approaches as much as possible, it is proposed to use as a connection between the bridge and the shore some of the spare lock gate girders, supported on rockers. These rocking approaches will have a downward grade when the water is at a low level, and an upward grade when it is at a high level. The pontoon will turn about a fixed pivot, and to avoid its projecting into the fairway of the Canal, a recess will be excavated in the east bank, so that when the bridge is opened, it will leave the Canal channel unobstructed. About 600,000 feet B. M. of yellow pine, or fir, timber, and 375,000 pounds of steel and iron, will be required.

The designs for the bridge are being prepared by Mr. Henry Goldmark, designing engineer in the First Division. Mr. W. G. Comber, resident engineer of the Sixth Division, will have charge of building the pontoon, trestle, and trusses, and Mr. A. S. Zinn, acting division engineer of the Central

Division, will have charge of the excavation and construction of the approaches and all land connections of the bridge.

The pontoon is not intended for a permanent crossing, and will probably be abandoned, when the villages on the west bank of the Canal cease to exist.

To Pass Dredges Through Bridge Across the Cut.

Forces of the Panama railroad began on August 29, the installation of a removable span near the center of Bridge 57½, across Culebra Cut, opposite Paraiso. This is in preparation for the passage of dredging vessels after October 10, engaged in the completion and maintenance of the channel. The span will be built on two 66-foot plate girders, recovered from the Barbacoas bridge over the Chagres, on the old main line, and will allow a clearance of 60 feet between the supporting bents. The molded breadth of the ladder dredge *Corozal*, the widest vessel in the dredging fleet, is 45 feet. When it is desired to pass a vessel through the bridge, a barge will be floated under the span, the latter will be lifted clear on jacks, and the barge towed aside. It is estimated that removal and replacement will consume altogether about two hours. A removable span has been in successful use in the track over the barrier across the lower approach to Gatun locks; in this instance, a 40-foot queen-truss span was handled by locomotive crane.

This provision will necessitate the removal of four of the present bents of the trestle, and the erection of two new bencs to support the ends of the span. The tops of these will be lower than the present bents, in order that the rails and stringers of the span may be even with the corresponding parts of the adjacent trestle. The total weight of the span, including the floor of the footbridge, will be approximately 68 tons, making the dead load on the support at either end 34 tons, and the maximum load, under a locomotive, about 114 tons. It is believed that the presence of water in the Cut will not affect the stability of the trestle, as most of the bents are anchored to rock by means of concrete pedestals. The bridge is approximately 57 feet high, with its base at 40 feet above sealevel, so that with the water in the cut at its maximum elevation the top will be 10 feet above the surface.

Mailing of Steamship Tickets.

The steamship ticket agent of the Panama Railroad Company at Colon is compelled to answer numerous telephone inquiries from employes, after the arrival of ships, as to when their steamship tickets will be forwarded to them. In a great many of these cases the employes have failed to give their post-office address when sending in their transportation papers, making it impossible to mail out their tickets. It is necessary for employes to give their post-office address if they expect tickets to be mailed to them, when sending in their transportation papers.

Levelman and Transitman Examination.

Examination for promotion to the positions of levelman and transitman is scheduled to be held in the Commission clubhouse at Empire, on Sunday, October 12.

The examination will commence promptly at 9 a. m., and will be divided into three parts, which will be given in the order indicated, viz: Written and oral examinations, and a statement of education and experience. Competitors will be required to complete the written portion of the examination before 1 p. m.

Applications for examination should be addressed to the undersigned, *through the head of department or division*, before the close of business on Thursday, October 9.

Applicants should bring to the examination room pens, pencils, triangles, and tables of circular functions, but no paper, ink, or blotters.

Applicants who fail to appear for examination before 9 a. m., or who do not apply for examination through the proper channels before the close of business on Thursday, October 9, will not be admitted to the examination. No card of admission will be needed.

A. B. Nichols,
Chairman, Examining Board.

Culebra, C. Z., September 6, 1913.

Concrete Work in Locks and Spillways.

Concrete work in the Canal locks is nearly completed, the aggregate amount in place at the close of work on September 6, being 4,479,425 cubic yards.

A statement of the concrete laid in the three sets of locks for the Canal, and in Gatun and Miraflores spillways, as of September 6, follows:

GATUN LOCKS.

The last concrete for the locks proper, as distinguished from that necessary to finishing work by the First Division, was mixed and placed on August 16, 1913. At the close of work on that day the total amount of concrete placed by the Atlantic Division amounted to 2,045,485 cubic yards.

PEDRO MIGUEL LOCK.

	Concrete laid. Cubic yards.
Aug. 31	7
Sept. 1 (Holiday)	
Sept. 2	87
Sept. 3	29
Sept. 4	42
Sept. 5	41
Sept. 6	42
Total	248
Previously reported	923,508
Grand total	923,756

MIRAFLORES LOCKS.

Aug. 31	55
Sept. 1 (Holiday)	
Sept. 2	64
Sept. 3	91
Sept. 4	112
Sept. 5	118
Sept. 6	95
Total	535
Previously reported	1,509,649
Grand total	1,510,184

GATUN SPILLWAY.*

Sept. 1 (Holiday)	
Sept. 2	78
Sept. 3	136
Sept. 4	184
Sept. 5	176
Sept. 6	188
Total	762
Previously reported	234,154
Grand total	234,916

MIRAFLORES SPILLWAY.

The total of concrete at Miraflores spillway—75,610 cubic yards—remained unchanged, no concrete having been land during the week ending September 6.

*Includes hydroelectric station.

Record of Masons.

On account of difficulty in securing photographs, and complying with numerous requests, the closing date for receipt of applications for the "Record of Masons on the Panama Canal" has been extended by the Masonic Club of Empire, to October 15, 1913. Information concerning this book can be obtained by writing to W. I. Beam, chairman of committee, Empire, C. Z.

The regular dance of the Cristobal Dancing Club will be held on Saturday, September 13, at the Commission clubhouse.

MIRAFLORES SPILLWAY DAM.

Finished September 1, its Construction was Rapid, Considering Difficulties Encountered.

It is believed that the completion of the construction of the Miraflores spillway dam on September 1 constitutes a record for speed in difficult construction work on the Canal. In view of the fact that the waters of Rio Grande River (which are a combination of the Rio Grande, Pedro Miguel, Cocoli, Cameron and Caimitillo Rivers) pass through the site and had to be diverted three times to facilitate the construction during the progress of the work; also, prior to March 1 of the present year the Central Division tracks from the Culebra Cut passed through the site, the excavation was greatly handicapped.

The main dam is 432 feet in length and has a bottom width of 91 to 105 feet, with the bottom on solid rock at elevation 25 feet below mean sealevel.

To protect against washing of the banks on the spillway side, the dam has two wing or retaining walls, one on the east and one on the west end, each approximately 250 feet long, and a core wall 134 feet long joins the main dam with the lock walls.

Construction work was made difficult and tedious on account of the 10-foot machinery tunnel located within the main tunnel, with an air space of one foot around the sides and top throughout the length of the dam and ending in towers at the ends of the dam, these towers having winding stairways, partly interior and partly exterior.

In order to make the gate joints watertight it was necessary to set the steelwork for gates and roller-bearing tracks with accuracy, necessitating care in placing the concrete for the piers lest the steelwork be deflected.

There are eight Stoney gates 47 feet long and 19 feet deep. The elevation of top of the ogee or crest of the dam is 38.67 feet, and the elevation of top of gate piers is 85.17 feet above mean sealevel, or a total height of concrete from bottom of dam to top of piers of 110.17 feet.

The total amount of excavation required was 135,000 cubic yards.

The total amount of concrete laid, not including the drainage opening, which will not be closed until the latter part of September, is 73,482 cubic yards.

The last concrete was placed for the piers on August 27, and the steel footbridges on top were all in place August 29; the eight gates set in the openings were ready to be shoved against the seals on August 30. The Stoney gates weigh 40 tons each, and were handled from a trestle along the north face of the dam by two locomotive cranes, one at each end of the gate.

The principal part of the concrete for the dam was mixed by the berm cranes at the south end, east side of the Miraflores locks, and supplied in 2-yard buckets on transfer cars, hauled by narrow-gage locomotives on tracks built from the berm cranes and ending in various spurs to the south toe of the dam, where the concrete was handled to the forms by derricks and locomotive cranes.

United Spanish War Veterans.

Chagres Camp will hold a dance in the Gatun clubhouse on Saturday evening, September 13.

JOINT LAND COMMISSION.

Additional Awards.

The following additional awards were announced by the Joint Land Commission at an open session held on Tuesday, September 2:

Award No. 27—In the matter of the claim of Juan Sotillo for a house in the town of Gorgona—On April 8, 1913, Juan Sotillo filed a claim with the Joint Commission for house tax No. 733 in Gorgona, and for the lot on which the said house is built.

As respects the claim to the ownership of the lot, the earliest deed presented by the claimant is dated March 19, 1887 (No. 125) in which M Pretelt Amador makes conveyance to Ricardo de la Ossa, of house and lot situated in the town of Gorgona. This deed contains the following clause:

> "In this sale is included the portion of the lot which has not been built upon. This lot has a frontage of ten meters, ninety centimeters, and a depth of seventeen meters, seventy centimeters. The said lot was acquired by conveyance from Justo Maria de la Espriella, who had acquired title to said lot by cession from the political authorities of the aforesaid district in accordance with the requirements of law."

The claimant in this case, Juan Sotillo, has been unable to present to the Commission any evidence of the conveyance made by the municipality of Gorgona to Justo Maria de la Espriella. Much light, however, is thrown on the situation by a deed executed at the same period, to wit, April 4, 1887, by the same grantor, Justo Maria de la Espriella, in a conveyance made to another property in the town of Gorgona to Alfred Lindo. This deed (No. 83), after reciting the conveyance of the house recited that the grantor conveys all his

> "rights acquired in the land on which the aforesaid house is constructed, by purchase by me from Rafael Peladorio Marquez, the first day of March of this year, in full legal form in accordance with Article 5 of the Executive Decree No. 45 of March 16, 1886, of this department."

It is evident that the decree of March 16, 1886, cannot be made the basis for a claim of ownership of lands in Gorgona, inasmuch as this decree, which provided for the issuance of renewable permits for the occupancy of town lots in Gorgona, expressly denies title of building lots to the recipients of such permits. The claimant in this case has been unable to furnish the Commission with a copy of the document under which Justo Maria de la Espriella conveyed the property to Manuel Pretelt Amador. It is evident, however, from the deed executed at the same period by the said Justo Maria de la Espriella in a conveyance to Alfred Lindo, that the said Justo Maria de la Espriella confused the right of occupancy under the decree of March 16, 1886, with the actual title to the lot.

In view of the fact that the claimant in this case has not been able to furnish satisfactory evidence of title to the land, and in view of the circumstance that one of his predecessors in interest has evidently based his claim to ownership of the land on an executive decree which expressly denies such ownership, the Commission has reached the conclusion that the claim of the said Juan Sotillo to ownership of the building lot on which House 733 was erected cannot be sustained, and should not be taken into consideration in making an award in this case.

With respect to House 733, the evidence before the Commission shows that Sotillo was the owner of the house before he accepted any lease from the Isthmian Canal Commission.

In conformity with the principles formulated in the opinion of July 25, 1913, on the demurrer of Counsel for the United States to the jurisdiction of the Commission in the matter of the claim of Juan Sotillo, and in accordance with the evidence submitted to the Commission, an award is hereby made against the United States of America in favor of Juan Sotillo for house No. 733 in the town of Gorgona, said award to include all rights, claims, and interest of the said Sotillo in this building, together with any claim for improvements of whatever nature in the building lot upon which it is located, in the sum of $530.

This award shall be paid to Juan Sotillo on or before the 20th day of September, 1913, and if payment or tender of payment of this award is not made on or before that date, it shall thereafter bear interest at the rate of six per centum, per annum, until paid.

Award No. 28—In the matter of the claim of José H. Stilson to the property designated as Barro Colorado Abajo—An award is hereby made against the United States of America for the estate of Barro Colorado Abajo, said award to include all right, title, and interest of any persons to the entire estate not heretofore acquired by the United States, together with all claims for improvements of whatsoever nature which may be made by the owners of said estate, in the sum of $2,000.

This award shall be paid to the claimant hereinafter named, in this amount herein specified, on or before the 2d day of October, 1913, and if payment or tender of payment of this award is not made on or before that date, said award shall thereafter bear interest at the rate of six per centum, per annum, until paid.

> To José H. Stilson for all of his rights, claims, and interest in the estate of Barro Colorado Abajo, together with any improvements which may be claimed by the same, the sum of $2,000.

Award No. 29—In the matter of the claims of the Colombian Fruit Company, Ltd., and Henry Anderson. (Peñas Blancas Arriba, etc.)—Claims were filed before the Joint Commission by the Colombian Fruit Company as owner and Henry Anderson as mortgagee for the lands known as Peñas Blancas Arriba and part of the lands known as Bohio y Buena Vista on the south bank of the River Chagres, nearly opposite the old townsite of Bohio. An examination of the evidence in this case shows that the designations given to the various portions of the original estate of Ahorca Lagarto and Bohio Soldado are often conflicting, and that the limits assignable to these subdivisions of the original estate cannot be precisely determined.

An award is hereby made against the United States of America for the estate of Peñas Blancas Arriba, said award to include all right, title, and interest of any persons to the entire estate not heretofore acquired by the United States, together with all claims for improvements of whatsoever nature on the part of the owners of said estate, together with any rights, claims, or interests which the claimant hereafter named may have in any part of the land known as Bohio y Buena Vista, in the sum of $1,500.

This award shall be paid into the Circuit Court of the Second Judicial District at Empire for distribution according to the terms of this award on or before the 2nd day of October, 1913, and if not paid into the said court on or before the said date, the award shall bear interest thereafter at the rate of six per centum, per annum, until paid.

> To the Colombian Fruit Company, Limited, for all rights, claims or interest in the lands of Peñas Blancas Arriba, not heretofore acquired by the United States, together with any improvements which may be claimed by the same and for any right, title, or interest which they may possess in lands known as Bohio y Buena Vista, the sum of $1,500.

This award is subject to such equities, if any, as may be possessed by third parties, and it is directed that the amount of this award be deposited with the Circuit Court of the Second Judicial District of the Canal Zone for distribution in accordance with the terms of this award.

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Foundry at Balboa Shops in Full Operation.

The first "blow" of steel from the steel foundry recently transferred to Balboa shops from Gorgona was made at Balboa on September 5; the first iron and brass castings from the new foundry were made on August 15 and 20, respectively. The transferred oxy-acetylene plant produced its first cylinders of gas on September 6. Most of the work of the Mechanical Division of the class formerly performed at Gorgona is being done at Empire shops, the principal activities at Balboa shops consisting of foundry and planing mill operations, and work by the structural gangs engaged in installing machinery and motors at the new location.

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Ancon Crusher.

The following is a statement of rock crushed at Ancon quarry during the three weeks ending September 6, 1913:

DATE.	Cubic yards.	Hours worked.
August 18	1,385	1.50
August 19	1,279	6.45
August 20	1,830	7.10
August 21	1,938	6.30
August 22	1,461	5.20
August 23	1,523	7.50
Total	9.416	35 52
August 25	1,714	5.50
August 26	1,865	6.35
August 27	1,830	6.35
August 28	2,036	7.30
August 29	2,597	7.20
August 30	2,002	7.40
Total	12,044	41.30
Sept. 1 (Holiday)	....	....
Sept. 2	2,176	6.45
Sept. 3	1,981	6.35
Sept. 4	1,476	7.25
Sept. 5	2,050	7.05
Sept. 6	1,790	7.25
Total	9,473	35.15

STEAMSHOVEL RECORDS.

Work of Central Division Shovels During the Month of August.

During the month of August, the total amount of material excavated in the Central Division was 926,900 cubic yards, of which 843,700 cubic yards were excavated by Central Division forces, and 83,200 cubic yards were removed by sluicing at Gold Hill, the latter work being in charge of the Fifth Division of the Chief Engineer's Office. Of the amount removed by the Central Division, 185,441 cubic yards were classified as earth, and 658,259 cubic yards as rock.

Of the total, 893,300 cubic yards were primary excavation for the Canal, and 33,600 cubic yards were classified as "Plant" excavation.

Eight hundred and forty-three thousand and seven hundred cubic yards were removed by steamshovels.

The high record for the month was made by shovel No. 215, working 35½ days in the Empire district, which excavated 42,500 cubic yards of rock.

The second best record for the month was made by shovel No. 203, working 36 days in the Empire district, which excavated 40,500 cubic yards of rock.

The best record for a shovel of the 70-ton class was made by shovel No. 101, working 25 days in the Culebra district, which excavated 27,246 cubic yards of earth.

Shovel No. 230, working in the Culebra district, made a high record for one day by excavating 2,226 cubic yards of rock on August 15.

Shovel No. 215, working on 12-hour shift in the Empire district, made a high record of 3,816 cubic yards of earth on August 11.

Except where noted, monthly reports are computed on place measurement, while the daily reports are based on car measurement. The best records for the month, and for one day, are shown in the following table:

BEST RECORDS FOR THE MONTH.

CULEBRA DISTRICT.

Shovel No.	Cubic Yards			
	Earth.	Rock.	Total.	No. of days at work.
208	38,712	....	38,712	25
226	....	31,801	31,801	39
228	....	30,000	30,000	35
EMPIRE DISTRICT.				
215	....	42,500	42,500	35½
203	....	40,500	40,500	36
217	....	29,200	29,200	25½

BEST RECORDS FOR ONE DAY.

Shovel.	Location.	Date.	Character of material excavated.	Cuhic yards.
256	Empire	Aug. 21.	Rock	2,128
212	Empire	Aug. 6.	Rock	1,960
227	Empire	Aug. 27.	Rock	1,956
230	Culebra	Aug. 15.	Earth	2,226
207	Culebra	Aug. 25	Rock	2,147
230	Culebra	Aug. 27.	Earth	2,067

NOTE.—The excess number of days over and above the actual number of working days in the month of August (26) is due to double shift and night work.

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Feast of Zebulon.

All Master Masons are invited to attend the Feast of Zebulon, given under the auspices of the Masonic Club of Empire, at Kangaroo Hall, Empire, C. Z., Saturday evening, September 13, 1913, at 8.15 p. m. The usual charge of $1 will be made. All who expect to attend should notify J. L. Caldwell, secretary, Empire, C. Z.

COAL HANDLING PLANT.

Description of Machinery which will be Installed at Canal Termini.

Awards were made on August 12 for the coal-handling machinery and accessories at Cristobal and Balboa called for by Circular No. 763. Under these awards, the Hunt Construction Company of New York City will furnish six unloading towers, four for the Cristobal plant and two for the Balboa plant, and Augustus Smith of Bayonne, N. J., the remainder of the equipment. The cost of the unloading towers will be $485,735, and that of the balance of the machinery $1,347,392, a total cost for machinery for both plants of $1,833,127, divided, as follows: Cristobal, $1,307,941, Balboa, $525,186.

The bids were opened in Washington on June 14, 1913, and five tenders were received, ranging in amounts, for both plants, from $3,894,750 to $1,300,890. The different proposals were given careful study. A committee, consisting of Col. H. F. Hodges, Civil Engineer H. H. Rousseau, Mr. H. A. A. Smith, and Civil Engineer F. H. Cooke, appointed by the Chairman to review the bids, recommended on August 11 acceptance of the proposal of Augustus Smith as the lowest satisfactory offer, with the understanding that he is to submit, with the exception of the loading towers, satisfactory proposal to obtain increased storage of coal by widening his reclaiming bridges 50 feet, and by increasing their clearance five feet, this enlargement to apply to all items of the Cristobal coaling plant. The committee further recommended that award be made to the Hunt Construction Company for the six unloading towers, with the understanding that the contractor will adapt the towers bid on to the remainder of the Augustus Smith designs. Under the award, Mr. Smith agrees to begin delivery of the machinery for the Cristobal plant within six months, and to complete delivery and erection in 24 months. Under the adopted plan at Balboa, he will begin delivery within six months, and complete delivery and erection in 30 months.

GENERAL PLANS.

In general, each plant will consist of two water fronts and a storage pile. The water fronts will be designated as the unloading wharf and the reloading wharf, while the storage pile is to consist of a basin for coal, a part of which is to be stored subaqueously, and the remainder to be piled above it in the dry. Each plant will be arranged to receive, store, and deliver separately, coal belonging to individuals and companies, as well as to the Government; to receive it from any part of the unloading wharf and transport it to any part of the storage pile; to reclaim coal from any part of the storage pile and deliver it to any part of the reloading wharf, and to transfer it from any part of the storage pile to any other part of same. Coal will be received at each plant by movable unloading towers running on rails supported by the unloading wharf, and reloaded to colliers and barges by movable reloaders running on rails supported by the reloading wharf. The storage pile at the Cristobal plant is to be commanded by movable stocking and reclaiming bridges running on rails parallel to the longitudinal side walls of the coal basin. The storage pile at Balboa will be commanded by four berm cranes, now at Miraflores, traveling on rails supported by a suitable concrete and steel trestle running longitudinally of the basin.

CRISTOBAL COALING PLANT.

This will be the main coaling plant, and the machinery specifications were based upon the following storage facilities, exclusive of the requirements of individuals and companies:

	Tons.
Wet storage, reserved for naval use	100,000
Dry storage, for Canal use	100,000
Emergency storage	100,000
Total	300,000

The preliminary plans for this plant provided for a normal coal storage pile 1,000 feet in length, so laid out as to be capable of an extension 700 feet in length. The demand for storage space by individuals and companies is much larger than was first anticipated, and in view of this fact, award for the machinery has been made with the understanding that the coal storage pile will be increased in width from 250 to about 300 feet. The length may be increased later from 1,700 to 2,000 feet, if it is found practicable. The other principal elevations and dimensions to which the Cristobal plant will conform are, as follows: Elevation of extreme low water, one foot below mean sealevel; of extreme high water, 1.65 feet above mean sealevel; elevation of bottom of slip alongside wharves, 41 feet below mean sealevel; elevation of bottom of wet coal pile, 19 feet below mean sealevel; assumed elevation of top of wet coal pile and bottom of normal dry coal pile, one foot above mean sealevel; elevation of top of normal dry coal pile, 21 feet above mean sealevel; elevation of top of emergency dry coal pile, 31 feet above mean sealevel; elevation of decks of wharves, 10 feet above mean sealevel.

Unloading towers—The unloading towers at the two plants will be similar in general construction. Their functions will be to mine coal from vessels and deposit it into the hopper built in the tower, whence it may be delivered through chutes to the conveying system, or to cars; to mine coal from vessels and deposit it by bucket into the storage pile behind the tower; to mine coal from storage pile behind the tower and deposit it into the hopper, and to mine coal from the storage pile behind the tower and deposit it by bucket on board vessels. The "normal rated capacity" of each tower will be 250 tons of coal an hour, and the maximum rate, 300 tons an hour, when unloading from colliers or barges.

The towers will be of steel construction, steam-driven, self-contained, and self-propelling. Each unit will travel on two parallel pairs of rails laid at the elevation of the decks of the unloading wharves and spaced on 30-foot centers at Balboa, and 35-foot centers at Cristobal. There will be laid between the pairs of rails, also at the level of the decks of the unloading wharves, a single 5-foot gage railroad track, suitably located for the reception of coal from the tower hopper. Each tower will be supported by four trucks of four wheels each, and the minimum speed of travel will be 50 feet per minute. The towers will be equipped with buckets of 100 cubic feet capacity each, and a receiving hopper, 12 feet wide and 30 feet long, with a capacity of 50 tons of coal, into which the buckets will discharge, either in unloading from vessels, or reloading from storage pile. The trolley movement of the buckets will be actuated by two direct-connected steam engines installed at each plant. The body of of the hopper will be made of ⅜-inch iron plates, with the top edges protected by an 8″ x 8″ coaming of white oak, and will be provided with the necessary gates, chutes, etc., to deliver coal to the conveying system, and to the cars on the track beneath the tower. The boom, or apron, on the water side of the towers will be capable of lifting or folding by movement in a vertical plane, so that when fully housed, no part of it will project more than four feet beyond the concrete face of the wharf.

Stocking and reclaiming bridges—The stocking and reclaiming bridges at the Cristobal plant will be of the duplex type, that is, each bridge will be equipped with two buckets; at Balboa, the four Pacific Division berm cranes will be reerected and used as stocking and reclaiming bridges. Each bridge will be of steel construction throughout, electrically operated and self-propelling. Each will travel at a speed of not less than 50 feet per minute on two pairs of rails, each pair supported by a concrete and steel structure adjacent to the storage basin, and will be mounted on eight trucks, each truck to have four pairs of wheels. Each bucket will be of 200 cubic feet capacity, and will be capable of reclaiming, singly or together, coal from any depth of the wet, normal dry, and emergency stock piles. Their hoisting and trolleying movements will be controlled, simultaneously or independently, by electric motors. The functions of these bridges consist in stocking coal into any part of the storage pile by means of a part of the conveying system supported by the bridge; of reclaiming coal from any part of the storage pile and delivering it to the conveyor; and of stocking and reclaiming simultaneously. They will be able to stock, or reclaim, at the rate of 1,000 tons an hour.

Reloaders—The reloaders will be nearly identical at both plants; they are of steel contruction throughout, electrically operated, and self-propelling. Their function is to receive coal from the conveying system and deliver it to colliers, barges, and other vessels of varying freeboard and size, and location of hatches. To attain this end, each reloader is to be fitted with a hopper for the reception of coal from the conveying system of sufficient size to regulate the flow; a conveying system to transfer the coal to the discharge end of the reloader, and an adjustable arm, or boom, equipped with a telescopic chute to deliver the coal. Each reloader will travel on rails laid at the elevation of the decks of the reloading wharves, and will have a "normal rated capacity" of 500 tons an hour. The boom will house similarly to the boom on the unloading towers.

Conveying system—A conveying system is provided for the transportation of coal within the plant, namely, from unloaders to storage; from unloaders to reloaders; from storage to wharf bunker; from unloaders to wharf bunker; from storage to reloaders, and from one part of storage to another. With this system at Cristobal, it will be possible to receive coal simultaneously from two vessels located anywhere along the unloading wharf, one, two or three unloaders being at work on one vessel, and transport it from both vessels to the same part of the storage pile; to the reloaders direct, or to the wharf bunker direct, within the capacity of the conveyors supplying the bunker. If coal from both vessels is being transported to the storage pile, it will be possible to reclaim coal simultaneously from any other part of the storage pile by means of the remaining bridge, and transport it to the reloaders, or wharf bunker, direct. The conveying will be accomplished by a double-track 10-ton automatic electric car system.

Wharf bunkers—Each plant will be provided with a wharf bunker, approximately 20 feet wide and 100 feet long, for the supplying of coal to tugs, barges, and other small craft. Each bunker will have a capacity of 1,500 tons of coal, and will be constructed of structural steel, with floors and walls of concrete. It will be divided by two transverse partitions into three bins of 500 tons capacity each. The slope of the floor will be 45 degrees from the horizontal, but all sides and partitions will be vertical. Each bin will be provided with two valves for delivery of coal to barges, each having a clear opening 24 inches wide by 36 inches high, and so spaced as to make the bin self-emptying. Each opening will be set 28 feet above the deck of the wharf, and will be controlled by a gate operated from the ground or from a footwalk along the front of the bunker. Each outlet will be provided with a folding chute, able to deliver coal at the Cristobal plant, when fully extended, on a plane seven feet below wharf level, and at Balboa, 20 feet below wharf level. At its shortest extension, it must deliver coal at Cristobal on a plane seven feet above wharf level, and at Balboa, 10 feet above wharf level. Each of the three bins will be fitted with a second chute, designed to discharge coal at a point five feet above the deck of the wharf, fitted with a valve at the lower end to control the flow.

Power substation and distribution system—The operation of all parts of both plants, with the exception of the unloading towers, will be electrical, and suitable substations of approved design, will be erected at each point. The electrical apparatus will be furnished by the General Electric Compapy as subcontractor. The operation of the unloading towers will be actuated by steam power, for which engines and boilers will be supplied by the contractor.

Weighing devices—Each of the weighing devices shall automatically record net weight of coal, in so far as practicable. Where the location and service of any weighing device is such as to render it impracticable to weigh automatically, the nearest approach to automatic action possible, consistent with convenience, cost, and accuracy, shall be employed; in any event, all weighing devices shall record the weights automatically, net weights where practicable, and where not practicable, the taking out of the tare shall be effected by simple, reliable, and accurate means. All weighing devices shall weigh within one per cent of absolute accuracy under maximum or minimum conditions of operation, and they shall be such as to require but little attention to keep them in efficient operating condition, shall be thoroughly protected from dust, grit, and moisture, shall be so located as not to be injured by falling coal, or otherwise, and shall not require the services of a skilled man to observe and record their weighings.

All weighing devices shall be of such design, location, and construction as to render it practicable to check their records by means of passing known weights, separate weighing on other scales of coal weighed by them, or otherwise, and such means of checking shall not require undue time or skill. If any devices for checking weights are made as ordinary commercial adjuncts of the weighing devices, they shall be furnished and erected as part thereof.

Substructures—The forces of the Canal Commission will undertake the erection of all masonry substructures for the coal handling machinery, as well as accomplish all wet and dry excavation, masonry, and backfill for the plants in general; also, supply all rails for the support of the unloading towers, bridges, reloaders, conveyors, and other accessories; all foundations, including anchor bolts and masonry plates, and, practically all the concrete construction and fixed anchorages. The substructures will be of solid masonry, supported by 6-inch caissons sunk to rock. Forces of the Panama railroad are now engaged in establishing rail connection to the island opposite Cristobal, on which the coaling plant will be located, by means of a bridge of the bascule type.

BALBOA COALING PLANT.

This plant will be secondary in importance to the plant at Cristobal, and its storage capacity and facilities for handling will be about one-half of those of the main plant. Two plans for the handling machinery were prepared, one calling for entirely new equipment, and the other providing for the utilization of the four berm cranes at Miraflores Locks, which cost originally about $300,000. The last mentioned plan was adopted, and is the basis upon which the award for the handling plant at Balboa was made.

The principal dimensions and elevations to which the Balboa plant will conform are, as follows: Elevation of extreme low water, 10.6 feet below mean sealevel; elevation of extreme high water, 11.2 feet above mean sealevel; elevation of bottom of slip, 45 feet below mean sealevel; assumed elevation of top of wet coal pile and bottom of normal dry coal pile, six feet above mean sealevel; elevation of top of normal dry coal pile, 26 feet above mean sealevel; elevation of top of emergency dry coal pile, 36 feet above mean sealevel; elevation of decks of wharves, 16.5 feet above mean sealevel; length of storage basin, 500 feet; water frontage, 1,300 feet.

The storage facilities will consist of the following:

	Tons.
Wet storage, reserved for naval use	100,000
Dry storage, for Canal use	80,000
Emergency storage, dry	30,000
Total	210,000

The fundamental difference between the two plans prepared for the Balboa plant lies in the fact that in the design for all new equipment, the storage basin would be commanded by stocking and reclaiming bridges, while in the accepted design, it will be commanded by the four double cantilever cranes, and in this system no provision is made for connecting the unloading towers with the storage pile. The adoption of the alternative plan has necessitated an increase in the width of the storage basin to 340 feet, but its length, 500 feet, remains the same. Under the present plan, it is purposed to load coal into storage by chuting from the unloading towers directly into the coal pile behind, to be rehandled further by the cranes. The conveying system will be required to serve not only the two unloading towers when reclaiming from stock, but the cranes also, when they are engaged in this operation, the capacity of 1,000 tons of coal an hour being obtained with all six units at work. The guaranteed rate of handling at Balboa is the same per unit as at Cristobal. The cost of removing and reerecting the cranes will be borne by the Canal Commission.

In adapting the steam-driven steeple tower of the Hunt Construction Company's design to the proposed conveying system at the two plants, the addition of two 2-valve hoppers on the shore side of the Cristobal plant, and of one 2-valve hopper on the shore side of the Balboa plant will be necessary.

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Health Conditions in the Chagres River Villages.

Dr. Charles A. Hearne, quarantine officer at Colon and Cristobal, who visited the native village of San Juan on the Rio Pequeni, one of the principal branches of the Chagres, on August 25 and 26, to investigate the reported heavy mortality among the inhabitants, has advised that in the village itself there has been no abnormal number of deaths. The police report, covering the period from October 1, 1912, to about September 1 this year, showed 28 births and eight deaths, out of a population of about 400. Two cases of sickness were found, both showing evidences of malarial infection. The sanitary conditions in the village were found to be fair; no mosquitoes were seen or heard, and the people claim there are none. On the return trip, the doctor visited and inspected the following river villages: Marañal, population 20; Limon, population 25; Boca de Gatun, population 40; Santa Rosa, population 20; Juan Mina, population 40; and Cruces, population now about 100. Hookworm disease was found to be prevalent in all of the settlements.

The towns along the Chagres River are increasing in population, owing to removals from Gorgona, Matachin, and Cruces. The inhabitants of the latter place are preparing to found a new town, near the Canal Commission's gaging station at El Vigia, which they propose to name Vigia. With the rise of Gatun Lake, and the backing up of the water in the Chagres, the river is probably destined to become quite an artery of trade. Heretofore, bananas, in which a thriving trade is conducted, have been unloaded at Matachin, but the interuption in railroad communication to that point has caused the trade to be diverted to Gamboa and Gatun. It is not an infrequent sight to see 35 or 40 cayucos heavily loaded with bananas coming down the river, trailing one behind the other.

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A Sailor Stabbed.

Arthur Rahlin, a sailor on the United States cruiser *Denver*, which arrived at Balboa from Corinto, Nicaragua, on Thursday, September 4, for coal, was stabbed in the Cocoa Grove district of Panama City, early in the morning of Saturday, September 6. He was taken to Ancon Hospital, where his condition is reported as critical. His assailant, a Panamanian named Juan Antonio Almengor, was placed under arrest.

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Married.

ROBERTSON–JONES—At the Union Church, Cristobal, on September 8, Miss Minnie Hudson Jones of Louisville, Ky., to William Turner Robertson, of Washington, D. C., the Rev. Carl H. Elliott officiating. Canal Zone residence, Corozal.

SOCIAL LIFE OF THE ZONE.

Meeting of Women to Discuss a Central Organization for Local Church Work.

There was a large gathering of women at the seawall Methodist Episcopal Church in Panama, on Saturday, September 6, in response to a call issued by the Woman's Foreign Missionary Society of the church for a missionary rally. The object of the meeting was to bring together the women engaged in Christian work, especially missionary work, in the Canal Zone, and to discuss plans for the organization of a central society for the continuance of such work. There were present members of the Ladies' Aid Society, Empire, St. Luke's Altar Guild, Ancon, and Ancon Study Club, besides women not affiliated with any organization.

The program was begun with an organ voluntary by Mrs. Keyser of Ancon; following this, 12 little children of the mission school gave a series of recitations, songs, and dialogues. Other numbers included a dramatic reading by Mrs. Taylor of Empire, a reading by Mrs. Smith of Empire, prayer by Mrs. Stokoe of Balboa, and an address of welcome by Mrs. Kingsbury of Ancon. Dr. Rosalie Slaughter Morton of New York City was present and spoke informally on the work of the Methodist church in the countries of South America through which she has been traveling. The president of the society, Mrs. Harry Compton, read a paper on the aims and outlook of the organization, some of the leading points of which were, as follows:

The Woman's Foreign Missionary Society is affiliated with the Baltimore branch of the woman's society of the Methodist church. The yearly dues of $1, and the receipts from life memberships, are sent to the branch. All other funds are expended in support of scholarships in the local mission school, and for the society's expenses. In 1912, the society paid $100 toward the education of a young girl. The effort so far this year has been centered in the establishment of a playground in the school yard. The equipment is being made and will cost the society about $60. One of the youngest children in the school has been made a life member of the Little Light Bearers, the children's branch of the Woman's Foreign Missionary Society; such a membership costs $10. A feature of the work of the society is the monthly mission study. Meetings have been held during the year at nine homes, and the social hour, following the study and consideration of routine matters, has always proved pleasant. The women have held one public service in the church. In May, a reception was held in the church parlors in honor of Bishop Homer Stuntz, on the occasion of his first episcopal visit to the church.

The enrollment of pupils in the mission school is over 100, and the average daily attendance is 90. Twenty scholarships, held by nine girls and eleven boys, are now maintained. Lessons in manual training and sewing are features recently added to the work of the school. A class in first aid to the injured is also conducted.

The president of the society announced that the new church in Guachapali will soon be completed, and urged the need of a woman teacher to take up the work among the women and children living in that section, one who can make her home on the premises. The society was asked to consider the possibility of raising money for the support of this teacher.

A plan to bring the societies of women engaged in Christian work on the Isthmus into a central organization was discussed. Each society will be asked to appoint a committee to confer regarding the matter, and prepare suggestions for such an organization to be submitted at the meeting of the foreign missionary society in October. After adjournment, refreshments were served in the church parlors.

Miscellaneous Notes.

Mrs. James Bowdry of San Francisco, gave a lecture on socialism in the lodge hall, Paraiso on Saturday evening, September 6.

The Reverend Alfred G. DeRoos, the Baptist evangelist, who has been holding meetings in various Zone villages, completed one month's mission under the direction of the Reverend J. L. Wise, in the Commission chapel at Empire on Saturday evening, September 6. Eight persons presented themselves for baptism at the close of the mission. Mr. DeRoos has gone to Gatun for a series of meetings under the direction of the pastor of the Baptist Church, the Reverend Stephen Witt.

Special Meeting of Pythian Sisters.

Canal Zone Temple, No. 1, Pythian Sisters, held a special meeting on Monday, September 1, in honor of Mrs. Alice F. Boylan, supreme mistress of finance of the Supreme Temple. Ten members of the order were present. The Canal Zone Temple presented its visitor with a gavel made of native hardwood, and a pair of Satsuma cuff links as souvenirs of her visit to Panama. Mrs. Boylan sailed on the *Cartago*, for Bocas del Toro on Tuesday, September 2.

PERSONAL.

Capt. Courtland Nixon sailed for New York on the *Panama*, on Saturday, September 6, on his annual leave of absence.

Mr. Lewis A. Mason, assistant engineer in charge of the design of floating caisson dams for the lock entrances and the permanent dry dock, sailed for San Francisco on September 4, accompanied by Mrs. Mason, to supervise the fabrication and construction of the first caisson by the Union Iron Works.

Mr. B. F. Harrah, Assistant Examiner of Accounts of the Isthmian Canal Commission, with headquarters at Washington, arrived on the Isthmus, on Monday, September 1, on business connected with the office of the Examiner of Accounts.

Mr. Charles M. Pepper, one of the foreign trade advisers for the Department of State at Washington, is spending a few days visiting the Canal work, which he has seen in various stages of progress, both in French and American times. He expects to retire from his present post on October 1.

Emigrants from the Lake Area.

In anticipation of the rise of Gatun Lake the Department of Law has been engaged for the past year and a half in removing from the area the native families, who live in detached houses scattered through the jungle, or in little villages clustered on the banks of streams or along the line of the railroad. In that time about 70 per cent of the population has moved out of the area, going either above the 87-foot contour or entirely out of the lake watershed. Some moved promptly on being notified, others had to be taken out when the water was almost at their doors; some have disappeared in the higher levels with the trackless silence of woods creatures; and some have moved in bodies, forming new settlements in which is preserved the community life of the old. Most of the population of old Monte Lirio moved together up the Gatun River and founded a village which they call Limon. On the other hand, about 350 people scattered over an area of several square miles were collected and moved, by rail and water, a distance of nearly 60 miles and set down on a townsite laid out for them. These were people living around Gorgona, Gorgonita, Waterloo, and Matachin, who were taken 40 miles down the Bay of Panama to the location of New Gorgona, set apart for Canal Zone emigrants by the Government of Panama.

A special train of four box cars and four second-class passenger cars carried these people and their belongings to Balboa, making two separate trips. While the crowded passenger cars stood on a sidetrack near the "angle wharf," an electric crane at the wharf edge loaded the goods into the hold of a lighter. The lighter was 112 feet long by 40 feet in beam, and the men of each party found room for passage on the deck. The women and children were carried aboard the tug *Chamé*, which towed the lighter. In the vessel were loaded tables, kitchenware, sewing machines, alarm clocks, charcoal braziers, and other household goods; corrugated iron was carried along in quantities for roofing the new dwellings, and potted plants for adorning them. Several cayucos were taken aboard, and many chickens, ducks, geese, turkeys, pigs, and goats, as well as dogs and one spotted fawn, though no cats were to be seen. It was well toward evening each time when the barge left the wharf, on its way down the bay. The *Chamé* returned to Balboa during the following night, having delivered the emigrants and their goods without mishap.

At New Gorgona, the people were quartered temporarily in a single large building, erected by the Republic of Panama. With this as headquarters, they arranged new locations and set to work at constructing new dwellings, either of rough timber or of poles cut from the woods. The Government of Panama sells them building materials at cost, and is maintaining a commissary store at New Gorgona to supply food and household necessities at cost prices. The Republic has purchased from the Commission, at upset prices, the schoolhouse for native children and the Catholic church at Gorgona, and these, as well as the dwellings whose owners will dismantle and load them, are to be transported to New Gorgona free of charge.

Colon-Panama Passenger Train Service.

Nos. 3, 5, 7, 21, 23, 25, 27, and 29 will stop only at Miraflores and Corozal to allow passengers to get off who hold transportation reading from points north of Pedro Miguel.

Nos. 20, 22, 24, 26, and 28 will stop at Corozal and Miraflores on flag only for passengers going north of Pedro Miguel over new main line.

Lost—On Front street, Colon, on August 26, a gentleman's gold watch, Swiss movement, 16 size. Monogram "F. E. S." engraved in large letters on back. Fob attached with Society of the Chagres pin. Reward, if returned to John Vaucher, jeweler, Colon.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The schedule for moving picture entertainments for the week September 15 to 20, is, as follows: Monday, Empire; Tuesday, Culebra; Wednesday, Cristobal; Thursday, Corozal; Friday, Gatun and Porto Bello; Saturday, Cristobal.

A cablegram has been received from Alton Packard, the humorist, stating that he will be unable to keep his engagement to appear at the various clubhouses in September, because of illness in his family. Negotiations are now under way for a company to appear early in October.

The all-Isthmian bowling tournament and the all-Isthmian basketball league will begin about the first of October.

COROZAL.

A sharply contested basketball game took place on Friday night, September 5, between the Culebra and Corozal teams on the latter's floor. The score at the end of the first half stood 22-13, in favor of Corozal. At the end of the second half, it was a tie, 28-28. Two additional five-minute periods were required to decide. The final score was 31-30, in favor of Culebra.

Eight teams have entered the local three-men league of tenpins. Gold medals will be given to the winning team, also a gold medal for high average.

Empire won three straight games from the local team on the local alleys on September 6. Scores: Empire, 869, 875, 943; Corozal, 816, 856, 771. High scores in tenpins for the past week were, as follows: Edwards, 211, 205; Holmes, 213, 207; Taylor, 203; Beall, 200; Ruggles, 203.

The chess match played between Culebra and Corozal resulted, as follows:

Corozal.	Won	*Culebra.*	Won
Connor	2	DuBois	0
Fields	1	A. M. Warner	1
Sherrard	1½	J. H. Warner	½
Shohan	0	McClure	1
Mills	0	Wilson	2
Morehead	1	Strong	1
Kyte	2	Shropshire	0
Kingsbury	2	Patterson	0
Total	9½	Total	5½

CULEBRA.

High scores for the week in tenpins were, as follows; Case, 200, 223; Dougherty, 269, 211; Finley, 228: Bechlem, 245. The score of 269 made by Dougherty is the high record for the local alleys. In the local tournament Dougherty and Warner are tied by Dougherty and case for the first prize, with a score of 740.

An order has been placed in the United States for a consignment of new library books.

EMPIRE.

The local bowling league has just closed with the three teams captained by S. King, Sims, and Giavelli tied for first place, each team having won 16 games and lost 8. The tie will be bowled off at once.

New music rolls for the player piano have just arrived from the United States and those assembling in the lobby enjoy the concerts given two or three times a week.

A local basketball league has been formed with five teams captained by Frank Purchase and C. Cushing of Culebra, and F. M. Sawyer, Huldquist, and A. J. Johnson of Empire. Two teams are composed of Culebra players, and the three other teams are formed of Empire men. This league will bring at least 30 men into the game and in this way help to prepare a team for the regular Isthmian league, which will probably start about the first of October. The local league series will be 20 games, each team playing the other teams twice, and two and three games will be played each night.

GATUN.

Mr. Joseph P. Mitchell has been appointed manager and coach for the Gatun basketball team. Practice games will be held three nights each week. Any member of the association is cordially invited to participate in these practice games.

A new schedule for the popular handicap pool tournament has been drawn up and mailed to each participant. Any man who fails to appear by 9 o'clock on the night he is scheduled to play forfeits the game to his opponent.

A two-man "Ragtime" bowling tournament was conducted on the Gatun alleys on Labor Day, September 1. Twenty-five men participated. The results in the duckpin tournament were: First prize, Barte and Gibson, 200; second prize, Wurster and Grey, 198; third prize, Claherty and Furlong, 197; high single game, Barte, 114. The tenpin tournament results were: First prize, Dennis and Furlong, 411; second prize, Barte and Grover, 378; third prize, tie—Dennis and Humphrey, 343 and Omeara and Humphrey, 343. High single game, Dennis, 208.

Mr. Ben Jenkins has been appointed a member of the Gatun executive council.

A prize, consisting of a handsome silver medal, will be awarded to the member who rolls the largest number of "200" games of tenpins during the period September 17 to September 30, inclusive.

Messrs. Claherty and Hess have been appointed managers of the bowling alleys, effective September 1.

All bowling records for the Gatun clubhouse were again broken during the month of August, when 3,693 games were rolled. This is an average of 142 games per day.

Chas. C. G. Wurster has been appointed manager of pool and billiards, vice D. C. Galloway, resigned.

CRISTOBAL.

Mr. Roy F. Soule of New York, editor of *The Hardware Age*, proved an interesting speaker before the discussion club on Thursday, September 4. Mr. Soule divided his time between "Salesmanship" and "Corporations." About 50 men were present. Dr. S. T. Darling will address the club on Thursday, September 11, taking for his subject "Transmission of disease through insects."

Mr. D. V. Stratton will give a lecture illustrated with slides and moving pictures, on Friday, September 12. His subject will be "The Panama-Pacific exposition and the Sacramento Valley." No admission will be charged.

Basketball practice has begun in preparation for the all-Isthmian tournament, which starts early in October. All men interested in basketball are requested to leave their names at the desk.

Mr. J. B. Gomez will start another class in Spanish on Wednesday, September 17. Persons interested in the study of Spanish can enroll at this time.

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August Rainfall for Three Years.

Stations.	1911	1912	1913	Station Av.	Years of record	Rai'y days 1913
Pacific Section–						
Ancon	7.21	6.33	8.20	7.57	17	20
Balboa	8.50	6.79	6.74	7.50	15	17
Miraflores	7.06	11.35	4.23	8.21	5	17
Pedro Miguel	5.43	9.51	5.46	8.31	6	22
Rio Grande	8.17	13.19	7.68	10.04	9	26
Central Section–						
Culebra	8.36	12.88	9.76	10.54	22	25
Camacho	7.98	13.77	10.13	10.39	8	28
Empire	5.98	10.53	10.46	9.79	10	25
Gamboa	7.68	16.64	16.45	12.33	31	24
Juan Mina	12.88	11.04	10.34	11.42	3	23
Alhajuela	10.79	12.87	10.92	12.94	15	24
El Vigia	12.56	14.96	10.24	12.80	5	24
Frijoles	......	13.63	14.75	14.19	2	27
Trinidad	8.17	7.68	13.39	11.63	6	27
Monte Lirio	9.58	8.15	10.42	11.02	6	19
Atlantic Section–						
Gatun	7.91	11.98	12.32	14.09	8	23
Brazos Brook	12.19	14.42	16.93	14.96	8	24
Colon	11.60	9.87	17.91	15.08	43	26
Porto Bello	22.56	14.15	25.35	18.93	6	22

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Acting Deputy Collector of Revenues.

ANCON, C. Z., September 3, 1913.

CIRCULAR No. 114:

To Heads of Divisions—Mr. James J. Gilbert, post-office inspector, is designated acting deputy collector of revenues, effective this date, vice Mr. Arthur McGowan, resigned.

RICHARD L. METCALFE,
Head of Department of Civil Administration.

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Rainfall, August 1 to August 31, 1913, Inclusive.

Stations.	Maximum in one day.	Date	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	2.61	17	8.20
Balboa	2.06	17	6.74
*Miraflores	1.04	10	4.23
Pedro Miguel	1.10	10	5.46
Rio Grande	1.26	12	7.68
Central Section—			
Culebra	2.17	23	9.76
*Camacho	2.13	23	10.13
Empire	1.86	6	10.46
Gamboa	3.31	17	16.45
*Juan Mina	1.94	23	10.34
Alhajuela	1.47	8	10.92
*El Vigia	1.37	6	10.24
*Frijoles	2.63	6	14.75
*Trinidad	2.83	10	13 39
*Monte Lirio	2.00	6	10.42
Atlantic Section—			
Gatun	3.04	10	12.32
*Brazos Brook	4.35	10	16.93
Colon	4.55	28	17.91
Porto Bello	6.06	10	25.35

Rainfall from September 1 to 6, 1913, Inclusive.

Pacific Section—	*Ins.*		*Ins.*
Ancon	.36	2	.41
Balboa	.19	2	.25
*Miraflores	.57	3	1.26
Pedro Miguel	.30	2	.81
Rio Grande	.34	4	.83
Central Section—			
Culebra	.28	1	.86
*Camacho	.18	3	.46
Empire	.29	2	.89
Gamboa	.65	6	1.68
*Juan Mina	2.15	6	4.33
Alhajuela	1.22	3	2.94
*El Vigia	1.00	6	2.64
*Frijoles	2.22	5	4.11
*Monte Lirio	3.26	5	4.56
Atlantic Section—			
Gatun	1.26	5	2.07
*Brazos Brook	1.35	5	2.74
Colon	.64	3	1.93
†Porto Bello	.14	1	.34

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight. †To 5 p. m., September 5.

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Tide Table.

The following table shows the time of high and low tides at Panama for the week ending September 20, 1913:

Date.	Low	High	Low	High	Low
	A.M.	A.M.	A.M.	P.M.	P.M.
Sept. 14	......	3.17	9.20	3.33	9.33
Sept. 15	......	3.48	9.55	4.05	10.07
Sept. 16	......	4.17	10.27	4.33	10.39
Sept. 17	......	4.43	10.58	5.01	11.10
	......	5.11	11.30	5.29	11.38
Sept. 18	......	5.37	12 00	5.57	......
Sept. 19			P.M.		
Sept. 20	12.10	6.08	12.34	6.28	......

75th meridian time.

WEATHER CONDITIONS, CANAL ZONE, AUGUST, 1913.

Weather conditions on the Isthmus during the month of August were in most respects approximately normal. The rainfall was generally deficient over the Pacific and Central sections, but above normal along the Atlantic coast. The monthly totals ranged from 4.23 inches at Miraflores to 25.35 inches at Porto Bello. The maximum precipitation recorded in one day was 6.06 inches at Porto Bello, on the 10th.

The average air temperature and relative humidity were slightly above normal.

The wind reached a maximum velocity of 40 miles an hour from the northeast, at Culebra, on the 27th during a local rain squall. The highest wind velocity previously recorded at the Culebra station was 39 miles an hour, from the north, on July 20, 1910.

Normal conditions of night and early morning fogginess prevailed at the interior stations. Fifty-four per cent of the fogs observed were dissipated by 6.30 a. m., 88 per cent by 7.30 a. m., and 94 per cent by 8.30 a. m.

The following table summarizes the weather conditions for the month:

Stations.	Press're (reduc'd to mean of 24 hours.)	Temperature.					Mean relative humidity.	Precipitation.			Wind.				
		Mean.	Maximum.	Date.	Minimum.	Date.		Total inches.	Station average.	Number of rainy days.	Total movement (in miles).	Prevailing direction.	Max. velocity (in miles).	Direction.	Date.
Colon	29.846	79.8	87	Aug. 3	72	Aug.21	89	17.91	15.08	26	7,013	W.	26	W.	Aug. 10
Culebra	29.828	79.2	92	Aug. 1	70	Aug. 7	94	9.76	10.54	25	4,588	N. W.	40	N. E.	Aug. 27
Ancon	29.816	80.2	93	Aug.13	70	Aug. 7	91	8.20	7.57	20	4,640	N. W.	22	S. E.	Aug. 21

OFFICIAL DIRECTORY OF PANAMA.

President—Dr. Belisario Porras.
First vice-president—Rodolfo Chiari.
Second vice-president—Ramón M. Valdés.
Third vice-president—Aristides Arjona.

Departments of National Government.

Secretary of Government and Justice—Francisco Filós.
  Assistant Secretary—Enrique L. Hurtado.
Secretary of Foreign Affairs—Ernesto T. Lefevre.
  Assistant Secretary—José B. Calvo.
Secretary of Finance—Aristides Arjona.
  Assistant Secretary—Leovigildo Gonzales.
Secretary of Public Works—Ramón F. Acevedo.
  Assistant Secretary—Ladislao Sosa.
Secretary of Public Instruction—Guillermo Andreve.
  Assistant Secretary—Jephtha B. Duncan.
Director General of Posts and Telegraphs—L. F. Ramirez.
Director General of Statistics—Adolfo Alemán.
Administrator General of Public Lands—Jerónimo J. García.
Treasurer General (ad interim)—J. M. Alzamora.
Chief Engineer—Ricardo M. Arango.

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Minister at Washington—Eusebio A. Morales.
Secretary of Legation—José E. Lefevre.
Attaché—Nicolas Remón.

Judiciary.

Chief Justice of the Supreme Court—Alberto Mendoza.
Judges of the Supreme Court—H. Patiño, Alberto Mendoza, Saturnino L. Perigault, Aurelio Guardia, Juan Lombardi.
Attorney General—Antonio Papí Aizpuru.

Governors of Provinces.

Panama—Francisco A. Mata.
Colon—Ruben S. Arcia.
Bocas del Toro—Pacífico Melendez P.
Coclé—Alfredo Patiño.
Los Santos—José M. Moreno.
Veraguas—A. Gilberto Vega.
Chiriqui—Gerardo Herrera.

Municipalities of Panama and Colon.

Panama—Mayor (Alcalde)—Enoch Adames.
  Chief of Police—Leonidas Pretelt.
  Captain of the Port—Carlos de Diego.
Colon—Mayor (Alcalde)—Julio Bernal.
  Chief of Police—C. A. Matos.
  Captain of the Port—Inocencio Galindo, Jr.

List of the Diplomatic and Consular Corps Accredited to the Government of the Republic of Panama,

AUSTRIA-HUNGARY.

Colon—Frank Ullrich, Consul.

BELGIUM.

Guatemala—H. Henin, Minister Resident.

Panama—B. D. Fidanque, Consul (absent). Mauricio B. Fidanque, Consul (acting).

Colon—J. J. Henriquez, Vice-Consul.

BOLIVIA.

Panama—Samuel Boyd, Consul-General.

Colon—Isidorp Hazera, Consul (acting).

BRAZIL.

Havana, Cuba—Luis Guinaraes, Chargé d'Affaires.

Panama—Ramòn Arias F., Consul.

CHILE.

San José, Costa Rica—C. Vergara Clark, Envoy Extraordinary and Minister Plenipotentiary.

Panama—Antonio B. Agacio, Chargé d'Affaires, and Consul-General (absent). Juan Ehrman, Consul.

Colon—Ernesto Jaramillo Aviles, Consul.

CHINA.

Panama—Owyang King, Consul-General.

COSTA RICA.

Panama—Humberto M. Vaglio, Consul-General.

Bocas del Toro—Victor M. Dominguez, Consul.

CUBA.

Panama—R. Guiterrez Alcaide, Chargé d'Affaires, and Consul-General (absent). Mario F. de Lara, in charge of Legation and Chancellor in Charge.

Colon—Luis F. Estenoz, Consul.

DENMARK.

Panama—I. L. Maduro, Consul.

Colon—Joseph Fidanque, Vice-Consul.

ECUADOR.

Panama—J. Cueva Garcia, Minister Resident. Victoriano Endara, Consul.

FRANCE.

Panama—L. Thublier, Chargé d'Affaires (ad interim), and Acting Consul.

Colon—M. H. de Jussien de Senevier, Vice-Consul.

Bocas del Toro—E. Cochez, Consular Agent.

David—Eugene Loeffier, Vice-Consul.

GERMANY.

Panama—Arturo Köhpcke, Consul.

Colon—Alfred Sange, Consul.

GREAT BRITAIN.

Panama—C. C. Mallet, Minister Resident. Percivale Helyar, Vice-Consul. E. S. Humber, Pro-Consul.

Colon—H. O. Chalkley, Consul (absent). James Robertson Murray, Vice-Consul. William McAdam, Pro-Consul.

Bocas del Toro—William H. Ponton, Vice-Consul.

GREECE.

Panama—Florencio Arosemena, Consul.

GUATEMALA.

Panama—J. F. Arango, Consul-General.

Colon—Vincente Delgado, Consul.

HAITI.

Colon—Jules Faine, Consul-General.

HONDURAS.

Panama—Marcos E. Velazquez, Consul-General.

ITALY.

Panama—Arturo Köhpcke, Consul.

Colon—L. Delpiano, Consular Agent.

MEXICO.

Panama—Francisco Mallen, Consul-General. Baldomero Mendez, Vice-Consul.

Colon—Inocencio Galindo, Vice-Consul.

THE NETHERLANDS.

Panama—D. M. Sasso, Consul.

Colon—J. J. Ecker, Sr., Vice-Consul.

NICARAGUA.

Panama—Marcos E. Velazquez, Chargé d'Affaires. Julio Arjona Q., Consul.

Bocas del Toro—Solomon H. Conoan, Consul.

NORWAY.

Mexico City—Michael Strom Lie, Consul-General.

Panama—George Myers Guerin, Vice-Consul.

Colon—David S. Webster, Consul. Eustace H. Simons, Vice-Consul.

Bocas del Toro—H. F. W. Kandler, Vice-Consul.

PERU.

Panama—Emilio Rodriguez Larrain, Chargé d'Affaires, and Consul-General. Alberto Obarrio, Consular Agent.

Colon—H. R. Wilford, Consul.

PORTUGAL.

Guatemala—José da Costa Carneiro, Chargé d'Affaires, and Consul-General.

Panama—Ramòn Arias F., Consul.

SALVADOR.

Panama—Ernesto Boyd, Consul-General (acting).

SANTO DOMINGO.

Panama—Arturo de Lemos, Consul.

Colon—José M. Fidanque, Vice-Consul.

SPAIN.

Panama—José Teixidor y Jugo, Consul. Narciso Perez Petinto, Vice-Consul.

Colon—Antonio Andrade Polanco, Consul.

Santiago, Veraguas—Julio Garcia Sierra, Vice-Consul.

SWEDEN.

Panama—B. Malo, Consul.

Colon—J. J. Ecker, Sr., Vice-Consul.

UNITED STATES OF AMERICA.

Panama—H. Percival Dodge, Envoy Extraordinary and Minister Plenipotentiary (absent). Cyrus F. Wicker, Chargé d'Affaires (ad interim). Alban G. Snyder, Consul-General. Daniel J. Waters, Vice-Consul.

Colon—J. C. Kellogg, Consul. Robert Wilcox, Vice-Consul.

Bocas del Toro—Paul Osterhout, Consular Agent.

David—William D. Gillespie, Consular Agent.

Santiago, Veraguas—Nathaniel J. Hill, Consular Agent.

VENEZUELA.

Colon—Angel Diaz Castro, Consul General.

Stages of the Chagres.

Maximum height of the Chagres River for the week ending midnight, Saturday, September 6, 1913. All heights are in feet above mean sealevel.

Day and Date.	Stations.			
	Vigia.	Alhajuela	Gamboa.	Gatun Lake*
Sun., August 31	129.6	95.0	60.5	60.4
Mon., September 1	130.0	95.3	60.8	60.6
Tues., September 2	128.4	94.7	60.8	60.8
Wed., September 3	128.2	94.4	61.0	60.9
Thurs., September 4	127.0	93.5	61.2	61.1
Fri., September 5	127.2	93.5	61.6	61.6
Sat., September 6	128.3	94.4	61.8	61.8
Height of low water to nearest foot	125.0	91.0	44.0	

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings of the Panama Railroad Steamship Company; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.

Advance	P. R. R.	Tuesday	Sept. 9
Panama	P. R. R.	Tuesday	Sept. 16
Allianca	P. R. R.	Monday	Sept. 22
Colon	P. R. R.	Tuesday	Sept. 30
Advance	P. R. R.	Monday	Oct. 6
Panama	P. R. R.	Saturday	Oct. 11
Allianca	P. R. R.	Saturday	Oct. 18
Colon	P. R. R.	Friday	Oct. 24
Advance	P. R. R.	Thursday	Oct. 30

CRISTOBAL TO NEW YORK.

Colon	P. R. R.	Sunday	Sept. 14
Advance	P. R. R.	Monday	Sept. 22
Panama	P. R. R.	Sunday	Sept. 28
Allianca	P. R. R.	Saturday	Oct. 4
Colon	P. R. R.	Sunday	Oct. 12
Advance	P. R. R.	Saturday	Oct. 18
Panama	P. R. R.	Thursday	Oct. 23
Allianca	P. R. R.	Thursday	Oct. 30

NEW YORK TO COLON.

Santa Marta	U. F. C.	Wednesday	Sept. 3
Carl Schurz	H.-A.	Saturday	Sept. 6
Pastores	U. F. C.	Saturday	Sept. 6
Metapan	U. F. C.	Wednesday	Sept. 10
Prinz August Wilhelm	H.-A.	Saturday	Sept. 13
Tivives	U. F. C.	Saturday	Sept. 13
Trent	R. M.	Saturday	Sept. 13
Zacapa	U. F. C.	Wednesday	Sept. 17
Emil L. Boas	H.-A.	Saturday	Sept. 20
Sixaola	U. F. C.	Saturday	Sept. 20
Almirante	U. F. C.	Wednesday	Sept. 24
Prinz Joachim	H.-A.	Saturday	Sept. 27
Carrillo	U. F. C.	Saturday	Sept. 27
Magdalena	R. M.	Saturday	Sept. 27
Santa Marta	U. F. C.	Wednesday	Oct. 1

COLON TO NEW YORK.

Almirante	U. F. C.	Thursday	Sept. 11
Prinz Joachim	H.-A.	Tuesday	Sept. 16
Carrillo	U. F. C.	Tuesday	Sept. 16
Magdalena	R. M.	Tuesday	Sept. 16
Santa Marta	U. F. C.	Thursday	Sept. 18
Carl Schurz	H.-A.	Tuesday	Sept. 23
Pastores	U. F. C.	Tuesday	Sept. 23
Metapan	U. F. C.	Thursday	Sept. 25
Danube	R. M.	Tuesday	Sept. 30
Tivives	U. F. C.	Tuesday	Sept. 30
Prinz August Wilhelm	H.-A.	Tuesday	Sept. 30
Zacapa	U. F. C.	Thursday	Oct. 2
Emil L. Boas	H.-A.	Tuesday	Oct. 7
Sixaola	U. F. C.	Tuesday	Oct. 7
Almirante	U. F. C.	Thursday	Oct. 9
Prinz Joachim	H.-A.	Tuesday	Oct. 14
Carrillo	U. F. C.	Tuesday	Oct. 14
Tagus	R. M.	Tuesday	Oct. 14

NEW ORLEANS TO COLON.

Atenas	U. F. C.	Saturday	Sept. 6
Parismina	U. F. C.	Wednesday	Sept. 10
Turrialba	U. F. C.	Saturday	Sept. 13
Cartago	U. F. C.	Wednesday	Sept. 17
Abangarez	U. F. C.	Saturday	Sept. 20
Heredia	U. F. C.	Wednesday	Sept. 24
Atenas	U. F. C.	Saturday	Sept. 27

COLON TO NEW ORLEANS.

Abangarez	U. F. C.	Thursday	Sept. 11
Heredia	U. F. C.	Saturday	Sept. 13
Atenas	U. F. C.	Thursday	Sept. 18
Parismina	U. F. C.	Saturday	Sept. 20
Turrialba	U. F. C.	Thursday	Sept. 25
Cartago	U. F. C.	Saturday	Sept. 27

Misdirected Letters.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressees:

Brady, Miss Esther
Brown, Frank H.
Collins, E. T.
Conelly, E. C.
Elam, Robert
Gardner, Dean B.
Hall, W. C.
Harold, W.
Horgan, M. W.
Marcuse, S. H.
Mehlhope, G. E.
Mettler, Mrs. A. J.
Rawson, Frank
Reeder, Willie D.
Skeris, Joseph
Smith, Mrs. Charles F.
Swanson, Oscar
Thompson, John
Van Fleet, Wilbur
Van Toll, Nelson

Cold Storage Prices.

The following changes have been made in cold storage prices at the commissaries since the last publication: Sweetbread, beef, reduced from 40 to 34 cents per pound; green peppers reduced from 6 to 4 cents per pound; romaine, added, at 14 cents per pound; tomatoes, reduced from 5 to 4 cents per pound; Malaga grapes, added, at 14 cents per pound; canteloupes, advanced to 7 cents per pound; plums, advanced to 12 cents per pound; pears, added, at 8 cents per pound.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, SEPTEMBER 17, 1913. No. 4.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the new stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Canal Record Index.

The index to Volume VI of THE CANAL RECORD, in form suitable for binding, will be ready for distribution shortly. It will be sent free, on application, to such persons, institutions, libraries, etc., as desire to preserve their copies of THE CANAL RECORD in book form. Application should be made to the Secretary, Isthmian Canal Commission, Ancon, C. Z.

Commissary for Ancon.

In view of the decision to continue the settlement at Ancon indefinitely as quarters for the gold employes, a commissary of a permanent character has been authorized. It will be a one-story building, 110 feet long by 70 feet wide, about the size of the Empire commissary, will be constructed of hollow concrete blocks, and will have a tile floor in salesroom. A refrigerator, 20 by 20 feet in size, will be installed, together with the usual counters and shelves. The commissary will be situated near the tennis court, on the site of the old French building, now used as a storehouse by the Quartermaster's Department. The permanent force to be quartered at Ancon, will comprise about 161 families, and 130 bachelors.

Rise of Miraflores Lake.

The opening in the dam of the spillway of Miraflores Lake is to be closed on or before October 1, in order to begin the filling of the lake area to the height required for the passage of vessels. In the construction of the spillway, a gap was left in the lower part of the ogee next to the locks, for the passage of the waters of the Rio Grande and its tributaries; filling this gap with about 700 cubic yards of concrete will effect the completion of the mass masonry of the spillway. Forces of the First Division will complete the installation of the control gates before the water reaches the crest of the spillway at 38.67 feet above sealevel. The rise of the lake will necessitate the removal of the cement shed on the west side the approach to Miraflores Locks and of the branches of railroad below the 55-foot contour. The buildings in the native section of Miraflores village have been demolished, and the Commission buildings in the lake area will be removed. The police personnel was transferred to Pedro Miguel and consolidated with the station of that village on September 15, and the Miraflores commissary store is closed.

The bottom of the completed channel through the lake, from Pedro Miguel Lock to Miraflores Locks, is to be 10 feet above sealevel, allowing a waterway of 45 feet depth when the lake is at elevation 55 feet, or normal level. Most of this channel has been brought to grade, though some portions of it have been left with a maximum elevation of 16 feet above sealevel, to be excavated by dredges.

Diversion of Drainage South End of Culebra Cut.

Since August 15, 1912, the drainage water from the portion of Culebra Cut south of the summit of excavation has been passed through the 18-foot culvert in the middle wall of Pedro Miguel Lock. On September 11, this drainage was diverted to the culvert in the east wall, to allow the cleaning from the center wall culvert of the silt and débris which have settled in it. This cleaning, which has to be accomplished before the rise of Miraflores Lake, will probably require about 15 days.

Rents under Revocable Licenses to Private Coal and Fuel Oil Companies.

Under the plan of issuing revocable licenses to private dealers in coal and fuel oil who desire to maintain coal storage and oil tanks at the Canal termini, the following rates for rental have been approved: The rate for space occupied by oil tanks will be one-half of a cent per square foot per annum at Balboa, and one-third of a cent per square foot per annum at Mount Hope. The real estate or improvement tax on investments made by the fuel oil licensee will probably be one per cent per annum. Under the present arrangement, the licensee of coal storage will have little, if any, occasion to make improvements. Where the Government makes these improvements, the ground rent and the rent for the improvements will be consolidated into one annual fee in lieu of the ground rental and the tax for improvements charged the licensee for fuel oil tanks.

A Day's Record in Loading Gravel.

American steam ditcher No. 1, belonging to the Panama Railroad Company, made a good day's record at dump No. 1 gravel pile on Saturday, September 6, when it loaded 1,424 cubic yards of gravel in five hours and fifty-five minutes, approximating a rate of 237 cubic yards an hour. The machine was in charge of Steam Engineer E. Richards.

END OF DRY EXCAVATION.

Steamshovel Operations in Canal Proper Discontinued on September 10—Cleaning up in the Cut.

Steamshovel operations in Culebra Cut were permanently suspended on Wednesday, September 10, and by Saturday night, September 13, all track had been removed in the Empire district, except Tower R incline track and track to pumping plant, and all were taken up in the Culebra district, except incline tracks. Many of the ties were past saving and were heaped in piles and burned.

The last steamshovels to stop working in the bottom excavation were No. 204, manned by H. S. Hayes, engineer, and A. E. Alexander, craneman; and No. 226, manned by Albert H. Geddes, engineer, and W. I. Hudson, craneman. These dug their last dipperfuls at about 10.30 a. m. The last dirt train out of the Cut was drawn by engine No. 260, with E. C. Bean as engineer, and E. A. Donnelly. as conductor. Steamshovel No. 210, manned by Frank Loulan, engineer, and S. H. Bryan, craneman, was retained at Cucaracha slide until Thursday, September 11, to keep the track clear.

The pumps which have been maintained just south of Gamboa dike to free the Cut of drainage water flowing north will be removed this week, and the concrete building which has housed them will be destroyed with dynamite. As the pipes which formerly passed the water around Cucaracha slide to the south have been taken up, the natural drainage into the Cut from this week on will collect and remain there. As the water in the lake rises there is an increased seepage through the embankment separating the Cut from the Camacho Diversion, and, in addition, a slight seepage through Gamboa dike has been observed. This, together with the rainwater that will flow in between now and the time the valves in the pipes at Gamboa dike are opened, will probably have the effect of flooding the bottom of the Canal. In order to avoid any hindrance by the water backing up too rapidly while the work of removing the pumps is going on, a small dike will be built across the Canal about a mile south of the dike to retain the drainage flowing north. With the pumps out of the way, the spur track leading to the dike, and the incline track out of the Cut nearby, will be removed.

It is estimated that 600,000 cubic yards of material remain to be removed by dredges from the Culebra Cut section within the original limits of the Canal, exclusive of slides and the inclines at the north and south ends of the Cut. Practically all of this material lies between Cucaracha slide and a point about midway between Empire and Culebra. Slides in this section showed renewed activity during the past week, but these in a large measure have lost their importance, because they will become a part of the regular work of the dredges in keeping the channel clear. The remaining material is being drilled preparatory to blasting it; most of the blasting will be done after the water is about eight feet deep.

A total of 13 shovels were at work on Saturday in the Central Division. Two of these were engaged in excavating a recess for a mooring basin and an approach for the pontoon bridge on the east bank, and one was at work on the west bank, opposite Cucaracha village, digging a trench for the discharge line of the dredge pumps to be installed at that point. It is proposed to extend the discharge line over into the valley of the Rio Grande, where the material pumped by the dredges working in Cucaracha slide, will be wasted. Another shovel will be set at work this week, excavating for a track leading off the west approach to the pontoon bridge.

Excavation was first begun in Culebra Cut on January 20, 1882, by the French, and has continued with only six years' interruption (1889-1895) to the present time. During the operations of the two French companies, about 17,000,000 cubic yards of material were taken from this section useful to the completed Canal. On May 4, 1904, when the Americans took charge, there were about 700 men employed in excavation work, using side excavators, served by small French dump cars and Belgian locomotives. Work was continued with the equipment left by the French until it could be gradually replaced with modern steamshovels, engines, and cars. The first American steamshovel was placed in operation on November 11, 1904, and the last of the French excavators was discontinued on June 16, 1905. On August 1, 1905, there were eleven American steamshovels at work, but their output was greatly handicapped by lack of proper transportation facilities. Work in the Cut did not begin on a large scale until February, 1907, and from that time until 1911, when the maximum output was reached, there was a steady increase in the amount of material excavated as new equipment was installed.

The following table shows the amount of material removed from the Culebra Cut section by the Americans from the beginning of operations in 1904 up to the suspension of steamshovel work on September 10:

Year.	*Cubic Yards.*
1904	243,472
1905	1,084,428
1906	2,702,991
1907	9,177,130
1908	13,912,453
1909	14,557,034
1910	15,398,599
1911	16,596,891
1912	15,028,413
1913 (To September 10)	8,348,190
Total	97,049,601

◆

Canal Excavation in August.

The grand total of excavation to September 1 was 209,218,030 cubic yards, leaving to be excavated under the revised estimate of July 1, 1913, 23,134,970 cubic yards.

The total excavation for the month of August was 2,658,785 cubic yards, as compared with 2,443,353 cubic yards for the corresponding month last year, and 2,706,223 cubic yards, in August, 1911. The wet excavation for the month was 1,607,672 cubic yards, and the dry excavation 1,051,113 cubic yards.

In the Atlantic section, the total excavation was 514,250 cubic yards. Of this amount, all but 2,161 cubic yards consisted of material dredged from the Atlantic entrance to the Canal by forces of the Sixth Division.

The total excavation in the Central Division was 926,900 cubic yards, 83,200 cubic yards of which consisted of material removed in sluicing operations back of Gold Hill, performed by forces of the Fifth Division. Central Division shovels, working on the bottom of the Canal, in slides, and on the banks of the Canal in removing material to lessen the pressure from above, took out a total of 810,100 cubic yards. In addition, 33,600 cubic yards of material, charged to "Plant" excavation, were removed.

In the Pacific section, operations by the Sixth Division resulted in the removal by dredges of 1,012,383 cubic yards, 726,256 cubic yards from the Pacific channel, and 286,127 cubic yards from the terminal basin. Dry excavation amounted to 205,252 cubic yards, 102,238 cubic yards from the terminal site, by forces of the Second Division, and 103,014 cubic yards from the Canal prism, south of Miraflores Locks, by forces of the Fifth Division.

A detailed statement of excavation, and a summary of the work on the locks and dams, follow:

ATLANTIC DIVISION.

LOCALITY.	"Work" Excavation.	"Plant" Excavation.	Total Excavation.
Dry excavation—	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
Locks, dam, and spillway	2,161	....	2,161
Mindi	....	....	....
Terminal	....	....	....
Total	2,161	....	2,161
Wet excavation—			
Atlantic entrance	512,089	....	512,089
Locks, dam, and spillway	....	....	....
Terminal	....	....	....
Total	512,089	....	512,089
Total wet and dry excavation	514,250	....	514,250

CENTRAL DIVISION.

Dry excavation—			
Culebra Cut	810,100	33,600	843,700
Hydraulic excavation			
Culebra Cut	83,200	....	83,200
Total	893,300	33,600	926,900

PACIFIC DIVISION.

Dry excavation—			
Locks, dams, and spillway	....	....	....
Terminals	90,134	12,104	102,238
Prism	103,014	....	103,014
Total	193,148	12,104	205,252
Wet excavation—			
Pacific entrance	726,256	....	726,256
Miraflores Locks	....	....	....
Diversions	....	....	....
Terminals	286,127	....	286,127
Total	1,012,383	....	1,012,383
Total wet and dry excavation	1,205,531	12,104	1,217,635

TOTAL CANAL EXCAVATION.

Dry excavation	1,005,409	45,704	1,051,113
Wet excavation	1,607,672	....	1,607,672
Total	2,613,081	45,704	2,658,785

LOCKS AND DAMS.

MATERIAL.	Atlantic.	Pacific.	Total.
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*
Concrete placed in locks	6,258	5,527	11,785
Concrete placed in dams and spillways	2,422	2,531	4,953
Fill placed in dams	73,797	18,350	92,147

Mean rainfall along Canal (ten stations), 11.28 inches.

By "Work" excavation is meant excavation actually made for one of the constituent parts of the Canal, such as prism, diversions, or locks, etc.; that is, it represents material taken from the area to be occupied by the Canal and constitutes excavation useful for the completed Canal.

By "Plant" excavation is meant excavation outside of any of the constituent parts of the Canal, such as prism, diversions, or locks, etc. It includes material necessary to be excavated for construction purposes only, and is chargeable against the particular plant item for which it is performed such as prism, diversions, locks, etc.

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Changes in Cofferdam at Balboa Terminals.

The plan for the construction of the cofferdam around the outer ends and approaches of the drydocks for the Pacific terminals has been modified with the view of decreasing the amount of fill necessary for its construction, and thus advancing the date of its completion. The conditions and character of the underlying rock and the soft mud of the harbor bottom indicated that a very flat slope would be assumed on the harbor side and the effect of the small quantity of material which was dumped from the trestles caused a bulging of the bottom in the entrance channel to the repair wharf and a settlement of about 18 inches in one section of the west trestle. In general, firm rock was found in driving the piles for the trestle, lower than had been indicated by previous borings over this area. For these reasons it was deemed advisable and expedient to bring the southwest end of the cofferdam trestle inland and away from the channel. Accordingly, two drivers began driving a single-track trestle on the relocated line on August 5 and completed it on August 10, 410 lineal feet of trestle being required to connect with the old railroad fill along the shore. About 600 lineal feet of the original double trestle were utilized and the remainder is being removed and the material used elsewhere. The fill from trestle on the present line will be 39,850 cubic yards as compared with 96,000 cubic yards on the original location. Spoil will be dumped on the seaward side of the trestle until the fill is even with the track, when a spur will be laid on the fill and "fanned" outward, to extend the dam as required. For the rest of the way, from the old to the new site of the dredging landing, a similar procedure will be followed, starting, however, directly from the present shore. The soft fill will be extended out, as desired and then armored on the sea face with rock. In the excavation for the drydocks, part of the fill will be removed by the steamshovels, though the dam will be extended sufficiently to protect the site. The remainder of the spoil will be taken out by dredges, after the completion of the drydock excavation.

Soft clay for the filling is being taken from the northeast toe of Diablo Hill, adjacent to the right of way of the Panama railroad. This excavation will be useful later in the construction of the permanent yards and the main line tracks to Balboa. It is proposed to operate trains to Balboa direct from Corozal, by passing along the east toe of Sosa Dam; southbound passenger trains will go first to Balboa, thence to Panama, superseding the present arrangement by which trains proceed to Panama, and Balboa is served by a shuttle train.

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Steamshovel and Dredge Men.

Local No. 19, International Brotherhood of Steamshovel and Dredge Men, will hold its next meeting in the lodge hall at Empire, on Sunday, September 21, at 12.30 p. m.

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An addition, 30 by 40 feet in size, will be made to the oil house of the Quartermaster's Department at Balboa, for the storage of rope and cable.

SOCIAL LIFE OF THE ZONE.

Church Notes.

The Rt. Rev. Albion W. Knight, D. D., bishop of the Episcopal church in America, and formerly missionary bishop of Cuba and of the Panama mission, has accepted the appointment of vice-chancellor of the University of the South, Sewanee, Tenn. Bishop Knight, who has been overseer of the Panama mission as commissary of the presiding bishop since its establishment in 1907, will continue in charge. It is expected that his annual visitations will be made in the summer, instead of in January, as hitherto. He will give up the work in Cuba, and his episcopal residence in Havana, where he has resided for a number of years.

A sacred concert took the place of the regular evening service in the Commission chapel at Gatun on Sunday evening, September 7.

The altar chapters of the Episcopal church in Colon and Gatun met for a social afternoon at the rectory on Colon beach on Thursday, September 11. A program of informal music was given, followed by a reception, during which refreshments were served. The party then adjourned to the church, where Mrs. A. G. Farmer played several selections on the organ. The altar chapter of Christ Church, Colon, will hold a Christmas bazaar in December, the proceeds to be used in liquidating the indebtedness on the organ.

The monthly meeting of the Isthmian Ministers Association was held at Culebra on Monday, September 8. The annual election of officers, which should have taken place at this meeting, was postponed, and will be held at the Methodist Episcopal church, Panama, on October 6.

Canal Zone Schools to Open October 1.

The public schools of the Canal Zone will open on Wednesday, October 1, 1913. All children residing in the Canal Zone, whether of employes or nonemployes, and all children of nonresident employes of the Isthmian Canal Commission are entitled to free school privileges. No child will be admitted, however, who will not be six years old on or before February 1, 1914.

Schools for white children will be opened at the following places: Ancon, grades one to eight; Corozal, grades one to eight; Pedro Miguel, grades one to eight; Paraiso, grades one to four; Culebra, grades one to five; Empire, grades one to eight; Las Cascadas, grades one to five; Gatun, grades one to eight; Cristobal, grades one to eight; Porto Bello, grades one to eight.

Schools for colored children will be opened at the following places: Ancon, Paraiso, Cucaracha, Culebra, Empire, Mandingo, Gatun, Mount Hope, Cristobal, and Majagual.

High schools will be conducted as follows:

A branch high school at Gatun for first and second year pupils residing at Cristobal and Gatun.

A branch high school at Empire for first and second year pupils residing at Bas Obispo, Las Cascadas, Empire, and Culebra.

The consolidated high school at Ancon for first and second year pupils residing south of Culebra, and for all third and fourth year pupils in the Zone.

Pupils attending the grade schools should report at 9 a. m.; those attending the Gatun high school, at 9.30 a. m.; those attending the Empire high school, at 9 a. m.; and those attending the Ancon high school, at 1 p. m.

Requests should be made of the office of the Superintendent of Schools, Ancon, immediately for railroad transportation for all white children living in communities where schools of appropriate grades are not provided, or brake service furnished.

Entertainments at Gamboa Stockade.

The first of a series of entertainments for the prisoners in the Gamboa stockade was given on Sunday, September 14, and included music by the Marine Band and addresses by Mr. Richard L. Metcalfe and Judges H. A. Gudger and W. H. Jackson. It is proposed to provide educational facilities for the illiterate prisoners under the direction of the superintendent of schools with the cooperation of the chief of police.

Examination by Board of Local Inspectors.

The Board of Local Inspectors will conduct examinations at the Administration Building, Ancon, on Wednesday, September 24, 1913, beginning promptly at 2 p. m., for persons desiring to procure the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for licenses must procure from the Executive Office, Ancon, forms of application and information respecting the filling out of same, at least one day before the examination. Applicants for chauffeurs' licenses must also bring automobiles.

Lake Service for Tourists.

In order to provide suitably for the tourist traffic during the coming season, the Panama railroad has decided to add a trip through the lake as one of the regular features of its sightseeing service. This arrangement will be accomplished by lashing two cement lighters broadside, and converting them into a passenger barge by decking them over, providing awnings and railings, and installing toilets and other conveniences. This will give a floor space of about 40 by 100 feet, sufficient to accommodate chairs for approximately 400 people with safety and comfort. The improvised barge will be towed through the lake channel from Gatun by one of the Canal Commission tugs, making a landing near Tower R, about 150 feet north of Gamboa cabin, out of the way of any vessels using the Canal. A small landing stage will be built at that point, with steps leading down to it from the track level.

Under the proposed arrangement, the sightseeing train will leave Colon for Gatun at about 8 a. m. Arriving at Gatun, the passengers will transfer to the lake barge, while the train will proceed to Gamboa to await there the arrival of the barge. The tourists will then be taken by train over the relocated line and the I. C. C. spur track to a point near the Empire suspension bridge, where an excellent view of Culebra Cut may be obtained. From this point, the train will run into Panama, and then return to Colon direct. Parties from Panama wishing to avail themselves of the lake trip may leave Panama on train No. 2, connect at Gatun with the lake service, and return to Panama by the sightseeing train. Parties from Colon may either return by the sightseeing train, or remain in Panama, as they see fit. It is probable that a charge of $1.50 per person will be made for the lake trip, in addition to the round trip rate of $4 over the railroad, which will be only $1 more than the rate charged tourists at the present time for a trip on the sightseeing train over all divisions. It is planned to place the new service in effect as soon as the barges can be converted and passed through the locks.

Association of Canal Employes.

The Association of the Panama Canal Builders was formed at a meeting held by 21 employes of the Isthmian Canal Commission and the Panama Railroad Company, at the resident engineer's office, Corozal, on September 12.

The object of the association is to furnish to all its members such mementos, historic facts, and other reminders, as will enable them to recall the days of the building of the Panama Canal and to give their friends the best possible idea of the actual conditions under which the work was accomplished.

The association has already prepared a certificate commemorating the building of the Canal, and the Chairman and Chief Engineer has agreed to affix his signature to one certificate for each employe who has been accepted to membership in the society.

A neatly bound record of the building of the Panama Canal and the people who built it will be prepared and dedicated to Col. George W. Goethals. This record will contain photographs of historic importance, comparative figures, and the name and home address of every white person who has ever been an employe of the Isthmian Canal Commission or the Panama Railroad Company since the beginning of the Canal construction. The record will be compiled as rapidly as official data can be obtained from the files of the Chairman's office. The work is of such a nature that it will require several months to complete it, and any members separating from the service in the meantime will be forwarded a copy to the address given on the application blank.

A membership fee of $5 will be charged, which will entitle every member to one certificate, one of the records, and all the good offices and influences of the society. It is requested that all who are eligible identify themselves with the association without delay, in order to complete the records while the present organization is still intact.

The secretary-treasurer will be bonded in the sum of $2,000.

The members of the board of governors are: H. O. Cole, president; Dr. D. F. Reeder, first vice-president; J. B. Fields, second vice-president; F. T. Hamlin, secretary-treasurer; L. A. Smith, J. C. Keller, D. E. Wright, E. Zook, J. A. Walker, R. C. Shady, H. H. Hammer, W. A. Lawlor, H. G. Hamlin, J. C. Earle, G. D. Bliss, W. W. Webb, Dr. C. E. Phillips, W. C. Poore, S. C. Russell, Baxter Grier, B. F. Metcalf.

Notice to Photographers.

All who took kodak or other pictures of Shriners August 28 to September 2, are requested to send two prints of each picture, together with name and address to

F. H. WANG, *Secretary,*
The Panama Shriners Club.

Gatun, C. Z., September 16, 1913.

Missing Man.

Any one having information regarding the whereabouts of Mr. James W. Hays, Jr. of Vicksburg, Miss., who is supposed to be on the Isthmus, is requested to communicate with THE CANAL RECORD.

RECORD OF CANAL WORK SINCE AMERICAN OCCUPATION.

TOTALS BY CUBIC YARDS OF EXCAVATION AND LOCK AND DAM CONSTRUCTION.

[All figures are of work useful for the completed Canal.]

DRY EXCAVATION.

CENTRAL DIVISION.

M'THS.	CULEBRA SECTION.*								CHAGRES SECTION.**				
	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1909.	1910.	1911.	1912.	1913.
Jan.....	120,990	566,750	1,227,022	1.150,249	1,323,693	1,356.394	1,416,035	1,135,580	389,399	175,802	255,385	28,357	....
Feb....	168.410	639,112	1,248,265	1,194,454	1.259,173	1,409,338	1,349,569	996,800	450,182	286,309	219,550	66,145	....
March .	239,178	815,270	1.290,885	1,434,597	1,509,728	1.728,748	1,539,618	1.183,900	619,491	484,846	297,339	172,607	....
April ..	213,177	879,527	1,242,574	1,272,746	1,288,845	1,414,336	1,455,216	1.178,000	510,020	428,777	102,103	171,731	....
May....	196,209	690,365	960,840	1,126,963	1,099,279	1.299,100	1,405,760	921,000	386,170	248,974	29,783	12,524	....
June...	212,623	624,586	1.134,032	1,242,134	1,305,141	1.401,016	1,348,780	865,283	275,900	164,389	32,288	8,424	....
July ...	159,789	770,570	1,121,325	1,200,828	1,153,810	1,337,833	1,335,590	1,037,700	233,897	166,106	22,284	776	....
August	244,823	786,866	1,171,927	1,173,370	1,377.714	1,442,402	1,094,132	893,300	231,543	234,404	21,892	....	....
Sept. ..	291,452	753,468	1,122,860	1,235,978	1.339,948	1,340,173	922,712	....	235,818	234,290	21,272	....	....
Oct	327,009	834,499	1,160,101	1.302,901	1,320,314	1,306,971	1,113,420	....	221,409	271,409	12,216	....	....
Nov....	221.642	790,632	1,022,576	1,070,792	1,209,554	1,209,498	973,071	....	93,619	260,882	12,248	....	....
Dec....	307,689	1,025.485	1,210.046	1,152,022	1,211.400	1,351,082	1,074,510	....	105,044	197,481	10,809	....	....
Totals..	2,702,991	9,177,130	13,912,453	14,557,034	15,398,599	16,596.891	15,028,413	8,211,563	3,752,492	3.153,669	1,037,169	460,564	....

Mos.	ATLANTIC DIVISION.†					PACIFIC DIVISION.¶										
	GATUN LOCKS, DAM AND SPILLWAY.††					PEDRO MIGUEL LOCKS AND DAMS.‡					MIRAFLORES LOCKS, DAMS AND SPILLWAY.‡‡					BALBOA T'M'N'LS §
	1909.	1910.	1911.	1912.	1913.	1909.	1910.	1911.	1912.	1913.	1909.	1910.	1911.	1912.	1913.	1913.
Jan ..	102,690	125,011	65,889	1,330	46,773	83,726	27,320	15,690	24,969	1,147	61,202	31,479	48,744	95,609	26,483	54,114
Feb..	95,031	123,738	50,511	1,228	11,241	58,242	9,486	6,809	18,480	448	53,689	15,300	12,936	47,426	12,532	32,743
Mar..	90,051	132,007	51,431	254	35.705	95,624	6,784	674	1,777	800	51,417	18,184	72,739	28,352	28.700	51.387
Apl .	70,009	103,243	12,548	27,134	29,649	101,365	9.129	255	13,269	620	60,060	12.148	79,751	29.094	23,255	68,296
May..	52,786	82,958	17,677	24,280	1,829	57,523	10,405	5,905	26.018	127	47,588	20,250	57,975	13,096	3,778	53,215
June .	36,556	88,088	4,840	19,605	388	70,971	8,420	7,454	7,794	936	55,653	21,994	38,023	7,906	....	100.991
July ..	39,058	95,503	6,897	1,974	17,756	77,503	4,410	6.273	4.412	....	50,999	11,990	97,884	4,532	....	87,230
Aug ..	40,346	99,737	22,558	....	2,161	58,025	12,789	220	4,866	....	35,446	17,548	102.249	7.120	....	90,134
Sept ..	49,945	103,040	3,489	1,025	....	48,825	10,405	3,472	1,613	....	31,803	8,590	96,112	5,192	....	....
Oct ..	57,321	118,327	112	1,700	....	39.002	7,433	5,365	1,257	....	25,349	9,850	107,790	14.107	....	....
Nov..	63,452	94,552	....	2,203	....	20,207	10.636	12,962	2,408	....	18,644	9,400	84,894	27,728	....	....
Dec..	96.590	72,030	....	16,677	....	28,342	11,195	17,320	3,176	....	20.083	17,906	79,480	30,319	....	....
Tot'ls	793,835	1,238,234	235,952	97,410	145,502	739,355	128,412	82,399	110,039	4,078	511.933	194,639	878,577	310,481	94,748	538,110

*Total to Sept. 1. 1913. 96,742,800 cubic yards. Excavated 1904. 243,472 cubic yards; 1905, 914,254; by sluicing, 253,374 cu. yds.

**Total to Sept. 1, 1913. 12,384,655 cu. yds. 1907. 192.769 cu. yds.; 1908. 3.787,992 cu yds.; by sluicing. 188.239 cu. yds.

†Dry excavation Mindi Hills 1907-1912, 2.196.198 cubic yards

¶Excavated various points in prism to Sept. 1. 1913. 4,783.916 cu. yds.; Balboa Locks and Dams. 1907, 78,233 cu. yds.; Outside prism 1908, 172 cu. yds.

††Total to Sept. 1. 1913, 6,652,301 cubic yards; including 26.628 cu. yds. in 1906; 1.340.179 cu. yds. in 1907; 2.774,561 cu. yds. in 1908.

‡Total to Sept. 1 1913, 1,321,063 cubic yards; including 256,780 cu. yds. in 1908.

‡‡Total to Sept. 1. 1913. 2.837,298 cubic yards; including 846,920 cu. yds. in 1908.

§Total to Sept. 1, 1913, 856.841 cubic yards; including 318.731 cu. yds. in 1912.

WET EXCAVATION.

Mos.	ATLANTIC DIVISION.†						PACIFIC DIVISION.††								
	ATLANTIC ENTRANCE.§						PACIFIC ENTRANCE.§§						BALBOA TERMINALS**		
	1908.	1909.	1910.	1911.	1912.	1913.	1908.	1909.	1910.	1911.	1912.	1913.	1911.	1912.	1913.
Jan .	490.701	521,050	510,055	520,181	520,228	508.338	460,250	469,529	518,936	379,810	334,735	215,025	....	77.383	216,540
Feb..	427,722	444,910	493,448	455,318	581,399	303,949	663,519	671.477	285,791	386,866	432,796	239.032	....	....	175,225
Mar..	546,886	461,208	412,325	391,736	103,373	380,243	783,281	865.696	462,588	639,761	404,939	379,845	....	....	166,800
Apl...	496,366	470,635	190,574	492,579	134,261	436,605	676.539	731,767	534,322	439,622	383,995	356,942	....	....	182,125
May..	564.386	315,370	447.578	514,178	229,626	685,163	530,466	720.753	484.509	548,047	388,310	369,703	....	....	194,510
June.	572,749	182,575	458,021	452,098	343,804	814,592	656,621	844,685	475.486	576,100	338,006	604.080	....	28,668	31.179
July .	625,497	348,451	423,092	425,195	495,398	921 948	696,170	733,181	515.782	520,692	392,511	756,930	....	89,618	231,105
Aug .	638,217	422,846	508,829	367,456	429.415	512,089	737,774	623.263	506,969	630,241	441,644	726,256	....	131,111	286,127
Sept..	624.776	410,574	451,873	420,434	372.302	....	750,080	662,976	473,585	534,667	455,059	....	....	14,257	....
Oct..	505,260	314,778	549,788	470,400	572,783	....	762,276	720,920	467,873	329,224	435,726	....	10,591	....	....
Nov..	570,832	457,889	600,708	742,242	670,247	....	609,089	627,791	425,870	346,089	534.273	....	116,194	13,809	....
Dec..	679,604	489.121	482,370	533,409	814,373	....	729.960	727,460	387,034	141,189	349,747	....	137,771	191,968	....
Tot'ls	6,742,996	4,839,407	5,528.661	5,785,226	5,267,209	4,562,927	8,056,025	8,399,498	5,538,745	5,472,308	4,891,741	3,647,813	264,556	546,814	1,483,611

†Dredging, Gatun Dam. 1907, 38,425 cu. yds.; Gatun Locks, 1908-13. 1.776,791 cubic yards.

††Miraflores Locks and Dam, 1909-12, 652,246 cu. yds.: total to Sept. 1. 1913, 652.246 cu. yds.

§Total to Sept. 1. 1913, 35,775,805 cu. yds.; including 4,049,379 cu. yds. in 1905-07.

§§Total to Sept 1. 1913 39,826,305 cu. yds ; including 3,820,175 cu. yds. in 1905-07.

**Total to Sept. 1, 1913, 2.294,981 cu. yds.

CONCRETE IN LOCKS AND DAMS.*

MONTHS.	GATUN LOCKS.†			PEDRO MIGUEL LOCKS.††			MIRAFLORES LOCKS.‡		
	1911.	1912.	1913.	1911.	1912.	1913.	1911.	1912.	1913.
Jan	72,919	34,983	28,085	38,513	15,003	4,652	24,018	48,416	50.456
Feb............	72,103	26,664	30,780	37,011	12,639	4,294	20,896	63,893	34,979
March	86,884	27.532	48,180	44,716	9,331	13,412	31,173	83,706	21,030
April...........	67,361	11,600	22,732	28,635	9,460	2,145	38,758	97,735	13,266
May............	67,844	7.746	13,046	19,135	10,736	1,144	36,154	92,095	6,956
June	55,305	6,095	5,509	18,243	10,061	773	26,536	68,398	3,836
July............	71,046	8,093	3.431	19,906	11,480	1,829	32,840	66,026	3,810
Aug............	66,928	6,855	6.258	20,736	5,995	1,884	57,003	75,388	3,643
Sept............	57.298	3,162	....	15,379	3,039	....	56,083	46,122	....
Oct.............	53,636	3.252	....	25,637	6,587	....	60,873	54,790	....
Nov............	43,907	6,029	....	19,622	7,972	....	41,726	39,874	....
Dec............	43,590	5,697	....	14,360	6.958	....	48,772	46,746	....
Total........	758,821	147,708	158,021	301.893	109,261	30.133	474,832	783.189	137,976

*Concrete in dams to Sept 1. 1913—Gatun spillway, 228 667 cu. yds.; Miraflores dam and spillway, 78,206 cu. yds.; Pedro Miguel dam, 1,289 cu. yds.

†1,002,523 cu. yds. in 1909 and 1910. ††478,803 cu. yds. in 1909 and 1910. ‡97,603 cu. yds. in 1909 and 1910.

FILL PLACED IN DAMS—1906-1913.

YEAR.	GATUN.		PEDRO MIGUEL	MIRAFLORES.	
	Wet	Dry	Dry	Wet	Dry
	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.
To January 1, 1911..............	5,833,076	6,128,105	260,852	294,712	609,863
1911..............................	3,493,388	2,613,066	57,659	366,336	460,514
1912..............................	1,402.501	2.499,092	352.159	....	418,042
1913..............................	....	799,952	25,258	....	196.530
Totals....................	10.728,965	12,040,215	695,938	661,048	1,684.949

CANAL EXCAVATION TO DATE.

By French Companies..		78.146.960
French excavation useful to present Canal..............................		29,908.000
By Americans—		
Dry excavation..	127,411,864	
Dredges	81,806,166	
Total..		209.218.030
May 4 to December 31, 1904..............................	243,472	
January 1 to December 31.1905..............................	1.799,227	
January 1 to December 31. 1906..............................	4.948,497	
January 1 to December 31, 1907..............................	15,765,290	
January 1 to December 31, 1908..............................	37,116,735	
January 1 to December 31, 1909..............................	35,096.166	
January 1 to December 31. 1910..............................	31,437,677	
January 1 to December 31. 1911..............................	31,603,899	
January 1 to December 31, 1912..............................	30,269,349	
January 1 to September 1, 1913..............................	20,937,718	

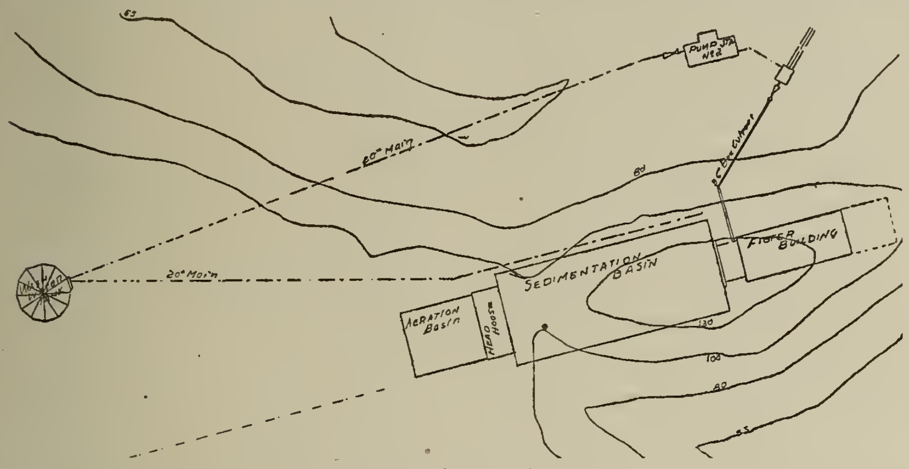
TOTALS BY DIVISIONS AND AMOUNT TO BE EXCAVATED.

DIVISIONS.	Amount excavated.		Remaining to be excavated.	
Atlantic—				
Dry excavation........................	8,848.499	47,439,520	6.501	5.727,480
Dredges........................	38,591,021		5,720,979	
Central—				
Culebra Cut........................	96,742.800	109,127.455	8.269,200	8,569,545
All other points........................	12,384,655		300.345	
Pacific—				
Dry excavation........................	9,877,523	52,651,055	910,477	8,837,945
Dredges........................	42,773,532		7,927,468	
Grand total	....	209,218 030		23,134,970

PANAMA WATER SUPPLY.

Miraflores Lake Water for Towns at Southern End of Canal.

The work of constructing the new water works for the southern end of the canal is now well under way and forces are at work on the new pump station and purification plant at Miraflores, and the high service reservoir at Ancon.

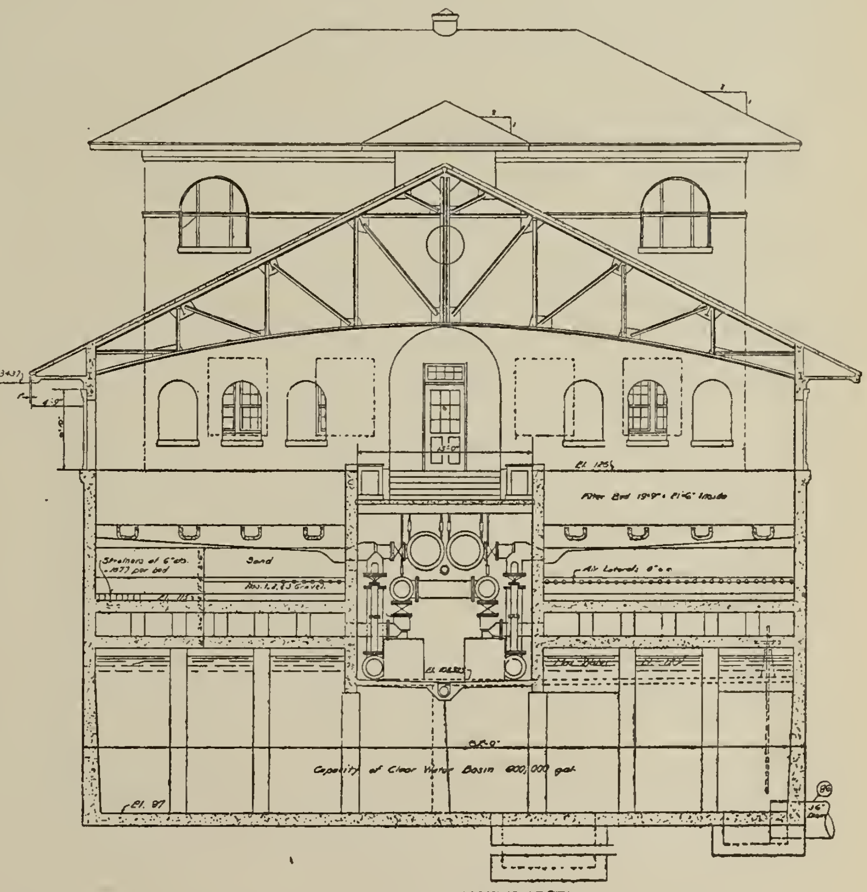


Layout of Filtration Plant at Miraflores.

The project, in general, comprises three electric pump stations, one located east of the railroad track at Miraflores, to be known as Miraflores pump station No. 1; one to be located between the Miraflores spillway and the southern portal of the Panama railroad tunnel, to be known as Miraflores pump station No. 2; and one to be located along the main line of the Panama railroad between Panama and Balboa and in the vicinity of the new Administration building, to be known as the Ancon pump station; a purification plant, located on the hill immediately above and north of the Miraflores spillway, consisting of an aeration basin, a head house containing aluminum sulphate and hypochlorite of lime storage, together with mixing chambers, float chamber, solution tanks, controllers, electric elevator; sedimentation basin having a capacity of five million gallons; a filter plant containing 14 filters of the rapid mechanical gravity type, each having a nominal capacity of 1,125,000 gallons of water every 24 hours, and a clear water basin having a capacity of approximately 900,000 gallons; and an office and laboratory building within which will be provided, in addition to the laboratory and office, living quarters for the chemists who will be on duty in connection with the operation of the plant throughout the 24 hours of the day.

The project also includes a 350,000-gallon wash water tank located on the hill to the southwest of the Miraflores tunnel, at an elevation of approximately 200 feet above sealevel. This tank will store the water delivered to it by pump station No. 2, and will furnish the filtered water for washing the filter, for miscellaneous uses around the plant, and will provide a supply of filtered water through a 16-inch main for the town of Pedro Miguel.

The raw water from Miraflores Lake will pass from the surface of the lake into a screen chamber, and through the screens in this structure, to the sump beneath the electric pumps located in pump station No. 1. From this point, the water will be pumped through a 30-inch main to the aeration basin, where it will be thrown into the air about 15 feet vertically, through specially designed nozzles, and will break into spray, falling to the floor of the basin, then passing into the mixing chambers in the basement of the head house. At this point the water will receive its dose of aluminum sulphate and will flow into the sedimentation basin. Here it will be allowed to stand for a period of eight hours, after which it will pass on to the filters. After passing through the filters, the water will discharge directly through the floor of the pipe gallery into the clear water basin, from which point it will flow through a 36-inch line into the hypochlorite injection chamber located near pump station No. 2. At this point the hypochlorite bleach will be applied and the water will pass from this chamber into the mains leading to Panama.



El. 125½
Filter Bed 19'9" x 21'6" Inside
Strainers at 6" cts. 1877 per bed
Sand
Nos. 1, 2, & 3 Gravel
El. 115
Air Laterals 6" c. c.
El. 97
Capacity of Clear Water Basin 900,000 gal.
36" Drain
Section Looking North

Typical Section of Filter Building, Miraflores.

At the present time there are a 20-inch and a 16-inch main between Miraflores and Ancon, which will be connected with the injection chamber, and, in addition, there will be laid from this point to Panama a new 30-inch main, thus giving three mains between the purification plant and the Ancon pump station. The Ancon pump station will contain five electrically-driven centrifugal pumps, three of which, having a capacity of 5,000 gallons per minute, each, will pump the water directly from the mains into the distribution system for Panama, Ancon, and Balboa, at a pressure not to exceed 30 pounds per square inch. The existing 1,000,000-gallon capacity low service reservoir will be so connected to these pumps as to form a storage and surge reservoir. The two remaining pumps in the Ancon station will be of the same type as the low service pumps above referred to, but will be designed to develop 100 pounds per square inch pressure in the mains, and, in ordinary service, will pump the water into the high service reservoir on Ancon hill; in this way it will furnish the water supply for the high lying districts and also a high pressure for use in case of fire.

As a part of the project, there is being constructed an extension to the present 1,000,000-gallon high service reservoir on Ancon hill, which, when completed, will give 2,500,000 gallons storage at an elevation of 300 feet above sealevel. For fire protection in the city of Panama, the high service pumps in the Ancon pump station and the main pipe lines will be so arranged that the high service pressure can, within 15 seconds after the fire alarm is turned into the station, be thrown into the main without affecting the low pressure service for Balboa; and, *vice versa*, in case of fire at Balboa, the high service pressure can be developed at that point without disturbing the low pressure service in Panama.

The project involves the laying of a new 16-inch high service main from the Ancon pump station to the high service reservoir, and a new 20-inch main from the Ancon pump station to the new shops at Balboa, where the line will be reduced to 16-inch. This line will extend through the terminals to the south side of Sosa Hill, where the line will again be reduced to 12-inch, and this size main will extend to the extreme end of the docks at Balboa.

When the entire project is ready for service no water will reach Panama from the Rio Grande reservoir, and all lines now existing north of Pedro Miguel will have been removed. The Rio Grande reservoir will be maintained for the service of Culebra only, and in the event of the abandonment of this town, the use of the Rio Grande reservoir will be discontinued.

One of the accompanying sketches shows the general layout of the different parts of the project in the vicinity of Miraflores, and the other shows a general cross-section of the filter building.

Killed in Attempting to Board Train.

Philip O'Shaughnessy, an American employed as a foreman by the Central Division on the dumps at East Balboa, was instantly killed about 1 p. m., on Thursday, September 11, by falling between two cars while attempting to board a loaded work train at a point about 20 yards from the Tivoli steps in the Panama railroad yard at Panama. He was 38 years of age, and arrived on the Isthmus on August 2, 1905, coming here from New Rochelle, N. Y. He is survived by his wife, living in Panama, a brother, living in Salt Lake City, and two sisters, Mrs. John Boyd, No. 753 Cordero street, Vancouver, B. C., and Mrs. Dora Van Horn, Point Pleasant, N. J.

Obituary.

The death of James H. Hibben, an American employed in the Sixth Division as engineer on the tug *Porto Bello*, with residence at Cristobal, occurred suddenly on Saturday evening, September 13, at the Hotel Washington, at the conclusion of a banquet at which he was officiating as toastmaster. The cause was heart disease. He was 44 years of age, entered the service of the Canal Commission on March 18, 1910, and is survived by a wife and four children, living in New Orleans.

The death of William P. Emmett, a naturalized American employed in the Atlantic Division, with residence at Cristobal, occurred on Wednesday, September 10. He was a native of Ireland, 50 years of age, a widower, and had been on the Isthmus three years and three months. Two daughters, Mrs. A. C. Anderson, No. 1009 Main avenue, Brownsville, Tex., and Mrs. E. Kenzie, No. 1920 Avenue G, Galveston, Tex., survive him.

Civil Service Examinations.

Examinations for the following-named positions are scheduled to be held probably on October 19: Agricultural inspector, Philippine Service; assistant observer, Weather Bureau; aid, Lighthouse Service; cadet engineer, cadet officer, Lighthouse Service; civil engineer and draftsman, nonapportioned Departmental Service; civil engineer and superintendent of construction, Quartermaster Corps; mechanical draftsman, topographic draftsman, Isthmian Canal Service; electrician, nonapportioned Departmental Service; engineer, Indian Service (steam engineering, electrical engineering, heating, refrigeration, gas, and gasoline engines, hydraulics); junior engineer (mining), Bureau of Mines; junior engineer (civil), junior engineer (mechanical or electrical), Engineer Department at large; postal clerk, Isthmian Canal Service; printer, Philippine Service; scientific assistant, Department of Agriculture; teacher, Indian Service; trained nurse, Indian and Isthmian Canal Services; wireman, nonapportioned Departmental Service.

Women will be admitted to examinations for scientific assistant, teacher, and trained nurse.

Applications should be procured from and filed with this office. In requesting information, the kind of examination desired should be specifically mentioned.

The examinations will be held probably at Empire, in the Commission clubhouse, but the place of examination, and also the date, should be omitted in application forms.

A card of admission will be sent to those found eligible to be admitted, just before the examination.

Applicants for the Isthmian Canal or Philippine Services who fail to present a photograph to the examiner will not be admitted to examination.

In answer to questions as to residence, applicants must show residence in a State or Territory of the United States, and county thereof, up to the time of filing application.

ISTHMIAN CIVIL SERVICE BOARD.
Culebra, C. Z., September 13, 1913.

Rainfall, Sept. 1 to Sept. 13, 1913, Inclusive.

STATIONS.	Maximum in one day.	Date	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	1.33	8	3.24
Balboa	1.86	8	3.23
*Miraflores	1.25	9	3.58
Pedro Miguel	.91	9	4.07
Rio Grande	1.41	8	4.95
Central Section—			
Culebra	1.93	8	6.11
*Camacho	2.24	9	3.61
Empire	1.23	8	4.75
Gamboa	.65	6	3.63
*Juan Mina	2.15	6	5.14
Alhajuela	1.22	3	3.78
*El Vigia	1.00	6	3.43
*Frijoles	2.22	5	6.33
*Monte Lirio	3.26	5	6.05
Atlantic Section—			
Gatun	1.26	5	3.31
*Brazos Brook	1.35	5	4.87
Colon	1.54	8	4.72
Porto Bello	.64	9	2.01

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight. †To 5 p. m., September 12.

Cold Storage Prices.

No changes have been made during the past week in the list of cold storage articles sold at the commissaries.

FOUND—One heavy gold band finger ring, initialed. Owner can have same, upon proper identification, at Police Headquarters, Ancon.

FOUND—Bathing suit, taken by mistake from the recreation hall at Toro Point on Sunday, September 7. Owner can have same by calling at House 300-C, Cristobal.

EXECUTIVE ORDER

Relating to Bail Bonds and Money Deposits in Lieu Thereof, and to Amend Section 310 of Criminal Procedure of the Canal Zone.

By virtue of the authority vested in me, I hereby establish the following Executive Order for the Canal Zone:

SECTION 1. The defendant in a criminal proceeding before a District Court of the Canal Zone may make a cash deposit in lieu of a bail bond in form and manner as provided for in Sections 305, 306, and 307 of the Criminal Procedure Act No. 15 of the Canal Zone, and a certificate of deposit shall be issued to the defendant by the judge in each case.

SECTION 2. Whenever a warrant is issued by any court or judge of the Canal Zone in a case in which bail may be admitted, the court or judge issuing such warrant shall endorse thereon the amount of bail to be required of the defendant to secure his appearance in the case, and the officer executing the warrant may accept a bail bond or money deposit in lieu thereof in the sum specified in the warrant, and in the form prescribed by law, and the bail bond or money deposit in lieu thereof shall be forthwith delivered to the court having jurisdiction of the case, and a receipt for such bond or deposit shall be given to such officer by the clerk of the court, or the judge thereof if the case is pending in a district court.

When an arrest is made without a warrant in conformity with law in a misdemeanor case, and for any reason the officer making the arrest is unable to take the offender forthwith before a magistrate, he may accept bond or a cash deposit in lieu thereof from the offender in a sum not exceeding five hundred dollars to secure his appearance before the court having jurisdiction of the case, and the offender shall then be released from custody and the bond or cash deposit in lieu thereof shall be delivered to the proper officer or court as hereinbefore provided for in this section.

When a money deposit is made in lieu of bail bond, the deposit shall be held and disposed of in accordance with the provisions of Sections 305, 306, 307, and 311 of the Criminal Procedure of the Canal Zone, and Section 310 thereof, as hereinafter amended.

SECTION 3. That Section 310 of the Criminal Procedure of the Canal Zone is amended to read, as follows:

> SECTION 310. If money has been deposited instead of bail, and the defendant, at any time before the forfeiture thereof, surrenders himself to the officer to whom the commitment was directed, in the manner provided in the two preceding sections, the court must order a return of the deposit to the defendant, upon producing the certificate of the officers showing the surrender, and upon a notice of five days to the Prosecuting Attorney, with a copy of the certificate.

SECTION 4. This Order shall take effect from and after its publication in THE CANAL RECORD.

WOODROW WILSON.

THE WHITE HOUSE,
August 29, 1913.

LOST—Gold locket with ruby settings and the initial "B" on face, in Cristobal or Colon, on the morning of September 14. A liberal reward will be paid for same if presented at Cristobal Y. M. C. A.

OFFICIAL CIRCULARS.

Change in Program Regarding P. R. R. Vessels Sailing in October.

CULEBRA, C. Z., September 16, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

My circular letter dated August 27, reserving all accommodations on the steamships *Colon*, sailing October 12; *Ancon*, sailing on or about October 13; *Advance*, sailing October 18; and *Panama*, sailing October 23, for employes leaving the service, was based on the supposition that the reduction of force in the Central Division would commence on or about October 10. As a change in the program rendered it necessary to commence reducing the force in the Central Division at an earlier date than was anticipated, it is not considered necessary to reserve these boats exclusively for employes leaving the service, and the circular letter referred to is hereby cancelled.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Duties of Board of Survey and Appraisal.

CULEBRA, C. Z., September 10, 1913.

CIRCULAR NO. 399-C:

The duties of the board of appraisal, and of the surveying officer and assistant surveying officer, are hereby combined in a board of survey and appraisal.

The membership of the board will be, as follows: Mr. H. S. Farish, chairman, Mr. Charles L. Parker, Mr. B. M. Litt, and Mr. C. T. Cushman.

Appraisals will be made by the chairman and any two members of the board.

Surveys will be made by Mr. Farish and Mr. Litt as at present, and by Mr. Parker and Mr. Cushman at such points and at such times as this work can conveniently be performed in conjunction with their other duties. Any member of the board is hereby authorized to make surveys under the direction of and subject to approval by the chairman of the board; all surveys to be submitted to me by the chairman of the board for final approval.

The present forms and instructions will continue in effect without other change, the above arrangement being temporary and necessary to handle the increased amount of business due to completion of the work.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission,
President, Panama Railroad Company.

Charges for Oxygen and Acetylene.

CULEBRA, C. Z., September 9, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

Effective September 1, 1913, the charges for oxygen and acetylene gases made by the Mechanical Division are hereafter reduced to $5 per tank for oxygen, and $3.50 per tank for acetylene.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Mailing Tracings and Drawings.

CULEBRA, C. Z., September 15, 1913.

CIRCULAR NO. 499:

Tracings or valuable drawings set through the mails must be carefully packed in tin tubes.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Changes in Central Division.

EMPIRE, C. Z., September 12, 1913.

CENTRAL DIVISION CIRCULAR NO. 379:

Effective September 14, 1913, the Central Division will be divided into two sections, as follows:

Southern section—From south entrance of Miraflores tunnel to Balboa, to and including Naos Island breakwater and Sosa Hill quarry. Mr. J. M. Hagan, superintendent of construction, in charge, with headquarters at East Balboa.

Northern section—From north entrance of Miraflores tunnel to Gamboa, to and including relocation dumps. Mr. W. M. Tenny, superintendent of construction, in charge, with headquarters at Empire.

A. S. ZINN,
Acting Division Engineer.

Extension of Labor Train Passes.

EMPIRE, C. Z., September 12, 1913.

All Concerned—The date of expiration of all Bas Obispo-Balboa labor train passes is hereby extended to December 31, 1913.

A. S. ZINN.
Acting Division Engineer.

Acting Post-Office Inspector.

ANCON, C. Z., September 6, 1913.

To Heads of Divisions—Mr. Garfield O. Gilbert, assistant postmaster at Cristobal, is designated acting postoffice inspector, vice Mr. James J. Gilbert, designated acting deputy collector of revenues.

RICHARD L. METCALFE,
Head of Department of Civil Administration.

Consolidation of Telephone and Signal Departments, P. R. R.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., September 9, 1913.

All Concerned—Effective September 16. 1913, the telephone department and the signal department of the Panama railroad will be consolidated, and Mr. W. H. Fenley appointed superintendent of telephones and signals.

JOHN D. PATTERSON,
General Superintendent.

Launch Trips through Gatun Lake for Masters and Mates.

CRISTOBAL, C. Z., September 8, 1913.

All Concerned—The launch *Margaret* will be run every Sunday from Gatun to Gamboa dike and return, the object of this trip being to enable masters and mates in the employ of the Commission to familiarize themselves with the Canal channel between Gatun and Gamboa. Launch will leave Gatun at 9 a. m., and Gamboa (Tower R) at 1 p. m. The number of passengers for these trips will be limited to six. Passes may be secured from W. G. Comber, resident engineer, Balboa, Canal Zone.

W. G. COMBER,
Resident Engineer.

Cashier, Disbursing Office.

EMPIRE, C. Z., September 6, 1913.

Effective this date, Mr. Robt. W. Glaw is appointed cashier, Disbursing Office, vice Mr. C. E. Gilmore, resigned. The cashier, in addition to duties heretofore performed, will have charge of all pay roll work; and telephone inquiries relating to time vouchers, pay tickets, or pay rolls after they reach this office should be made of him.

JOHN H. MCLEAN,
Disbursing Officer.

Supplies for the Canal.

The following steamers with supplies for the Isthmian Canal Commission and Panama Railroad Company, arrived at the ports of Colon and Cristobal during the week ending September 6:

Panama, September 1, from New York, with 260 drums paint, for stock; 60 boxes incandescent lamps, for Mechanical Division; eight barrels electric fixtures, for Panama railroad; 100 bales oakum, 90 bags tie plugs, 13 cases water coolers, for stock; nine cases electrical machinery, for emergency dams; 20 boxes screen doors and sashes, 15 crates screen doors and sashes, for stock; 33 castings, 33 boxes tackle blocks, 176 bundles steel, for fortifications; 13 barrels iron pipe-fittings, for stock; 195 barrels asphaltum, for McClintic-Marshall Construction Company; 22 cases packing, for stock; 179 pieces castings, for Mechanical Division; 22 barrels copper sulphate, for Panama railroad; 2,300 pieces hollow tile, for Second Division; 802 bundles tie plates, 130 pieces switches, 98 bundles switch parts, for stock; and a miscellaneous cargo, the whole consisting of 5,485 packages, weighing 501 tons.

Almirante, September 3, from New York, with 17 barrels iron pipe-fittings, 50 bales hose, for stock.

Abangarez, September 4, from New Orleans, with 3,894 pieces lumber, for stock and Mechanical Division; 520 sacks feed, 14 boxes paste, for stock.

Nestorian, September 6, from Liverpool, with seven pieces parts for dredges, for Sixth Division.

Family Quarters.

Applications for married quarters on file on August 31, were, as follows:

DISTRICT.	List No. 1.	List No. 2.
Ancon	7	105 (20)
Ancon Hospital	1	5
Balboa	1 (1)	58 (4)
Bas Obispo	....	13
Corozal	1 (1)	131 (1)
Cristobal	....	140 (7)
Culebra	....	38 (2)
Empire	2 (2)	79 (19)
Gatun	1 (1)	86 (8)
Las Cascadas	....	17 (3)
Pedro Miguel	1	44 (1)
Porto Bello	1 (1)	14 (9)
Toro Point	1	3
Total	16 (6)	733 (74)

NOTE—The figures in parentheses show the number of applicants already occupying regular or nonhousekeeping family quarters at stations other than those at which applications are filed.

Stages of the Chagres.

Maximum heights of the Chagres River for the week ending midnight, Saturday, September 13, 1913. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.			
	Vigia.	Alhajuela	Gamboa.	Gatun Lake*
Sun., September 7	127.2	93.8	61.9	61.9
Mon., September 8	126.4	93.0	62.0	62.0
Tues., September 9	136.2	99.6	62.6	62.4
Wed., September 10	129.0	94.8	62.8	62.7
Thurs., September 11	128.3	94.[illegible]	62.8	62.8
Fri., September 12	126.9	93.1	63.0	63.0
Sat., September 13	128.2	94.2	63.0	63.1
Height of low water to nearest foot	125.0	91.0	44.0	

*Sluice gates in spillway at Gatun were closed on June 27, 1913, with surface of lake at elevation 48.25.

Married.

CLAPP–DEVINE—On September 16, at the Union Church, Cristobal, Bertha May Devine of St. Paul, Minn., to Warner Howard Clapp of Kasota, Minn., Rev. Carl H. Elliott officiating. Canal Zone residence, Paraiso.

CLASSIFIED EXPENDITURES—ISTHMIAN CANAL COMMISSION.

A statement of classified expenditures of the Isthmian Canal Commission to May 31, 1913, follows:

PERIODS.	Department of Civil Administration.	Department of Law.	Department of Sanitation.	Department of Construction and Engineering	General Items.	Fortifications.	Total.
Total to June 30, 1909	3,427,090.29	....	9,673,539.28	69,622,561.42	78,022,606.10	....	160,745,797.09
Total—Fiscal Year, 1910	709,351.37	....	1,803,060.95	26,300,167.05	2,863,088.83	....	31,675,648.20
Total—Fiscal Year, 1911	755,079.44	....	1,717,792.62	27,477,776.19	3,097,959.72	....	33,048,607.97
Total—Fiscal Year, 1912	820,398.57	24,729.16	1,620,391.12	28,897,738.10	2,819,926.53	1,212,881.66	35,396,065.14
July, 1912	63,913.12	1,448.53	123,803.64	2,649,246.61	200,970.55	104,126.92	3,143,509.37
August, 1912	62,182.51	1,468.26	123,154.48	2,539,680.83	*98,054.61	111,402.55	2,739,834.02
September, 1912	59,201.01	1,207.82	120,385.70	2,285,979.89	77,003.53	127,168.25	2,670,946.20
October, 1912	64,383.37	2,033.75	137,574.61	2,473,280.76	83,523.30	129,736.37	2,890,532.16
November, 1912	62,200.12	1,892.14	119,031.66	2,420,085.77	75,779.01	300,016.33	2,979,005.03
December, 1912	58,987.96	1,462.18	115,819.26	2,871,977.03	120,946.61	118,152.57	3,287,345.61
January, 1913	57,699.58	1,469.59	114,562.04	2,825,872.06	6,463.72	119,272.77	3,125,339.76
February, 1913	56,586.06	1,649.00	127,324.80	3,784,370.51	123,034.12	314,994.96	4,407,959.45
March, 1913	58,761.03	1,899.22	105,891.08	2,712,218.10	*7,706.70	131,940.75	3,003,003.48
April, 1913	57,218.29	1,585.87	114,146.79	2,677,640.00	132,223.98	131,970.93	3,114,785.86
May, 1913	57,814.27	2,872.19	115,598.00	2,849,292.60	169,306.77	164,275.24	3,359,159.07
Grand total	6,370,866.99	43,717.71	16,132,056.03	182,387,886.92	87,687,071.46	2,965,939.30	295,587,538.41

*Denotes credit.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The moving picture schedule for the week September 22 to 27 is, as follows: Monday, Gatun; Tuesday, Corozal; Wednesday, Cristobal; Thursday, Culebra; Friday, Empire and Porto Bello; Saturday, Cristobal. Pictures to be shown this week include the following: "Saved from court martial," "An aeroplane love affair," "The live wire," "The deceivers," "The cub reporter," "Tom's sister," "The sheriff's prisoner." Pictures to be shown next week include: "Along the River Nile," "Queen of the kitchen," "Pathé's weekly," "The darling of the C. S. A.," "The line at Hogan's," "A 10-karat hero,"' 'The Government test," "Three to one," and "His armless wonder—the detective's desperate chance."

Delegates from the various clubhouses and Camp Elliott met at the Cristobal clubhouse on September 14 for the purpose of electing officers and deciding on rules for the Isthmian tenpin bowling league. Mr. Frank Dougherty of Culebra was chosen chairman of the league, and Mr. Taylor of Corozal, official scorer and secretary. The league will open on October 4.

COROZAL.

Forty new library books have just been received from the United States.

The Empire basketball team defeated the local team by a score of 35 to 26 on Saturday night, September 13.

Some of the members of the boys' department "hiked" to Arraijan on Saturday, September 13.

CULEBRA.

Mr. J. F. Warner led the song service on Sunday evening, September 14.

The high scores in tenpins for the past week were: Cornthwaite, 202; Finley, 200.

The local two-man bowling tournament will close on Tuesday, September 23. It is requested that all having games yet to roll will do so at once.

Mr. D. V. Stratton will give a lecture, illustrated with slides and moving pictures, on Thursday, September 18, describing the Sacramento Valley and the Panama-Pacific Exposition. Admission will be free to all.

EMPIRE.

The results of the bowling games rolled at Empire on Saturday, September 13, between Corozal and Empire were: Corozal, 930, 790, 816; Empire, 896, 855, 946.

In the local bowling league the team composed of Giavelli, Arnold, and F. Whaler won first place. The medals for high score and high average were won by Gustavson.

On Friday evening, September 19, a meeting of all men interested in the formation of a discussion and debating club will be held at the clushouse for the purpose of organizing.

Basketball is holding interest for many of the men. The largest squad of players ever interested in this sport at Empire can be found any basketball night on the floor, practicing the game. Already 27 men are nerolled in the local basketball league. This squad is divided into four teams under the captaincy of Johnson, Sawyer, Miller, and Huldquist.

GATUN.

Gatun defeated Culebra in a game of basketball at at Gatun on Wednesday evening, September 10, by the score of 22 to 17. The lineups were, as follows:

Whiston	R. F.	Cushing and Belcher
Huber	L. F.	R. Purchase
Wright	C.	F. Purchase
Conley	R. G.	Hepler
Fitzpatrick	L. G.	Koperski

Referee, Christopherson; timekeeper, Ben Jenkins; scorer, Fomon. Attendance, 200.

An illustrated talk on Louisiana will be given on Thursday evening, September 25.

Cristobal defeated Gatun two out of three games of tenpins on Saturday evening, September 13.

Mrs. Fostrom and Mrs. McLeod furnished violin and piano music for the motion picture entertainment on September 8.

The executive council met on Friday evening, September 12. Those present were: Mr. W. C. Gayer, Mr. W. B. Childers, Dr. Farmer, and Mr. Ben Jenkins. Mr. Robert M. Gamble, a charter member of the association, and for the past two years a member of the executive council, has resigned on account of leaving Gatun.

The results of the bowling contests held on "Ladies night," September 12, were:

Open contest—First prize, Mr. Humphrey and Mrs. Crosscup; second prize, Mr. Coleman and Mrs. Nolan.

Married folks—First prize, Mr. and Mrs. Chas. C. G. Wurster; second prize, Mr. and Mrs. Grover.

A set of "Library of natural history" and a set of "The world's best music" have been added to the library during the past week.

Mr. W. F. Bennyhoff will give a lecture on the Canal work on Tuesday, September 16, illustrated with slides.

The standing of the "Popular" handicap pool tournament, on Saturday evening, September 13 was, as follows:

Name.	*Won.*	*Lost.*	*P. C.*
Dewey	5	0	1.000
Townsley	3	0	1.000
Kerruish	3	1	.750
Von	4	2	.666
Pettitt	2	1	.666
Bailey	3	2	.600
O'Hara	3	2	.600
Carkeet	2	2	.500
Johnson	1	1	.500
C. Gray	4	5	.444
Reisner	2	3	.400
Mitchell	1	3	.250
Dennis	1	3	.250
Bradley	1	5	.166
Wall	0	5	.000

CRISTOBAL.

The stringed orchestra of the steamship *Prinz Joachim*, gave a concert on Monday night, September 8, from 8 to 10 o'clock.

Mr. T. A. Wehmeier has issued a challenge to all pool players to play for the championship of the Isthmus. Mr. Wehmeier proposes to play 150 points on the home tables of each man who accepts his challenge, and 150 points on the Cristobal tables.

Mr. W. F. Barnum rolled highest score in tenpins on the Cristobal alleys for the month of August, with 235 points, and received a box of cigars as a prize.

Messrs. Luce and Weller, members of the old Cristobal basketball team, are coaching the players until the arrival of the new plysical director.

"What shall we do with the Monroe Doctrine?" is the theme for consideration at the discussion meeting on Thursday night, September 18. Messrs. H. J. Wempe and F. B. Freeland will lead the discussion.

Mr. J. Frank Harbert, representing the Louisiana State Board of Immigration, gave an illustrated lecture on Louisiana, on Tuesday night, September 16.

Interest is being displayed in the chess tournament now in progress. The present standing of the contestants is in the following order: Ogden, Taylor, Hurt, Wilson, Salzburg, Verner, McQueen, Tuttle, Wechsler, Gill, Rattiner, Martin.

Misdirected Letters.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be procured upon request of the addressees:

Cummings, C. C.
Davidson, Miss Edith
Dunleavy, J. A.
Durbin, C. A.
Fernandez, José
Foll, Lawrence (pkg.)
Galow, Wm.
Gilbert, D. A.
Halvosa, William P.
Hand, E. S.
Hansen, Paul
Henderson, Mrs. George
Heng, Chris
Hyder, Frank
Joy, Sylvester
McGuire, Mrs. E.
Moadadian, Mrs. Julia
Rounds, Wm. J.
Scribner, Miss E. L.
Shea, W.
Zeamer, Emmett

Tug Service to Porto Bello and Toro Point.

Following is a revised schedule of Atlantic Division tugs in the service between Docks 13 and 16, and Porto Bello; and Docks 13 and 16, and Toro Point:

PORTO BELLO.

Mondays, Tuesdays, Wednesdays, Thursdays, and Fridays—Leave Dock 13 at 5 p. m., arrive Porto Bello 10 p. m.; returning, leave Porto Bello 11 p. m., arrive Dock 13 about 6 a. m.

Saturdays—Leave Dock 13 at 9 a. m., arrive Porto Bello at 11 a.m.; returning, leave Porto Bello 3.45 p.m., arrive pier No. 4, Colon, 5.45 p. m.

Every Saturday—Leave Dock 13 at 6. p. m., arrive Porto Bello at 11 p. m.; returning, leave Porto Bello 12 midnight, arrive Dock 13 about 6 a. m.

Every Sunday—Leave Pier 16 at 7 p. m., arrive Porto Bello 9 p. m.; returning, leave Porto Bello 9 p. m., arrive Pier 16 at 11 p. m.

TORO POINT.

Mondays, Tuesdays, Wednesdays, Thursdays, and Fridays. Sailing No. 1—Leave Dock 13 at 6.30 a. m., arrive Toro Point 7 a. m.; returning, leave Toro Point 8 a. m., arrive Dock 13 at 8. 30 a. m. *Sailing No. 2*—Leave Dock 13 at 5 p. m., arrive Toro Point 5.30 p. m.

Special, Wednesdays only—Leave Dock 13 at 12 noon, arrive Toro Point 12.30 p. m.; returning, leave Toro Point 12.30 p. m., arrive Dock 13 at 1 p. m.

Saturdays. Sailing No. 1—Leave Dock 13 at 6.30 a. m., arrive Toro Point 7 a. m.; returning, leave Toro Point 8 a. m., arrive Dock 13 at 8.30 a. m. *Sailing No. 2*—Leave Dock 13 at 5 p. m, arrive Toro Point 5.30 p. m.; leave Toro Point 5.30 p. m., arrive Dock 13 at 6 p. m.

Sundays. Sailing No. 1—Leave Dock 13 at 9.30 a. m., arrive Toro Point 10 a.m.; returning, leave Toro Point at 10.30 a. m., arrive Dock 13 at 11 a. m. *Sailing No. 2*—Leave Pier 16 at 4.30 p. m., arrive Toro Point 5 p. m.; returning, leave Toro Point 5 p. m. rrive Pier 16 at 5.30 p. m.

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings of the Panama Railroad Steamship Company; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.*

Panama	P. R. R.	Tuesday	Sept.	16
Allianca	P. R. R.	Monday	Sept.	22
Colon	P. R. R.	Tuesday	Sept.	30
Advance	P. R. R.	Monday	Oct.	6
Panama	P. R. R.	Saturday	Oct.	11
Allianca	P. R. R.	Saturday	Oct.	18
Colon	P. R. R.	Friday	Oct.	24
Advance	P. R. R.	Thursday	Oct.	30

CRISTOBAL TO NEW YORK.*

Advance	P. R. R.	Monday	Sept.	22
Panama	P. R. R.	Sunday	Sept.	28
Allianca	P. R. R.	Saturday	Oct.	4
Colon	P. R. R.	Sunday	Oct.	12
Advance	P. R. R.	Saturday	Oct.	18
Panama	P. R. R.	Thursday	Oct.	23
Allianca	P. R. R.	Thursday	Oct.	30

NEW YORK TO COLON.

Metapan	U. F. C.	Wednesday	Sept.	10
Prinz August Wilhelm	H.-A.	Saturday	Sept.	13
Tivives	U. F. C.	Saturday	Sept.	13
Trent	R. M.	Saturday	Sept.	13
Zacapa	U. F. C.	Wednesday	Sept.	17
Emil L. Boas	H.-A.	Saturday	Sept.	20
Sixaola	U. F. C.	Saturday	Sept.	20
Almirante	U. F. C.	Wednesday	Sept.	24
Prinz Joachim	H.-A.	Saturday	Sept.	27
Carrillo	U. F. C.	Saturday	Sept.	27
Magdalena	R. M.	Saturday	Sept.	27
Santa Marta	U. F. C.	Wednesday	Oct.	1
Carl Schurz	H.-A.	Saturday	Oct.	4
Pastores	U. F. C.	Saturday	Oct.	4
Metapan	U. F. C.	Wednesday	Oct.	8
Prinz August Wilhelm	H.-A.	Saturday	Oct.	11
Tivives	U. F. C.	Saturday	Oct.	11
Danube	R. M.	Saturday	Oct.	11

COLON TO NEW YORK.

Santa Marta	U. F. C.	Thursday	Sept.	18
Carl Schurz	H.-A.	Tuesday	Sept.	23
Pastores	U. F. C.	Tuesday	Sept.	23
Metapan	U. F. C.	Thursday	Sept.	25
Danube	R. M.	Tuesday	Sept.	30
Tivives	U. F. C.	Tuesday	Sept.	30
Prinz August Wilhelm	H.-A.	Tuesday	Sept.	30
Zacapa	U. F. C.	Thursday	Oct.	2
Emil L. Boas	H.-A.	Tuesday	Oct.	7
Sixaola	U. F. C.	Tuesday	Oct.	7
Almirante	U. F. C.	Thursday	Oct.	9
Prinz Joachim	H.-A.	Tuesday	Oct.	14
Carrillo	U. F. C.	Tuesday	Oct.	14
Tagus	R. M.	Tuesday	Oct.	14
Santa Marta	U. F. C.	Thursday	Oct.	16
Pastores	U. F. C.	Tuesday	Oct.	21
Carl Schurz	H.-A.	Tuesday	Oct.	21
Metapan	U. F. C.	Thursday	Oct.	23
Prinz August Wilhelm	H.-A.	Tuesday	Oct.	28
Tivives	U. F. C.	Tuesday	Oct.	28
Oruba	R. M.	Tuesday	Oct.	28

NEW ORLEANS TO COLON.

Turrialba	U. F. C.	Saturday	Sept.	13
Cartago	U. F. C.	Wednesday	Sept.	17
Abangarez	U. F. C.	Saturday	Sept.	20
Heredia	U. F. C.	Wednesday	Sept.	24
Atenas	U. F. C.	Saturday	Sept.	27
Parismina	U. F. C.	Wednesday	Oct.	1
Turrialba	U. F. C.	Saturday	Oct.	4

COLON TO NEW ORLEANS.

Atenas	U. F. C.	Thursday	Sept.	18
Parismina	U. F. C.	Saturday	Sept.	20
Turrialba	U. F. C.	Thursday	Sept.	25
Cartago	U. F. C.	Saturday	Sept.	27
Abangarez	U. F. C.	Thursday	Oct.	2
Heredia	U. F. C.	Saturday	Oct.	4

*Amended schedule, covering temporary withdrawal of the *Allianca* for repairs.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending September 27, 1913

DATE.	High	Low	High	Low	High
	A.M.	A.M.	A.M.	P.M.	P.M.
Sept. 21	......	12.42	6.40	1.09	7.05
Sept. 22	......	1.20	7.18	1.53	7.48
Sept. 23	......	2.05	8.05	2.45	8.45
Sept. 24	......	3.05	9.06	3.42	9.55
	......	4.27	10.25	5.10	11.20
Sept. 25	......	5.50	11 51	6.22	......
Sept. 26			P.M.		
Sept. 27	12.38	6.58	1.05	7.25	......

75th meridian time.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, SEPTEMBER 24, 1913. No. 5.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the new stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Reservation Established.

The land between Gatun and Gamboa, extending from the Canal on the west to the Canal Zone boundary line on the east, has been declared a reservation within the meaning of the Executive Order of April 17, 1912, and notices will be posted against trespassing on same. In addition, the chief of police has been instructed to have the people living at Frijoles and Monte Lirio notified verbally that the reservation has been created, and that they will not be permitted to continue the cultivation of land within this area. Practically all the privately owned land in this section has been adjudicated, and is now the property of the United States. The towns of Frijoles and Monte Lirio will not be included within the reservation at this time.

◆

Track Connection Removed from Center Wall of Gatun Locks.

Forces of the Atlantic Division began on September 4 the removal of the trestle across the west side of the upper approach to the Gatun Locks, by which railway connection had been maintained with the center wall. The wall is thus left in traffic isolation, except for the portage of materials across the tops of completed lock gates, or from vessels which may come alongside the approach walls, extending out from the center wall at the upper and lower ends of the locks, or from the cableways across the lower approach wall. A locomotive crane of 35 tons capacity has been left on the center wall, and is able to travel the length of the locks, traversing the inclines between levels under the control of block and tackle. The present use of the crane is in the completion of the lamp post erection, placing of machinery, handling cable, etc. The placing of the trusses for the roof of the control house began on September 4, and cement, sand, rock, and vitreous roofing tile have been stored on the top of the center wall in quantities sufficient for the completion of the building. The heavy operating machinery for the center wall is all in place, with the exception of some of the chain fender equipment, and the towing locomotives. All the lamp posts for the center approach walls have been erected, not more than 10 of the 207 lamp posts required for all three walls of the locks at Gatun remaining to be placed.

◆

Changes at Pedro Miguel Yard.

The south end of the railroad yard at Pedro Miguel will be flooded when the water in Miraflores Lake reaches elevation 27 feet above sealevel, in view of which, the work of taking up all unnecessary trackage was begun on August 30. The old car repair shop, opposite the engine house, which is within the area to be inundated, will be moved to Balboa, and a new system of car repair tracks, using old material, will be installed.

The engine house will be dismantled also, and the removal of the machines therein was begun on September 11. The mechanical work heretofore performed there has been transferred to the Empire shops. The engines formerly hostled at Pedro Miguel will hereafter be apportioned between a yard on the east bank of the Canal, and Balboa.

◆

Sale of Towboat "Exotic."

Bids for the purchase of the steel hull, stern wheel towboat *Exotic* were opened at the office of the Depot Quartermaster on Tuesday, September 2. Three offers were received, as follows: Chicago House Wrecking Company, $1,000; N. Chr. Hansen, $2,000; and A. Van Sciver, $3,500. Award was made to Mr. Van Sciver of Pearl Lagoon, Nicaragua. The vessel is of 150 gross tons, was built by Pusey and Jones of Wilmington, Del., and was shipped to the Isthmus knocked down, arriving here on December 29, 1908. It was erected at the dry dock shops and cost complete, about $40,000. In the service of the Canal Commission, it was used principally as a towboat in the French canal between Cristobal and Gatun.

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Erection of Track-span Bridges for Transmission Line.

The first of the track span bridges, to be erected along the main line of the Panama railroad, from Cristobal to Balboa, to support the transmission line from the Gatun hydroelectric station, was set on its concrete pedestals on September 22. This bridge is situated on the relocated line of the railroad, above Paraiso Junction, at about mile post 39. Erection of other bridges is to proceed as rapidly as they are put together by the forces of the United States Steel Products Company. The foundation piers havebeen installed along the line between Pedro Miguel and Frijoles.

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The low area lying between the new administration building and the Central Division dump tracks, near East Balboa, will be filled in by the Central Division forces.

PERMANENT BUILDINGS.

Family Quarters on Sosa Hill will be First to be Erected.

The preparation of plans for permanent family quarters for gold employes at the new town of Balboa will be begun shortly in the office of the Canal Commission architect. The family quarters to be considered first will probably be those for employes whose salaries are under $200 a month; afterwards, those for employes receiving about $200 a month, and lastly those for employes whose salaries are from $200 to $400 a month. The types will be based upon one and two-family houses.

It is the present plan to begin the construction of permanent family quarters on the northeast slope of Sosa Hill as soon as practicable, and the landscape architect is now engaged in laying out roads in this area. It is not intended to encroach for the present on the labor camp in this locality, but eventually some of the laborers' barracks, namely, those that are in good condition will be moved to the new silver camp at La Boca. The new family quarters on Sosa Hill are primarily designed to take care of the employes at the Balboa shops and terminal.

Permanent buildings cannot be erected on the area recently filled in between Sosa and Ancon Hills for some time to come. In the meantime, grading will be done and permanent roads and walks laid out in this area, as well as on the slope of Ancon Hill in the rear of the new administration building. The employes in the administration building, now under construction, will be cared for indefinitely in existing quarters at Ancon, and in Corozal. It is not proposed to erect permanent quarters for gold bachelor employes at the present time, as the houses recently reconstructed at East Balboa will be available for their use during the next few years.

The hotel at East Balboa will take care of the bachelor employes quartered in that vicinity indefinitely. A permanent hotel, however, may be erected later, and space will be reserved for it. The East Balboa commissary will be continued in use, but a permanent commissary building will probably be among the first of the miscellaneous buildings to be erected. It is expected that provision will have to be made for a police station and office of district judge, as well as a fire station and schoolhouse, as soon as it is safe to erect buildings on the filled ground. The building recently reerected at East Balboa for a post-office will serve for some time, and the present office and storehouse of the district quartermaster may remain indefinitely, although space will be reserved for a permanent building in the new town. A permanent dispensary will probably be required by the Sanitary Department, as well as accommodations for the local sanitary inspector. The larvacide factory, now at Ancon, will remain where it is for the present. Provision will be made for a clubhouse, but it is not yet known whether the new clubhouse will be of a permanent type of construction, or whether the one at Empire will be available.

The settlement at Ancon will be continued indefinitely. There are 94 buildings in that district available for the permanent force, not including quarters in the Ancon Hospital grounds, French houses now used as quarters, or undesirable types, but including nine houses of the official type. These houses will provide quarters for 161 families and 130 bachelors, counting one man to a room. At East Balboa, there is a total of 19 buildings accommodating 28 families and 188 bachelors. With two exceptions, all of these buildings are within the limits of the proposed Marine Corps reservation, and as the site of the reservation is probably permanently fixed, the houses will have to be moved. No additional buildings will be moved to East Balboa from towns along the Canal at present.

ORGANIZATION FOR PERMANENT BUILDINGS.

The organization for the construction of the permanent Canal buildings has been approved and is, as follows:

PLANS AND DRAWINGS.

Gold organization—One architect, one architect's superintendent, one structural draftsman, six designers and draftsmen, four draftsmen, one junior draftsman. Total, 14.

CEMENT TILE MANUFACTURE.

Gold organization—One general foreman, two foremen. Total, 3.

Silver organization—Two foremen, one engineer, one mixer, 20 machine operators, 30 laborers. Total, 54.

CONSTRUCTION.

Gold organization—One resident engineer, four superintendents, two transitmen or junior engineers, two rodmen, one general property clerk, four assistant property clerks, three clerks, one general mason foreman, one general carpenter foreman, two general plumbing foremen, one general electrical foreman, one general sheet metal foreman, one general roofing foreman, one general plaster and stucco foreman, one general metal lath foreman, one general foreman painter, one general steel erecting foreman, one general marble and tile setting foreman; five foremen on mason work, 10 on carpenter work, three on electrical work, two on sheet metal work, five on roofing work, five on plaster and stucco work, three on metal lath work, three on painting, five on marble and tile setting work, 20 plumbers, 30 electricians, 10 sheet metal workers, five hoisting engineers, two blacksmiths. Total, 135.

Silver organization—One hundred masons, 200 carpenters, 60 roofers, 100 plasterers, 30 metal lathers, 30 painters, 20 tile setters, 20 plumbers, 30 electrical helpers, four blacksmith helpers, 30 steel erectors, five hoisting engineers, three clerks, 260 laborers. Total, 892. Grand total, 1,068.

The above force will be under the Quartermaster's Department, but will not be employed for some time to come, as plans for the permanent quarters and miscellaneous buildings have not yet been prepared.

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Change in Porto Bello Tug Service.

Effective September 21, the Sunday tug from Cristobal to Porto Bello will leave Dock 16 at 5.30 p. m., instead of 7 p. m., and arrive at Porto Bello at 7.30 p. m. Returning, it will leave Porto Bello at 7.30 p. m., and arrive at Dock 16 at 9.30 p. m.

JOINT LAND COMMISSION.

Additional Awards.

The following additional awards have been made by the Joint Land Commission:

Award No. 30—In the matter of the claim of Las Cascadas Estates Company, Ltd., for the property designated as Bohio Soldado y Buena Vista—An award is hereby made against the United States of America for the estate of Bohio Soldado y Buena Vista, said award to include all right, title, and interest of any persons to the entire estate not heretofore acquired by the United States, together with all claims for improvements of whatsoever nature on the part of the owners of said estate, and all rights claimed by them, in the sum of $3,500.

This award shall be paid to the claimant hereinafter named, in the amount herein specified, on or before the second day of October, 1913, and if payment or tender of payment of this award is not made on or before that date, said award shall thereafter bear interest at the rate of six per centum per annum until paid.

To the Las Cascadas Estates Company, Limited, of London, England, for all of their right, claim, and interest in the estate of Bohio Soldado y Buena Vista not heretofore acquired by the United States, together with all improvements which are claimed by the said company, the sum of $3,500.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners.*

September 2, 1913.

Award No. 31—In the matter of the claim of Jacob Kowalski for buildings in the town of Gorgona—On April 7, 1913, Jacob Kowalski filed with the Joint Land Commission a claim (Docket No. 121) for certain buildings in the town of Gorgona. The evidence submitted to the Commission shows that pursuant to a petition filed by the claimant in this case, the municipality of Gorgona, under date of January 26, 1907, passed the following resolution:

> GORGONA.
>
> *Resolution No. 17 of 1907.*
>
> "By which authority is granted for the lease of municipal lands for building purposes within the municipality of Gorgona.
>
> "The mayor and municipal council of the municipality of Gorgona, in view of the petition of Jacob Kowalski for the lease of 3,000 square feet of vacant municipal land in the town of Gorgona for the purpose of erecting a dwelling, the lot of land bounded, as follows: On the north by the old French canal line, east, house owned by James Bailey, south, house owned by William Wood, west, open land and Juan Grande labor camps.
>
> "It is resolved that the above application be granted subject to the approval of ordinance No. 5 of 1905.
>
> Approved January 26, 1907.
>
> (Signed) E. M. ROBINSON,
> *Mayor of Gorgona.*
>
> Approved February...., 1907.
> *Executive Secretary.*"

Counsel for the United States laid emphasis on the fact that no document leasing this land was issued to the claimant. The evidence before the Commission clearly indicates that the municipality of Gorgona at no time issued such documents and that the established practice was to regard the occupancy of the land in pursuance of the passage of a municipal ordinance as sufficient to establish the relationship of landlord and tenant. In the answer of the United States to this claim, much stress was also laid on the fact that the claimant after the passage of this ordinance made inquiries of the Executive Secretary at Ancon with reference to the number of years that he would probably be permitted to occupy this land, in view of the ultimate flooding of the town of Gorgona by the rising of the waters of Lake Gatun. These inquiries in no way affected the acceptance of the lease, and the fact that the claimant proceeded with the erection of the building shortly after the passage of the ordinance is conclusive on this point.

In January, 1908, the claimant was required to sign a new lease issued in the name of Governor Blackburn, then Head of the Department of Civil Administration. This lease was made to run from July, 1907 to July, 1908, and contained a revocation clause usual to Isthmian Canal Commission leases. This lease was renewed on November 10, 1908, by E. M. Robinson, tax collector of Gorgona, and was to run for a period of three years from July 1, 1908.

In 1910, the Chairman and Chief Engineer of the Isthmian Canal Commission decided that the land upon which the building of the present claimant was erected, was required for purposes of Canal construction, and notice was sent to Kowalski to remove his building. A mass of correspondence has been submitted to the Commission, involving certain offers made by the Isthmian Canal Commission to the claimant, to take down his house and transport the material to Gatun. It is not necessary to give further consideration to this correspondence, as its throws no light upon the main question under consideration, namely, whether this claimant had acquired any right to compensation for the value of his building, and whether this right was ignored at the time of the removal of the building.

This case is governed by the principles formulated by this Commission in the opinion on the demurrer of the jurisdiction of the Commission in the matter of the claim of Juan Sotillo. This claimant became a tenant of the municipality of Gorgona by operation of resolution No. 17, dated January 26, 1907, and, acting under the rights granted to him by this resolution, immediately proceeded to the erection of a building. These facts clearly entitle him to the protection of Article 5 of Law No. 50, dated November 6, 1894. In forming its conclusion as to the amount of the award to be made in this case, the Commission estimated the value of the building before its removal, and deducted therefrom the value of the material which was subsequently turned over to Mr. Kowalski.

In accordance with the evidence submitted in this case, and with the principles formulated in this opinion, an award is hereby made against the United States of America to Jacob Kowalski for the settlement of all right, title, and interest in the buildings in the town of Gorgona erected by the claimant on lot leased to the said claimant by resolution No. 17 of the municipality of Gorgona, dated January 26, 1907, together with all claims for improvements of whatsoever nature, in the sum of $6,000.

This award shall be paid to the said Jacob Kowalski on or before the third day of October, 1913, and if payment, or tender of payment, is not made on or before that date, the amount of this award shall thereafter bear interest at the rate of six per centum per annum until paid.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners.*

September 4, 1913.

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Ancon Crusher.

The following is a statement of rock crushed at Ancon quarry during the two weeks ending September 20:

DATE.	Cubic yards.	Hours worked.
Sept. 8	2,015	7.25
Sept. 9	2,168	6.50
Sept. 10	1,614	7.30
Sept. 11	2,500	7.15
Sept. 12	1,703	7.45
Sept. 13	1,919	8 20
Total	11 919	45 05
Sept. 15	1,583	6 25
Sept. 16	2,332	7 05
Sept. 17	1,892	7 15
Sept. 18	1,341	7.40
Sept. 19	2,174	7.15
Sept. 20	1,607	6 35
Total	10,929	42 15

◆

Work of Lidgerwood Unloaders in August.

During the month of August, the following Lidgerwood trains and cars were unloaded by the Central Division:

LOCATION.	No. of unloaders.	No. of trains.	No. of cars.
Balboa	4	949	19,929
Miraflores	1	186	3,906
Gamboa	4*	892	18,732
Total	9	2,027	42,567

*One unloader worked 24 days.

◆

Balboa Sand Service.

A report of sand shipped from Balboa during the month of August follows:

DESTINATION.	Number cars.	Cubic yards.
Fifth Division	451	8,533
First Division	8	120
Atlantic Division	112	2,582
Central Division	99	1,945
Fortifications Division	364	6.364
Quartermaster's Department	3	75
Individuals and companies	5	115
Total	1,042	19,734

◆

The purchase of a 30,000-pound double-cylinder road roller for the use of the Division of Municipal Engineering has been authorized.

SOCIAL HISTORY OF GORGONA.

Settlement Early Took the Lead in Recreation and Amusements.

With the passing of the village of Gorgona one of the most active settlements in the Canal Zone, from a social standpoint, has ceased to exist. When the Americans took possession of the Canal Zone in 1904, there were 40 French houses in the village. To this number the Commission added 51 dwellings of the various authorized types, together with office buildings, until the village in 1912 attained a population of about 3,500.

In 1905, when there were not 20 American families in Gorgona, an association of men and women was organized under the title of the House to House Social Club. This club met at the homes of the members for a social evening once a week. As its membership increased, a gramophone was purchased to supply music for dancing, and the organization resolved itself into a dancing club. The meetings were then held in the social hall over the hotel every Saturday evening. Religious services, conducted by the Reverend J. L. Wise, Baptist preacher, who was one of the earliest residents of the village, were held in the old French court house, which was situated near the railroad. In 1907, the Commission clubhouse was erected on the elevation just back of the site of the courthouse.

On Thanksgiving Day, 1905, a Sunday school was organized, its membership being composed of young men and women; there were no children of school age in the village at that time. On Christmas Day, 1906, the American children of the village enjoyed the novelty of having a fruit-bearing orange tree as a Christmas tree. The entertainment was held in the French courthouse and all the people in the village took part. Gifts were presented to each child present and the evening was spent in singing "home" songs and hymns. This was the first community Christmas in Gorgona. It was followed by others each year which were held in the Commission clubhouse. These community celebrations in which the Young Men's Christian Association, the woman's club, the Sunday school, and church organizations united, were noteworthy through the hearty cooperation of the social forces of the village. More than 1,500 children participated in the entertainments and over $1,000 was expended by the people of the community in the purchase of Christmas trees and ornaments, presents for the children, and their entertainment.

In 1906, the young people of the church organized a Christian Endeavor society which constituted an important part of the social life of the village for three years. The society, besides its own meetings on Sunday evenings, contributed to the public entertainment by holding a "social" once a month to which all the people of the village were invited.

The idea of the woman's club movement in the Canal Zone originated in Gorgona, and from that village came the suggestion to the United States Government to authorize the organization of women's clubs as social centers for American women in the Canal Zone. In June, 1907, a social club of women was formed, the first woman's club in the Canal Zone.

The Isthmian Canal Chapter, No. 1, Daughters of Rebekah, was organized in Gorgona in 1907, its membership being composed of women from the various villages along the line of the Panama railroad. In April, 1913, the order had 90 members. The Odd Fellows celebrated their anniversaries in Gorgona with much success, the people of the village preparing for the entertainments. In 1911, Orchid Chapter, No. 1, Order of the Eastern Star, was organized in Gorgona, headquarters being held there until early in the spring of 1913, when it moved to Empire. It had 87 members.

In 1910, a representative of the National Anti-Cigarette League, with headquarters in Chicago, visited the Isthmus and organized a branch at Gorgona, which maintained a membership of 30 until it was disbanded. The Boy Scout movement followed as an outcome of it, and, led by the physical director of the Young Men's Christian Association, Gorgona had the largest membership in the Boy Scouts of any patrol in the Canal Zone organization. There was also an active chapter of the Canal Zone Red Cross.

In 1909 and 1910, Gorgona had a dramatic company which gave plays in the local clubhouse, and traveled through the clubhouse circuit with much success, giving also a comedy in the National Theatre, Panama, as a benefit performance.

In bowling and basketball, Gorgona's teams played an active part in all interclubhouse tournaments. The bowling team of 1908 won a handsome silver cup through its skill. In the 1911 games the basketball team was the strongest and fastest in the league. In indoor baseball, the Gorgona team was a pennant winner for several seasons, and for several years the town had a team in the Isthmian baseball league.

There were three functions in which the entire village took part; the first was a banquet by Gorgona Texans in 1907; the second was a farewell Fourth of July banquet held on July 3, 1912; and the third was a reunion held in the clubhouse on July 25, 1913, which was attended by the largest number of people ever gathered there.

Church Notes.

The sixth anniversary of the opening of the Baptist Church in Culebra was celebrated by special services on Sunday and Monday, September 14 and 15. The pastor was assisted in the services on Monday evening by the Rev. Carl H. Elliott of Cristobal, and the Rev. Stephen Witt of Gatun.

Father James McDonald, a priest of the Order of St. Vincent, from the community house at Germantown, Pennsylvania, has been appointed to be assistant priest in the parish of St. Ferdinand, Empire. Father McDonald has arrived on the Isthmus and taken up his duties. He visited the Isthmus several years ago as a missioner and organized the Woman's Altar Guild of St. Ferdinand's Church.

Prize Essays.

The second in the series of prize contests for the best essay of 150 words by boys and girls under 16 years of age is announced in the *Union Church Work* of Cristobal, the bulletin which is published weekly by the pastor of the church. The subject is "What would you do with $10,000,000 if it were given to you to invest in philanthropic or religious enterprises?" The prize offered is a handsomely bound book. The first contest was won by Miss Sarah Widener of Gatun.

Playgrounds in Permanent Towns.

Suitable playgrounds for children will be provided in the permanent towns of Balboa, Pedro Miguel, Gatun, and Cristobal, and Mr. A. B. Dickson, Mr. Frank P. Wagg, and Mr. William L. Phillips have been appointed a committee to submit a report, together with their recommendations, relative thereto.

PERSONAL.

Dr. L. S. Rowe, one of the two American members of the Joint Land Commission appointed to settle claims against the United States arising out of the construction of the Panama Canal, sailed for New York, on Tuesday, September 23, on the United Fruit Company's steamer *Pastores*, having resigned from the Commission, effective upon his arrival in the United States. He was appointed by Executive Order of the President on January 24, 1913, with the understanding that he would not be required to remain on the Isthmus for a longer period than six months. He expects to return to his professorship in the University of Pennsylvania.

Mr. Frank P. Wagg, superintendent of schools, returned on the *Advance* on Tuesday, September 16 from his annual leave of absence.

Colored Clubhouse Converted to Other Uses.

The one-story building in Culebra, formerly used as a clubhouse for colored men, has been converted into offices for the district sanitary inspector and the municipal engineers. The building was opened for the colored men on November 3, 1911, and its use for that purpose was continued until the spring of 1913.

High School Entrance Examinations.

High school entrance examinations will be held at the Ancon white school building on Monday, September 29, at 8.30 a. m. Eighth grade pupils who failed to pass last June will have an opportunity at this time to take another examination in the subjects in which they failed.

FRANK P. WAGG,
Superintendent of Schools.

Association of Panama Canal Builders.

In making application for membership in the Association of Panama Canal Builders, the secretary-treasurer requests that, in addition to forwarding the $5 initiation fee, the following information be invariably furnished: 1. Name. 2. Metal check number. 3. Gang number. 4. Division, department, or Panama Railroad Company. 5. Room number. 6. House number. 7. Location of work. 8. Post-office address. 9. Address in United States. 10. Isthmian address.

Sojourners Lodge.

The meeting of Sojourners Lodge, A. F. and A. M., Cristobal, called for Wednesday evening, September 24, has been postponed until Saturday, September 27.

Almost 9,000,000 feet of lumber were received on the Isthmus during the month of August. This is the largest amount of lumber received in any one month during the entire history of the Canal.

An informal dance will be held at the Strangers Club on Thursday, September 25.

FOUR YEARS OF LOCK WORK.

Locks Almost Ready for Use.—Operating Mechanism Correspondingly Complete.

The placing of concrete in the locks of the Canal has covered a period of approximately four years. It began on August 24, 1909, at Gatun; on September 1, 1909, at Pedro Miguel; and, with the exception of 102 cubic yards laid in 1909, at Miraflores in July, 1910. The end of the fourth year sees the concrete work at all locks practically completed.

Mass masonry at Gatun and Miraflores Locks was completed in the latter part of May, 1913, and at Pedro Miguel Lock, several months earlier.

The work at Gatun since September 1, 1912, has comprised building the lower wing and approach walls, and completing the upper approach wall, which was within three per cent of completion a year ago.

At Pedro Miguel, during the same period the approach and wing walls at the upper end and the east wing wall at the lower end, were built, and the lower approach wall was extended about 300 feet.

At Miraflores, the lower lock, which was about half done on September 1, 1912, was brought to completion, and the wing and approach walls at both entrances were begun and completed.

Recent and future concrete work at the locks embraces a multitude of relatively small finishing operations around machinery and tracks, etc. Portable mixers are being used in the remaining construction. All of the large mixing and placing plants have been closed and are being dismantled. The two berm and four chamber cranes empleyed at Pedro Miguel Locks, from April, 1910, were transferred to Miraflores Locks, upon the completion of the heavy masonry in the lock proper, and of the filling of the center wall; and the permanent mixing plant was dismantled after the approach and flare walls had been built. All of the berm and chamber cranes used at Pedro Miguel were transferred to Miraflores Locks and placed in service there between April, 1911, and March 26, 1912; two other berm cranes, used first at Miraflores, began work in April, 1911. Final dismantling of these cranes began the latter part of July, 1913, and is still under way. The auxiliary concrete mixing plant at Gatun Locks, in service from December 31, 1909, to March 11, 1912, and the permanent plant, operated from August 24, 1909, until August 16, 1913, were dismantled immediately after being closed.

The progress of masonry construction at all locks, from its beginning to September 1, 1913, is indicated by this summary of monthly placements

LOCK GATES.

Over half of the material in the lock gates was erected during the past 12 months. On September 1, 1912, the total quantity erected at all locks was 24,787 tons, or 42 per cent of the required 58,000 tons; today, the lack of completeness of erection is designated by fractions of one per cent. Since September 20, the gates of the west flight at Gatun, and the east flight at Pedro Miguel, have been ready for the passage of vessels, and the west flight at Miraflores Locks is to be similarly completed by the end of the month. All gates at Gatun and Pedro Miguel are to be mechanically completed by January 1, and at Miraflores by March 1, 1914.

Gate work at the locks began on March 21, 1911, in preparing the bearings for the upper guard gates at Gatun. The erection of these leaves began on May 17, 1911, and they were the first to be swung closed. This occurred on August 4, 1912, and the footwalk over them was completed in September, 1912. A year ago, all the leaves in the upper and intermediate levels at Gatun had been erected to full height, and work had just begun on the safety gates in the lower level and the lower guard gates. The first girders for these eight leaves were placed on August 29, 30, and 31, 1912; the lower guard gates were closed, and sea water admitted against them, on June 14, 1913. On September 1, 1913, erection, reaming, and riveting for the gates of Gatun Locks were all within less than one-half of one per cent of completion.

At Pedro Miguel, gate work began at the upper guard gates, on August 7, 1911. On September 1, 1912, these gates had just been closed, the skeletons of all leaves were at full height, and those in the upper level had been sheathed. Today, erection and reaming for all gates are within one per cent of completion, and the finishing work is over 80 per cent completed.

At Miraflores Locks, work on the gates began first on the upper guard gates and the safety gates of the upper level, in August, 1912. The upper guard gates were closed about the middle of June, 1913, and the lower guard gates on August 20, 1913. At present, all 28 leaves have been erected to full height, reaming is 98.5 per cent completed, riveting, 90 per cent, and finishing, about 65 per cent completed.

The local force of the McClintic-Marshall Construction Company, the contractor for the fabrication and erection of the lock gates, was 134 men in May, 1911, at the beginning of erection. It attained a maximum of about 5,300 men, 625 of whom were gold employes, during the months of March, April, and May, 1913. The force on September 22, 1913, was 1,940 men, 225 of whom were gold employes.

EMERGENCY DAMS.

The emergency dams are to be held in reserve for exigencies if the lock gates should get beyond control and allow a rush of water through the flight. The floating caisson dams are for use only when the water is under control, and are not attached to the lock structures; the first of these is now under fabrication at the Union Iron Works at San Francisco, and will be towed to the Isthmus when completed.

The placing of steel in the emergency dams began in August, 1912, with the laying of the circular track and pivotal base for the east dam at Gatun. Erection of superstructure proceeded directly thereafter and the dam was completed, except for final painting, in May, 1913. The contractor, the United States Steel Products Company, began the final operating tests on May 20, under supervision of testing engineers of the Canal Commission. Erection of the west dam at Gatun began about the middle of November, 1912, and tests were completed on August 15, 1913. This dam was swung across the chamber, and its wickets and gates dropped into place, in 35 minutes. Trained operators will be able to do this in 30 minutes, or less.

At Pedro Miguel, erection of the west dam was undertaken first, beginning on February 1, 1913. This structure was first swung across the approach chamber on September 2, and is now under test. Erection of the east dam, which began on April 1, is about 98 per cent completed, and the structure will be ready for testing by the time the tests on the west dam are completed.

The Miraflores east dam erection began on June 1, and that for the west dam on July 1. All material for all of the dams, weighing a total of 13,400 tons, had arrived on the Isthmus by August 1, and erection was 80 per cent completed on September 1, being practically confined to the two dams at Miraflores. These are slightly lighter than those at Gatun and Pedro Miguel, because of the lower head of water against which they will be used; each of them weighs approximately, 1,987 tons, as compared with 2,305 tons at Pedro Miguel and Gatun Locks. The east dam at Miraflores will be finished the latter part of October, and the west dam in November. The emergency dams were described in THE CANAL RECORD of March 8, 1911.

OPERATING MACHINERY.

In addition to the masonry, gates, and emergency dams there is a great amount of auxiliary machinery contained within the machinery rooms and operating galleries of the walls or in the culverts. This apparatus

MONTHS.	GATUN LOCKS.					PEDRO MIGUEL LOCK.					MIRAFLORES LOCKS.				
	1909.	1910.	1911.	1912.	1913.	1909.	1910.	1911.	1912.	1913.	1909.	1910.	1911.	1912.	1913.
January	......	54,136	72,919	34,983	28,085	......	16,273	38,513	15,003	4.652	......	......	24,018	48,416	50,456
February	......	55,696	72,103	26,664	30,780	......	13,218	37,011	12,639	4,294	......	146	20,896	63,893	34,979
March	......	60,998	86,884	27,532	48,180	......	18,793	44,716	9,331	13,412	......	314	31,173	83,706	21,030
April	......	63,227	67,361	11,600	22,732	......	24,522	28,635	9,460	2,145	......	13	38,758	97,735	13,266
May	......	74,273	67,844	7,746	13,046	......	29,576	19,135	10,736	1,144	......	27	36,154	92,09	6,956
June	......	89,401	55,03	6,095	5,509	......	30,631	18,243	10,061	773	......	1,603	26,536	68,39	3,836
July	......	84,001	71,046	8,093	3,431	......	41,464	19,906	11,480	1,829	28	3,672	32,840	66,02	3,810
August	1,298	85,686	66,928	6,855	6,258	......	51,264	20,736	5,995	1,884	74	6,030	57,003	75,38	3,643
September	12,294	76,720	57,298	3,162	......	2,370	50,70	15,379	3,039	......	......	18,133	56,083	46,12	......
October	29,378	86,949	53,636	3,252	......	8,310	61,422	25,637	6,587	......	......	22,159	60,87	54,79	......
November	30,270	75,152	43,907	6,029	......	10,169	64,248	19,622	7,972	......	......	23,871	41,720	39,87	......
December	42,832	80,212	43,59	5,697	......	13,007	42,834	14,360	6,958	......	......	21,533	48,77	46,74	......
Total	116,072	886,451	758,821	147,708	158,021	33,856	444,947	301,893	109,26	30,133	102	97,501	474,83	783,18	37,976

Grand totals to September 1, 1913, : Gatun, 2,067,073 cubic yards; Pedro Miguel, 930,090 cubic yards: Miraflores, 1,493,600 cubic yards.

embraces the rising stem gate valves, which control the flow of water in the 18-foot culverts at the bottoms of the side and center walls; the cylindrical valves, controlling the 6-foot culverts which run laterally from the wall culverts and pass water to the lock chambers, through the floors; the auxiliary culvert valve machines, which control the flow through a short auxiliary culvert designed to maintain the water at the same elevation on both sides of the upper guard gates; the guard valves and machines, controlling the intake of water into the side wall culverts at the upper end of the locks; the miter gate moving machines, to swing the leaves of the gates; the miter forcing machines, to draw the leaves tightly together when closed, and prevent leakage; the mechanisms which cause the handrails on top of the leaves to fold down when the leaves are swung back into their recesses in the walls; the pumps for unwatering sumps in the miter gate leaves, and in the pits of the fender chain machinery rooms; the machinery for actuating the fender chains, at all upper and lower guard gates, and at the intermediate and safety gates in Pedro Miguel Lock and upper chambers of Gatun and Miraflores Locks; the tracks and conductors for the towing locomotives; and the posts for the illumination of the locks.

Ancillary to the foregoing is an elaborate system of electrical generation and transmission to the transformer rooms in the lock walls, from which power is distributed to the various motors, and the interior and exterior lights. The operating motors number 334 at Gatun Locks, 206 at Pedro Miguel, and 252 at Miraflores; and at each set of locks their operation will be managed from a central control house.

All of this work, as well as the installation of operating machinery in the spillways for Gatun and Miraflores Lakes, controlling 22 Stoney gates, each 47 feet long by 19 feet high, has been carried on by the erection subdivision of the First Division of the Office of the Chief Engineer. The subdivision was organized on September 11, 1911, and began work immediately at Gatun. In January, 1912, a supervisor was transferred to Pedro Miguel Lock, and a force assembled to carry on the erection work there and, subsequently, at Miraflores Locks and Spillway.

In connection with erection, this division has mixed and laid approximately 25,000 cubic yards of reinforced concrete at Gatun Locks, and will have placed about 50,000 cubic yards in the Pacific locks.

The condition of the principal machines necessary to the operation of the locks on September 1, 1913, is indicated in the following table:

MACHINERY.	GATUN. Per cent completion.			PEDRO MIGUEL. Per cent completed.			MIRAFLORES. Per cent completed.		
	No.	Mechanical.	Electrical.	No.	Mechanical.	Electrical.	No.	Mechanical.	Electrical.
Cylindrical valve machines	60	100	42	20	100	87	40	100	38
Rising stem valve machines	56	99	56	24	100	71	36	86	26
Miter gate moving machines	40	93	28	24	90	58	28	83	4
Auxiliary culvert valve machines	4	100	72	4	100	62	4	100	45
Spillway gate machines	14	71	5	.....	....	......	8	0	0
Guard valve machines	6	100	40	6	96	5	6	33	0
Miter forcing machines	20	39	46	12	33	30	14	1	7
Chain fender machines	16	43	5	16	35	0	16	30	0
Handrail operating mechanism	36	70	54	20	0	16	24	0	8
Miter gate sump pumps	40	69	44	24	67	0	28	43	0
Chain fender sump pumps	16	33	0	16	0	0	16	0	0
Transforming stations	16	....	67	8	....	55	12	....	38

The table of percentages of completion indicates a large amount of work yet to be done, especially in the electrical part; but this organization has carried its work forward as rapidly as the arrival of material or the advances of precurrent work have allowed. Today, as far as operating machinery is concerned, connections could be made in half a day which would allow the passage of a vessel through the sides of the locks for which the gates are ready, at Gatun and Pedro Miguel, the work is proportionately as well advanced at Miraflores. Preparations are being made for a test of valves controlling the flow of water into the west flight of Gatun Locks, as in conditions of operation. The force of the erection subdivision, on September 1, 1913, numbered 344 gold and 2,076 silver employes.

Pardons for Houston and Pilson.

By direction of the Secretary of War, the Chairman of the Isthmian Canal Commission, on Friday, September 19, approved a pardon for J. Frank Houston, who was found guilty of murder in the second degree in the court of the Third Judicial Circuit at Cristobal on May 8, and sentenced to 10 years in the Canal Zone penitentiary. Houston shot and killed Harry Stern, an employe in the commissary at Gatun, on February 8. A proclamation was issued through the Department of Civil Administration on Saturday, September 20, placing October 11 as the effective date of the pardon.

F. K. Pilson, a former employe at the Cristobal post-office, who was convicted of embezzlement in the court of the Third Judicial Circuit at Cristobal on October 12, 1912, and sentenced to 18 months' imprisonment in the Canal Zone penitentiary, was pardoned, effective Saturday, September 20, on the ground of physical disability.

Commercial Service at Naval Radio Stations.

Beginning September 1, the radio stations of the United States Navy at Colon and Balboa are handling special classes of commercial radiograms, heretofore prohibited, as follows:

1. Reply paid messages (where both message and answer can be prepaid by the sender.)
2. Messages calling for repetition of messages (for verification only.) Charge for repeating back is one-fourth the charge for the original message.
3. Radiograms to be delivered by mail. (If received from a ship, these will be mailed from the radio station. "Ocean letters" will be mailed by the ship at the first port of call, or at any port of call designated.)
4. Multiple radiograms. These are messages addressed either to several persons at same address, or to same person at several addresses served by the same radio station. These messages when received from sea will be separated and sent as so many individual messages over the land wire.
5. Radiograms calling for acknowledgment of receipt. (Such acknowledgment is restricted to notification of date and hour at which the coast station delivered the radiogram to ship addressed, and may be sent by either mail or telegraph.)
6. Paid service notices. (Sent in order to correct address or text, to cancel a message, etc.)

Both stations, Colon and Balboa, are connected by direct wire with the Panama railroad telephone system and radiograms can be filed at any local office. Attention is invited to the fact that no collect messages are handled, and no commercial messages are handled between stations which are connected by cable or telegraph, as, for instance, to Key West or Port Limon.

The time of arrival of all Panama railroad boats is given to the telephone central at Colon as soon as received, and can be obtained there upon request without calling the radio station at Colon.

Teachers' Meeting.

The first meetings will be held on Tuesday, September 30, in the Ancon white school building. The white teachers will meet at 8.30 in the morning, and the colored teachers at 2.40 in the afternoon.

FRANK P. WAGG,
Superintendent of Schools.

Concrete Work in Locks and Spillways.

Concrete work in the Canal locks is nearly completed, the aggregate amount in place at the close of work on September 20, being 4,480,234 cubic yards.

A statement of the concrete laid in the three sets of locks for the Canal, and in Gatun and Miraflores spillways, as of September 20, follows:

GATUN LOCKS.

The last concrete for the locks proper, as distinguished from that necessary to finishing work by the First Division, was mixed and placed on August 16, 1913. At the close of work on that day the total amount of concrete placed by the Atlantic Division amounted to 2,045,485 cubic yards.

PEDRO MIGUEL LOCK.

	Concrete laid. Cubic yards.
Sept. 7	39
Sept. 8	43
Sept. 9	38
Sept. 10	47
Sept. 11	31
Sept. 12	14
Sept. 13	54
Sept. 15	53
Sept. 16	13
Sept. 17	63
Sept. 18	8
Sept. 19	10
Sept. 20	6
Total	419
Previously reported	923,756
Grand total	924,175

MIRAFLORES LOCKS.

Sept. 7	51
Sept. 8	81
Sept. 9	82
Sept. 10	70
Sept. 11	43
Sept. 12	51
Sept. 13	40
Sept. 15	30
Sept. 16	33
Sept. 17	21
Sept. 18	29
Sept. 19	18
Sept. 20	15
Total	564
Previously reported	1,510,184
Grand total	1,510,748

GATUN SPILLWAY.*

Sept. 8	190
Sept. 9	140
Sept. 10	172
Sept. 11	124
Sept. 12	170
Sept. 13	98
Sept. 15	92
Sept. 16	122
Sept. 17	86
Sept. 18	82
Sept. 19	82
Sept. 20	46
Total	1,404
Previously reported	234,916
Grand total	236,320

MIRAFLORES SPILLWAY.

The total of concrete at Miraflores spillway—75,610 cubic yards—remained unchanged, no concrete having been laid during the fortnight ending September 20.

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*Includes hydroelectric station.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

Moving picture schedule for the week September 29 to October 4, is, as follows: Tuesday, Cristobal; Wednesday, Gatun; Thursday, Culebra; Friday, Empire and Porto Bello; Saturday, Corozal.

COROZAL.

The Corozal basketball team defeated the Marines of Camp Elliott on the former's floor on Tuesday night, September 15. Score, 21 to 19. The line-up of the teams, was, as follows: *Corozal*—McEachern, Bessy, Sperber, forwards; Carr, center; Schaeffer, Kenny, guards. *Camp Elliott*—Schell, Smith, forwards; Murray, center; Harper, Hay, guards.

The Gatun team will play at Corozal Saturday night.

Mr. R. W. Karrchner took charge of the second chair in the barber shop on September 18, and from 6 o'clock until 10 each week night two barbers will be in attendance.

The standing in the local 3-men tenpin tournament on September 20, was, as follows:

No. Team.	*Won.*	*Lost.*
4	7	2
6	4	2
7	3	3
3	3	3
5	6	6
2	2	4
8	2	4
1	3	6

The following 200 or over, scores were bowled during the week: Sims, 204; Edwards, 200, 223, 216; Ziller, 220, 242, 214; Beall, 223; Sypolt, 201.

The Culebra bowling team will bowl at Corozal next Saturday night.

CULEBRA.

High scores for the week in tenpins were, as follows: Herrington, 206; DeCora, 201.

The Tenth Infantry Band will give a concert in front of the schoolhouse on Sunday night, September 28, at 7 p. m. All are invited to attend.

A new supply of pool cues has been received.

EMPIRE.

On Monday evening, September 15, the Empire chess club entertained the Culebra club. There were seven men on each team, and each man played two games with his opponent. Culebra won 7½ and lost 6½ games. Empire won 6½ and lost 7½ games.

The standing of the local basketball league is, a follows:

Team.	*Won.*	*Lost.*
Reds	1	0
Whites	1	0
Blues	1	0
Greens	0	2

Four games are scheduled for each week. The public is invited to attend these games.

The Camp Elliott basketball team played the Empire team on Friday, September 19, and was defeated by a score of 36 to 21

The Culebra bowling team bowled the Empire team on the Empire alleys on Saturday, September 20, Empire winning three games. Scores, Empire, 847, 863, 908; Culebra, 764, 724, 787.

The Empire Literary and Debating Society, after having a vacation for over a year, resumed its meetings on Friday evening, September 19, when plans were discussed for the future. The regular meeting night will be on Fridays unless other activities interfere, when another night will be advertised. An invitation to all is extended to attend this activity.

The Y. M. C. A. secured the Tenth Infantry Band to give an open air concert on Sunday, September 21 at 3.30 p. m. The program, under the direction of Bandmaster Coe, was enjoyed.

GATUN.

The "Open house" held on Saturday evening, September 20, drew a large number of people. Punch and cake were served in the lobby, and David Roswell Homer played several piano selections during the evening. The feature of the evening was the basketball game between Camp Elliott and Gatun. Gatun won by a score of 27 to 22. The line-up was, as follows:

Gatun.		*Camp Elliott.*
Whiston and Bruce	R.F.	Scheel.
Huber	L.F.	Smith
Wright	C.	Murray
Fitzpatrick	R.G.	McElroy and Harper
Mitchell, Lee	L.G.	Day and McDonald

Fouls, Gatun 0, Camp Elliott 6. Referee, Hughes of Cristobal. Timer, Ben Jenkins. Scorer, Foman. Attendance, 200.

A number of the members met on Wednesday evening, September 17, and formed the Gatun Y. M. C. A. chess club. W. H. Brown was elected president of the club. Those interested are Messrs. Dashiell, Logan, Carson, Farley, Byrne, Marguard, Brown, Sherrard, Morgan, Flege, Honer, and Kuehnle. A local tournament is being arranged. Any member of the Y. M. C. A. may enter.

The tenpin match between Camp Elliott and Gatun resulted in Gatun's taking two out of three games. The scores were, as follows:

Gatun.				*Marines.*			
Jenkins	148	152	156	Grover	202	168	....
Darnell	156	....	138	Sherrard	145	198	200
Wells	146	202	151	Tucker	154	174	197
Messcle	154	193	99	Wall	131	184	185
Thompson	221	148	....	McCauley	110	....	
Heppner		174	159	Barte		169	165
				Dennis			88
Totals	825	867	703		742	893	855

Cristobal won ten and Gatun four games in the chess match. The players were:

Cristobal.		*Gatun.*	
Taylor	2	Fiege	0
Ogden	0	Logan	2
Tuttle	2	Marguard	0
Verner	2	Carson	0
Hurt	1	Byrne	1
Wechsler	2	Dashiell	0
Wilson	1	Brown	1
Totals	10		4

Members of other associations now living at Gatun are cordially invited to transfer their memberships to the local clubhouse.

Michael Conley and Edward Walsh scored 161 and 163, respectively, in duckpins during the week ending September 20.

Dewey still leads the "Popular" handicap pool tournament, having won every game so far. The standing follows:

Name.	*Won.*	*Lost.*	*P. C.*
Dewey	8	0	1.000
Townsley	3	1	.750
Pettit	3	1	.750
Von	5	3	.625
Kerruish	3	2	.600
Bailey	4	3	.571
Johnson	1	1	.500
Gray	4	4	.500
O'Hara	2	3	.400
Reisner	2	4	.333
Bradley	2	6	.250
Mitchell	1	3	.250
Dennis	0	3	.000
Wall	0	4	.000

"Louisiana" is the subject of a lecture to be given by J. Frank Harbert on Thursday, September 25. Colored slides will be shown.

A stringed orchestra is being organized at the Y. M. C. A. All who play an instrument are cordially invited to join.

CRISTOBAL.

Messrs. King, Riley, and McMann furnished a number of duets and solos for the moving picture entertainment Saturday night, September 20. The Saturday night moving pictures are meeting with marked favor, and the attendance averages 200 per night.

The Corozal team defeated Cristobal at basketball on Saturday, September 20, by the score of 20 to 14. The playing of the Cristobal team, considering the little practice they have had was a surprise to the spectators,

On Thursday, September 25, Mr. W. F. Bennyhoff will exhibit stereopticon slides of the Panama Canal under the auspices of the Discussion Club.

The Discussion Club meeting on October 2 will be in charge of Mr. S. P. Verner. Subject, "Possibilities of increased trade relations with South American countries after the completion of the Panama Canal."

The Gatun tenpin team will bowl at Cristobal on Saturday night, September 27.

The team for the All-Isthmian tournament will be selected Thursday night of this week.

PORTO BELLO.

There was a large attendance at the clubhouse on Sunday night, September 21, to see the moving pictures entitled "From the Manger to the Cross."

The handicap pool tournament is nearly ended. The results to date are:

Bucklin	12	1	.923
Bowen	11	2	.846
Smith	10	2	.833
Neil	9	3	.750
Murray	6	4	.600
Cummings	7	5	.583
Colberg	7	6	.538
Keene	6	6	.500
J. D. Sherrard	4	8	.333
Doyle	4	8	.333
Chase	4	9	.307
Thompson	1	7	.125
Englebrecht	1	11	.083
T. W. Sherrard	1	11	.083

Mr. J. W. Sandrock, the Culebra barber, will come over to Porto Bello every Monday and take charge of the barber shop. He made his first visit Monday, September 15. It is several months since there has been a barber here.

Mr. J. J. Fitzpatrick, who is acting quartermaster during the illness of Mr. Morgan, joined the Porto Bello association recently. As Mr. Fitzpatrick is one of the best basketball players on the Isthmus, interest in the game has been revived, and a team will be organized to play occasional games.

A "Smoker" is to be held on Saturday evening, September 27 at the clubhouse.

The piano is being tuned and the piano player has been sent to the Cristobal shops for repairs.

A reception was held in the clubhouse on Friday evening, September 19, after the moving picture show, under the auspices of the Union Sunday school, to bid farewell to the scholars who are departing for the United States. Silver pins were presented to Mary Fisher, Elizabeth Fisher, and Melva Baker. Ice cream and cake were served.

The big swimming float has been taken up to the dock and is being overhauled. New tar-coated barrels will be placed underneath.

◆

Rainfall, Sept. 1 to Sept. 20, 1913, Inclusive.

STATIONS.	Maximum in one day.	Date	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	1.88	19	5.95
Balboa	1.86	8	5.31
*Miraflores	1.25	9	5.34
Pedro Miguel	.91	9	5.27
Rio Grande	1.73	19	7.29
Central Section—			
Culebra	1.93	8	8.75
*Camacho	2.24	9	5.99
Empire	1.23	8	7.49
Gamboa	1.27	19	5.88
*Juan Mina	2.15	6	7.35
Alhajuela	1.22	3	6.30
*El Vigia	1.38	19	6.43
*Frijoles	2.22	5	8.37
*Monte Lirio	3.26	5	9.40
Atlantic Section—			
Gatun	1.26	5	5.67
*Brazos Brook	1.49	18	7.49
Colon	1.54	8	5.83
Porto Bello	3.13	19	†8.07

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight. †To 5 p. m., September 19.

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Stages of the Chagres.

Maximum heights of the Chagres River for the week ending midnight, Saturday, September 20, 1913. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.			
	Vigia.	Alhajuela	Gamboa.	Gatun Lake*
Sun., September 14	127.1	93.4	63.2	63.2
Mon., September 15	128.0	94.0	63.4	63.4
Tues., September 16	127.6	93.9	63.6	63.5
Wed., September 17	127.6	93.8	63.7	63.7
Thurs., September 18	127.8	93.9	63.9	63.9
Fri., September 19	129.8	95.2	64.1	64.1
Sat., September 20	132.2	96.8	64.5	64.4
Height of low water to nearest foot	125.0	91.0	44.0	

*Sluice gates in spillway at Gatun were closed on June 27, 1913, with surface of lake at elevation 48.25.

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Notice of Shutting off of Water.

GATUN, C. Z., September 23, 1913.

To All Concerned—The water will be shut off at a points south of Miraflores station and north of Panama City from 7 a. m., to 3 p. m., Sunday, September 28.

The water will be shut off at all points south of Corozal from 9 a. m., to 3 p. m., Sunday, September 28, 1913, with the exception of the Hotel Tivoli and Ancon Hospital, which will be supplied with water from the Ancon high service reservoir.

GEO. M. WELLS,
Resident Engineer.

◆

Married.

MILLETT-NORCROSS—On September 18, at the home of the bride's parents in Pedro Miguel, Miss Eunice Norcross to Mr. Ray E. Millett of Corozal, the Rev. Carl H. Elliott officiating. Canal Zone residence, Corozal.

PARMALEE-DANIELS—At Christ Church, Colon on September 23, Miss Helen La Verne Daniels of Canton, O., to Edward Hosmer Parmalee of Indianapolis, Ind., the Rev. Father Cooper officiating. Isthmian residence, Colon.

OFFICIAL CIRCULARS.

Additional Information Relative to Transfer of Artisans to Classified Service in the United States.

CULEBRA, C. Z., September 20, 1913.

To All Concerned—There appears to be some misunderstanding of the provisions of Circular No. 482, dated March 19, 1913, publishing the Executive Order which authorized the transfer to the classified service in the United States, without examination, of artisans within three years from their discharge by the Commission. The following information is furnished in explanation of and supplementary to the circular; it does not modify the circular in any way:

1. Section f, paragraph 2, states that the employe must be specifically recommended for transfer to a *corresponding position*. Therefore, a machinist will be eligible to apply for a position as machinist only, a blacksmith will be eligible to apply for a position as blacksmith only, and so forth. An artisan in any one trade can not obtain a transfer to any other trade, or to a clerical or other position in the classified service.

2. No list is made up from which offers of employment are tendered to artisans separated from the service. To obtain a position in the States of the kind covered by Circular No. 482, an ex-employe recommended for transfer must himself apply in person or by letter to the official in charge of the establishment or establishments at which he desires employment, giving all the details necessary when applying for employment, and stating that he has been recommended by the Isthmian Canal Commission for transfer to the position without examination, and he should request the official in charge to make request on the Washington office of the Isthmian Canal Commission for his transfer.

3. Circular No. 482 does not constitute a promise of transfer without examination; to obtain a position, a vacancy must exist and the ex-employe must locate it and apply for it.

Please post a copy of this letter in a conspicuous place in the shops.

Respectfully,
GEO. W. GOETHALS,
Chairman and Chief Engineer.

Preservation of Retired Equipment.

CULEBRA, C. Z., September 12, 1913.

CIRCULAR No. 323-E:

In connection with Paragraph 2, Circular 323-B, providing that the Mechanical Division will report to the Quartermaster's Department the approximate cost of repairs required to put retired equipment and machinery in serviceable condition, the following additional instructions will become effective with the date of this circular:

1. All equipment working south of Gatun should be sent to Empire shops and all equipment at Gatun and north of Gatun should be sent to Gatun engine house, after disposition has been given on same by the surveying officer as to its final disposition. On receipt of equipment at shops, an inspection will be made, defects noted, and proper action taken to preserve same, as noted below. Inspections should show general condition of stay bolts, flues, boilers, machinery, and other detail that might be of interest to intending purchasers. There should also be furnished a rough estimate of the cost that would be necessary to put equipment in working condition. Result of such inspections and estimated cost of repairs to be sent to the Chief Quartermaster, and the chairman of the Board of Survey and Appraisal.

(a) *Locomotives*—Boilers should be emptied and thoroughly cleaned of all scale and foreign matter. Boiler should then be filled with water, leaving space enough for at least two barrels of crude oil or a sufficient amount of crude oil to cover the internal surfaces of boiler and tubes. This oil should be put in at dome, then blow-off cock should be opened up and boiler drained. The same instructions apply to locomotive tanks as to boilers. The front end of locomotives and fire boxes of all boilers should be thoroughly cleaned and brushed off with wire brush and given a coat of tar paint. This paint can be put on with a spray. The coal space on all locomotive tanks should be thoroughly cleaned and scaled and surface given a coat of tar paint. All exterior surfaces of equipment should be painted if necessary, using the standard grade of paint which is commonly used for that purpose. The jackets on all boilers should be given a coat of white lead and tallow. Smoke stacks should be covered with sheet-iron covering made specially for this purpose. Main rods of locomotives should be disconnected and all bearing and bright surfaces receive a coat of white lead and tallow. Eccentric straps and blades should be removed from locomotives and placed with main rods in the cabs, and cabs boarded up. The steam chest cover should be lifted, cylinder heads removed, and all surfaces treated with a coating of white lead and tallow. It will be necessary to remove the valves and pull pistons in order to get at the parts, which should be replaced, steam chest and cylinders closed, and the crossheads blocked in order to eliminate the moving of the pistons in cylinders. The air pumps and the feed pumps on all equipment should be opened up and surfaces treated with a coat of white lead and tallow. The cap on engineer's brake valve on locomotives should be lifted and the surfaces of the valves, etc., slushed with vaseline. All exterior surfaces of cab fittings should be given either a coat of white lead and tallow or vaseline. Interior surfaces of triple valves and injectors need not be treated, as they are brass. Journal box cellars on all drivers and engine truck wheels should be well packed, also journal boxes on tanks.

(b) *Steamshovels*—The same general rules for the care of locomotives will apply to steamshovels. All engine pistons, valves, rods, eccentric straps, "A" frame collar and swing circle to be removed; shafts lifted from bearings, wearing surfaces cleaned, doped with white lead and replaced. Boilers should be stripped with lagging, and cleaned as outlined for locomotive boilers. Water tanks should be taken off shovels, inspected, and if found in bad condition they should be scrapped and no tanks put on unless shovel is to be put in service, as there is a surplus of these tanks in Q. M. D. stock. Roofs should be painted with tar paint; also coal platforms and dippers. Other parts now covered with oil or grease can be protected with a coat of crude oil, which will be sufficient protection.

(c) *Unloaders, cranes, spreaders, hoisting engines, trackshifters, and piledrivers*—Machinery should be gone over and given a coat of white lead and tallow, as outlined for steamshovels.

(d) *Miscellaneous machinery, including shop's machinery and tools*—Air pumps and feed pumps on all equipment should be opened up and surfaces treated with a coating of white lead and tallow. All bearings, journals, and bright surfaces of all machinery and equipment should be given a coat of white lead and tallow.

2. The Quartermaster's Department will notify the Mechanical Division whenever any equipment or machinery which has been turned over to them shows any signs whatever of deterioration, so that same can be given proper attention.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Disposition of Equipment No Longer Required.

CULEBRA, C. Z., September 12, 1913.

CIRCULAR No. 323-F:

In order to facilitate the handling of equipment no longer needed and to be turned over to the Quartermaster's Department, the following disposition of same will be made, effective upon the abandonment of the high line dump between Gamboa and dump No. 7, which time is estimated by the Central Division as about September 15:

(*a*) All rolling equipment will be assembled in each division at points to be designated by division engineers. The necessary survey papers will be made up and the surveying officer notified of the location of any articles to be submitted for his action.

(*b*) After approved action by the surveying officer, the equipment will be sent to storage, as follows:

1. Steamshovels, to Tracks 1 to 7, inclusive, Gamboa yard.
2. Plows and unloaders, to dump No. 6.
3. Unserviceable Western dump cars, to dump No. 4, right and left.
4. Unserviceable Oliver dump cars, to dump No. 5, right and left.
5. Unserviceable Lidgerwoods to dump No. No. 7, using the left, old left, elevated, and right dumps.
6. Serviceable cars of all classes will be stored on yards, as follows: Dump No. 4, dump No. 5, rip yard.

(*c*) Ties as taken up in compliance with instructions of August 22, 1913, from the Chairman and Chief Engineer, will be stored on dump right No. 5. Fastenings to be sent to Mount Hope.

(*d*) All switching will be done by the Central Division.

(*e*) The storekeeper at Empire will be notified by the divisions concerned of each shipment to storage, as indicated above. He will accomplish all survey and other papers covering retired equipment, and maintain such check and records as may be required by the Chief Quartermaster.

(*f*) Such shovels, plows, unloaders, and cars as have been or may be retired from service prior to September 15, will be sent to storage as above indicated, by the Central Division.

(*g*) Equipment retired and ordered to be turned over to the Quartermaster's Department for storage will be prepared for storage, after survey has been approved, in accordance with Circular No. 323-E.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Waste of Coal Unloaded on Ground.

CULEBRA, C. Z., September 12, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

Your attention is invited to Circular No. 402, of August 23, 1911, relative to waste of coal resulting from unloading it directly on the ground, etc., which is being disregarded.

Your are directed to see that this order is carried out by providing suitable means to guard against loss, and have all fuel utilized as the work proceeds.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission,
President, Panama Railroad Company.

Cleaning Coal from Ends of Cars.

CULEBRA, C. Z., September 12, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

My attention has been invited to the fact that Circular No. 405, of August 25, 1911, relative to cleaning coal from the ends of cars before returning to the Panama railroad, is being disregarded.

You are directed to take immediate steps to have the practice discontinued, and see that this order is enforced.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission.
President, Panama Railroad Company.

Assistant to Chief Quartermaster.

CULEBRA, C. Z., September 20, 1913.

CIRCULAR No. 500:

Effective October 1, 1913, Mr. Robert K. Morris will be appointed assistant to the Chief Quartermaster, Quartermaster's Department.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Notaries Public at Gatun.

ANCON, C. Z., September 13, 1913.

To All Concerned—On September 10, 1913, Mr. C. D. Thaxton, postmaster at Gatun, was appointed by me a notary public with jurisdiction throughout the Third Judicial Circuit of the Canal Zone, and took the oath of office on September 12 before Judge Thomas E. Brown, Jr., at Cristobal. Sergt. Lawrence C. Callaway, of the Division of Police and Prisons, who was appointed a notary public on July 30, 1913, has returned to his station at Gatun. This makes two notaries public at Gatun now, available at almost any time, so that there should be no inconvenience caused any one at that point desiring to have papers acknowledged.

RICHARD L. METCALFE,
Head of Department of Civil Administration.

Acting Superintendent, Southern District, Division of Municipal Engineering.

GATUN, C. Z., September 13, 1913.

To All Concerned—Effective September 14, 1913, and during the absence on leave of Mr. D. E. Wright, superintendent of southern district, Division of Municipal Engineering, Mr. E. H. Chandler is designated acting superintendent of southern district.

GEO. M. WELLS,
Resident Engineer, in charge of
Division of Municipal Engineering.

Approved:
GEO. W. GOETHALS,
Chairman and Chief Engineer.

Appointment of Local Auditor, P. R. R.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT.
COLON, R. P., September 20, 1913.

CIRCULAR No. 102:

All Concerned—Effective at once, Mr. F. B. Clements is appointed local auditor of the Panama Railroad Company, with headquarters at Colon, Republic of Panama, vice Mr. R. W. Hart.

J. D. PATTERSON,
General Superintendent.

Approved:
GEO. W. GOETHALS,
President.

Modification of Rule 2, P. R. R. Time Table No. 15.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., September 16, 1913.

GENERAL ORDER No. 11:

That part of rule No. 2, timetable No. 15, designating Gatun as a register station for all trains, is hereby modified to the extent that Gatun will be a register station for first and second-class trains only.

JOHN D. PATTERSON,
General Superintendent.

Sailing of the "Cristobal."

CIRCULAR No. 207:

To All Concerned—The sailing date of the steamship *Cristobal* has been set for Saturday, September 27, at 3 p. m., from Pier 11, Cristobal.

JOHN D. PATTERSON,
General Superintendent.

COMMISSARY DEPARTMENT.

Retail prices of cold storage provisions for the week beginning September 21, 1913:

FRESH MEATS.

	Price.
Mutton—Stewing, per pound	6
Shoulder, neck trimmed off (4 pounds and over), per pound	9
Entire, forequarter (not trimmed, 10 pounds and over), per pound	8
Legs (8 to 10 pounds), per pound	17
Cutlets, per pound	18
Short cut chops, per pound	20
Lamb—Stewing, per pound	6
Entire forequarter, neck trimmed off, per pound	9
Legs (5 to 8 pounds), per pound	20
Chops, per pound	24
Cutlets, per pound	24
Veal—Stewing, per pound	10
Shoulder, for roasting, not under 4) pounds), per pound	12½
Chops, shoulder, per pound	17
Chops, per pound	26
Loins, for roasting	26
Cutlets, per pound	30
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	8
Plate, per pound	9
Corned, No. 1, per pound	14
Corned, No. 2, per pound	12
Chuck roast, 3 lbs., and over, per pound	12
Rib roast, second cut (not under 3½ pounds), per pound	16
Rib roast, first cut (not under 3 pounds), per pound	18
Pot roast, per pound	19
Rump roast, per pound	19
Porterhouse roast, per pound	20
Steak, Chuck, per pound	12½
Round, per pound	13
Rib, per pound	18
Sirloin, per pound	19
Rump, per pound	19
Porterhouse (not less than 1½ pounds), per pound	20
Tenderloin (Western), per pound	30
Pork—Loin chops or roast, per pound	17
Hams, fresh, per pound	§20
Shoulders, fresh, per pound	§17
Spare ribs, per pound	15
Backbones, per pound	15
Pigs' feet, each	7
Pigs' head, ½-head	60
Sausage, home made, per pound	20

MISCELLANEOUS.

Livers—Beef, per pound	11
Calf, each	60
Half, each	30
Steak, Hamburger, package	13
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Devonshire Farm, per pound	20
Sweetbread, beef, per pound	34
Eggs, fresh, dozen	34
one-half dozen only	17
Bluefish, per pound	12
Halibut, fresh, per pound	15
Salmon, per pound	15
Roe shad, each	75
Shad roes, pair	40

POULTRY AND GAME.

Chickens—Fancy roasting, milk fed, large, each	1.40
Fancy roasting, mild fed, med., each	1.10
Fancy roasting, corn fed, about 5½ pounds, each	1.25
Fancy roasting, corn fed, about 4½ pounds, each	1.00
Fowls, each ††60, 70, 80, 90, and	1.00
Ducks, Western (about 4½ pounds), each	1.25
Capon, each	2.00
Broilers, milk fed, each	70
Broilers, corn fed, each	60
Turkeys, per pound	28
Squabs, each	50
Rabbits, skinned, each	30
Partridges, pair	1.30
Grouse, per pair	1.30
Pheasants	1.30

CURED AND PICKLED MEATS.

Ham—Genuine Westphalia, per pound	40
Ham—Sugar cured, per pound	20
Sliced, per pound	22
Half, for boiling, per pound	21
Boiled, per pound	28
Hocks, per pound	‡08
Beef, salt, family, per pound	12
Bacon—Breakfast, whole piece, per pound	25
Sliced, per pound	26
Ham, lunch, per pound	32
Pork, salt, family, per pound	14
Ox tongues, each	1.00
Pigs' feet, per pound	09
Tongues, per pound	18

DAIRY PRODUCTS.

	Price.
Butter—Creamery, special, per pound	34
Sheffield Farms, extra fancy, per lb.	46
Cheese—Philadelphia cream, cake	10
Roquefort, per pound	35
Young America, per pound	22
Swiss, per pound	28
Edam, each	1.00
Edam, tin	25
Parmesan, per pound	35
Cheese—Gouda, per pound	30
Snappy, per cake	10
Milk (certified), per quart	**.20
Fer-mil-lac, bottle	**.20
Ice cream, quart	‡25
½-gallon	‡50

VEGETABLES AND FRUITS.

Beets, per pound	3
Celery, per head	6
Cabbage, per pound	*3½
Cucumbers, per pound	4
Carrots, per pound	4
Egg plant, per pound	4
Lettuce, per pound	14
Onions, per pound	3
Potatoes, white, per pound	3
sweet, per pound	2
Parsley, bunch	5
Peppers, green, per pound	4
Romaine, per pound	14
Squash, per pound	3
Turnips, per pound	4
Tomatoes, per pound	5
Yams, per pound	5
Canteloupes, each	7
Grapes, Malaga, per pound	14
Grape fruit, each	4
American, each	15
Lemons, dozen	24
Limes, per hundred	80
Peaches, per pound	*5
Plums	*10
Pears, per pound	8
Oranges, Jamaican, per dozen	18
Watermelons, each	†40

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

††Fowls weigh each, about as follows: 3, 3½, 4, 4½, and 5 pounds. Prices are based accordingly; when size ordered is not in stock, next lightest weight is supplied and refund note sent for difference.

‡Sold only from commissaries; no order taken for delivery.

§Not less than half of a fresh ham or shoulder will be sold.

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Supplies for the Canal.

The following steamers with supplies for the Isthmian Canal Commission and Panama Railroad Company, arrived at the ports of Balboa, Colon, and Cristobal, during the week ending September 13:

Carrillo, September 7, from New York, with 300 cases linseed oil, eight bales life preservers, for stock; 246 cases electrical material, for First Division; 20 cases electrical material, 399 bundles structural material, for Mechanical Division.

Colon, September 8, from New York, with four cases electrical material, for Panama Railroad Company; nine boxes car seals, for stock; 41 packages medical supplies, three cases surgical instruments, 14 bundles baskets, for Sanitary Department; 64 boxes paper napkins, for stock; six boxes blue print paper, for various departments; two boxes cancelling machines, for Canal Zone Government; four cases photographic material, for Chief Engineer; 11 crates tile machines, for Mechanical Division; three cases electrical material, for Sixth Division; three cases drawing material, for stock; 296 pieces pipe, for First Division; 38 boxes ink, 15 cases varnish, for stock; 16 truck wheels, for Mechanical Division; 31 cases castings, for First Division; 30 bundles shovels, 80 bales oakum, for stock; 160 pieces car castings, for Mechanical Division; 664 pieces pipe, for stock; 317 kegs and 10 boxes bolts and rivets, for coaling plant, Cristobal; 500 tower knuckles, 15 boxes incandescent lamps, for Mechanical Division; 17 boxes incandescent lamps, for Lighthouse division; 242 pieces pipe, for First Division; 66 kegs iron washers, for stock; 43 casks tile, for First Divison; 312 pieces pipe, for stock; 75 pieces castings, for Mechanical Division; 158 pieces pipe, for Second Division; and a miscellaneous cargo, the whole consisting of 3,524 packages, weighing 551 tons.

Heredia, September 8, from New Orleans, with 1,325 pieces lumber, for Mechanical Division; 212 pieces lumber, 435 bales straw, 200 pieces pipe, 260 barrels fire clay, for stock; 1,679 sacks creosoted blocks, for Second Division; 1,321 barrels paving brick, for Panama Railroad Company.

Prinz Joachim, September 8, from New York, with 54,228 pounds bolts and screws, for stock; 76 packages furnace material, 248 barrels building brick, for Mechanical Division.

Lyra, September 9, from San Francisco, with two spud timbers, 30 bales dredging sleeves, 47 packages oil burning equipment, for Sixth Division; 2,100 cases dynamite, for stock.

Santa Marta, September 10, from New York, with 33 pieces chain, 39 bundles sheet steel, 50 carboys muriatic acid, for stock; 327 pieces structural material, for First Division.

Atenas, September 11, from New Orleans, with 829 bales straw, 351 bales hay, 500 kegs white lead, for stock; 2,693 sacks creosoted blocks, for Second Division; 1,885 pieces lumber, for stock.

Joseph J. Cuneo, September 11, from Baltimore, with 10,000 cases dynamite, for stock.

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings of the Panama Railroad Steamship Company; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.*

Allianca	P. R. R.	Monday	Sept.	22
Colon	P. R. R.	Saturday	Sept.	27
Advance	P. R. R.	Saturday	Oct.	4
Panama	P. R. R.	Friday	Oct.	10
Allianca	P. R. R.	Thursday	Oct.	16
Colon	P. R. R.	Wednesday	Oct.	22
Advance	P. R. R.	Tuesday	Oct.	28
Panama	P. R. R.	Monday	Nov.	3
Allianca	P. R. R.	Monday	Nov.	10
Colon	P. R. R.	Monday	Nov.	17
Advance	P. R. R.	Saturday	Nov.	22
Panama	P. R. R.	Saturday	Nov.	29
Allianca	P. R. R.	Friday	Dec.	5

CRISTOBAL TO NEW YORK.*

Cristobal	P. R. R.	Saturday	Sept.	27
Panama	P. R. R.	Monday	Sept.	29
Allianca	P. R. R.	Saturday	Oct.	4
Colon	P. R. R.	Thursday	Oct.	9
Advance	P. R. R.	Thursday	Oct.	16
Panama	P. R. R.	Wednesday	Oct.	22
Allianca	P. R. R.	Tuesday	Oct.	28
Colon	P. R. R.	Tuesday	Nov.	4
Advance	P. R. R.	Sunday	Nov.	9
Panama	P. R. R.	Sunday	Nov.	16
Allianca	P. R. R.	Saturday	Nov.	22
Colon	P. R. R.	Saturday	Nov.	29
Advance	P. R. R.	Friday	Dec.	5

NEW YORK TO COLON.

Zacapa	U. F. C.	Wednesday	Sept.	17
Emil L. Boas	H.-A.	Saturday	Sept.	20
Tenadores	U. F. C.	Saturday	Sept.	20
Almirante	U. F. C.	Wednesday	Sept.	24
Prinz Joachim	H.-A.	Saturday	Sept.	27
Carrillo	U. F. C.	Saturday	Sept.	27
Magdalena	R. M.	Saturday	Sept.	27
Santa Marta	U. F. C.	Wednesday	Oct.	1
Carl Schurz	H.-A.	Saturday	Oct.	4
Pastores	U. F. C.	Saturday	Oct.	4
Metapan	U. F. C.	Wednesday	Oct.	8
Prinz August Wilhelm	H.-A.	Saturday	Oct.	11
Tivives	U. F. C.	Saturday	Oct.	11
Danube	R. M.	Saturday	Oct.	11
Zacapa	U. F. C.	Wednesday	Oct.	15

COLON TO NEW YORK.

Metapan	U. F. C.	Thursday	Sept.	25
Danube	R. M.	Tuesday	Sept.	30
Tivives	U. F. C.	Tuesday	Sept.	30
Prinz August Wilhelm	H.-A.	Tuesday	Sept.	30
Emil L. Boas	H.-A.	Tuesday	Oct.	7
Tenadores	U. F. C.	Tuesday	Oct.	7
Almirante	U. F. C.	Thursday	Oct.	9
Prinz Joachim	H.-A.	Tuesday	Oct.	14
Carrillo	U. F. C.	Tuesday	Oct.	14
Tagus	R. M.	Tuesday	Oct.	14
Santa Marta	U. F. C.	Thursday	Oct.	16
Pastores	U. F. C.	Tuesday	Oct.	21
Carl Schurz	H.-A.	Tuesday	Oct.	21

NEW ORLEANS TO COLON.

Abangarez	U. F. C.	Saturday	Sept.	20
Parismina	U. F. C.	Wednesday	Sept.	24
Atenas	U. F. C.	Saturday	Sept.	27
Sixaola	U. F. C.	Wednesday	Oct.	1
Turrialba	U. F. C.	Saturday	Oct.	4

COLON TO NEW ORLEANS.

Turrialba	U. F. C.	Thursday	Sept.	25
Cartago	U. F. C.	Saturday	Sept.	27
Abangarez	U. F. C.	Thursday	Oct.	2
Parismina	U. F. C.	Saturday	Oct.	4

*Amended schedule, resulting from temporary withdrawal of the *Allianca* for repairs.

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Tide Table.

The following table shows the time of high and low tides at Panama for the week ending October 4, 1913:

DATE.	Low	High	Low	High	Low
	A.M.	A.M.	A.M.	P.M.	P.M.
Sept. 28	......	1.48	7.55	2.04	8.18
Sept. 29	......	2.31	8 45	2.55	9.07
Sept. 30	......	3.18	9.32	3.40	9.52
Oct. 1	......	4.00	10.17	4 25	10.36
Oct. 2	......	4.43	11.00	5 08	11.20
Oct. 3	......	5 25	11.45	5.52	......
Oct. 4	12.05	6 08	P. M. 12 30	6.37	......

75th meridian time.

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Lost—Camera and case, Sunday night, September 14, on train from Colon. The camera is without a bulb, and contains a roll of exposed films. The finder will please communicate with Mr. W. W. Darling, Box 255, Empire.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, OCTOBER 1, 1913. No. 6.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Water Admitted Into Culebra Cut.

Water was admitted into Culebra Cut through the four 24-inch pipes extending into the lake underneath Gamboa dike, at 9 a. m., on Wednesday, October 1. It is calculated that the velocity of the flow is about 24.1 feet per second, and that the discharge amounts to about 354 cubic feet per second, which will fill the Canal as far as Cucaracha slide at the rate of 1.6 feet a day. At this rate by the morning of October 10, when it is planned to destroy the dike, the depth of water in this section of the Cut will not be far from 15 feet. The slide at Cucaracha has completely closed the Cut, in one place to the 73-foot level, therefore, the water discharged into the Canal by means of the pipes between October 1 and 10 will be wholly confined to the section between the slide and the dike. To overtop the slide, it will be necessary for the water in the lake to reach a level of 73 feet above mean sealevel. The lake will probably reach not to exceed 68 feet by October 10. A ditch will be cut through Cucaracha slide to start the water through and, it is expected that a great deal of the slide material will be washed into the drainage ditch between the slide and Pedro Miguel Locks.

The drainage pumps in the Cut near the dike was shut down on Wednesday, September 24; all the machinery was removed and the building which housed it was razed. Sufficient water had collected in the Cut on October 1, from seepage and surface drainage to cover the bottom between Cucaracha slide and the dike.

Spillway Ready for Further Rise of Gatun Lake.

The mechanical installation of the operating machinery for the regulating gates at the spillway of Gatun Dam was completed on September 25. The 14 gates are now in place, surmounting the crest of the ogee, at 69 feet above sealevel, and ready to maintain the rise of the lake above that elevation. Temporary electrical connections were made, in order to test and operate the machinery, and the installation of the permanent cables and control equipment is now under way. The operating machinery and the gate itself, were made to do service in grinding true the fixed irons set in the supporting piers between which the gates will operate; a cutting tool attached to the side of the gate made of it a sort of vertical shaper when the gate was lowered. Afterward, the irons were smoothed by hand to a maximum variation of .005 inch. The horizontal seats on the crest of the ogee were babbitted after the lower edge of the gate had been milled to a true horizontal surface.

Progress in Cable Installation at Gatun Locks.

On September 13, the cable pulling gang of the First Division at Gatun pulled 12,121 feet of control cable and 2,200 feet of No.0000 3-conductor power cable into the shafts and tunnel running under the lock floors in the vicinity of the control house.

The control cable was drawn down a shaft in the west wall, through the tunnel and up a shaft to the operating tunnel in the center wall. The power cable was drawn down a shaft in the west wall, through the tunnel under the center wall and both lock chambers to the east wall, and up through the shaft. The tunnel under the locks at this point is approximately 125 feet below the coping level, so that each cable had to be supported at the upper ends of the vertical shafts to prevent its slipping down into the duct. When the installation is completed, the cable will be supported in the ducts by a combined action of friction between the cable and duct, and by a curved duct at the bottom taking the thrust. Each of the control cables was 380 feet long, and each of the power cables was 550 feet in length.

Formal Opening of Tramways.

The street railway system of Panama, in service since August 1, was formally inaugurated on Saturday, September 27, when the Municipal Council of the city and a number of officials and prominent business men were the guests of the Panama Tramways Company, and R. W. Hebard and Company, Inc., the constructor of the system, in a special trip to the end of the line at Las Sabanas police station, and a luncheon at the bathing pavilion on the beach of the Bella Vista Estate. Two special cars, decorated in the national colors of the United States and Panama, carried the party. At the luncheon, short addresses, bearing on the development of Panama, were made by Canal Commissioner R. L. Metcalfe, Don Ramón F. Acevedo, secretary of public works of Panama, Mr. W. L. Black, superintendent of the tramways company, Mr. R. W. Hebard, and others.

FIRST LOCK OPERATION.

Tug Successfully Passed Through the West Flight at Gatun Locks on September 26.

Gatun Locks were operated for the first time on Friday, September 26, when the seagoing tug *Gatun*, now in the service of the Sixth Division, was passed through the west flight from the Atlantic channel to Gatun Lake. This date was chosen, because of the approaching departure from the Isthmus of Maj. James P. Jervey, who had charge of the masonry construction of the locks, and of Maj. George M. Hoffman, who had charge of the building of Gatun Dam, under Lieut.-Col. Sibert. The operation was entirely successful and was witnessed by a large number of people.

The first step in the filling of the locks was to fill the space between the upper guard and upper operating gates. This was done through the 60-inch auxiliary culvert valve in the west wall. This operation was started at 9.07 a. m., on Thursday, September 25, and continued to about 3.30 p. m., it being necessary to close the valve twice during this period to clear vegetation away from the trash screen at the intake.

The second step was also on Thursday, and consisted in the filling of the culvert in the center wall as a test of the valves and bulkheads, as well as the culvert itself. The upper section only was filled, and after shutting off the rising stem valve at the upper end, this water was used to test successively the center culverts of three levels, being finally deposited into the lower lock by opening the cylindrical valves in that level.

To remove the bulkheads from the upper end of the west culvert, it was necessary to equalize to some extent the pressure of the lake by pressure on the lower side of the bulkhead. It was originally intended to do this by accumulating the leakage through the bulkheads in the culvert, between the upper rising stem valves and the bulkheads. The leakage of the bulkheads was, however, so slight that it was decided to introduce water into the upper end of the upper lock which communicates with the rear side of the bulkheads through the west culvert. This was done, and the bulkhead removed at 10 a. m., on Friday, September 26. At 11.20 a. m., water was admitted to the upper end of the upper lock from the west culvert through the upper rising stem valves and the water brought up to lake level. The upper rising stem valves were then closed and this water was passed down the flight of three locks as a preliminary test of the valves and culverts of the west wall. Water was then locked down, step by step, from the lake to the lower lock, which was also being filled by the two-14-inch sea valves in the lower guard gates.

The filling of the lower lock was completed about 4.45 p. m., when the sea gate was opened, and the *Gatun*, with flags flying and whistle blowing steamed into the lower lock, accompanied by the cheers of the assembled spectators. The lower operating gates were closed, and the tug came to a stop alongside the center wall to which it was moored. The process was repeated in the middle lock, and at 6.15 o'clock, just as dusk was falling, the vessel entered the upper lock for the last lift. This was accomplished at 6.45 o'clock, when the two last gates were swung, and the tug passed out into Gatun Lake, the entire passage occupying approximately one hour and 51 minutes. In order to save time on the ascent, the short length of lock was used. The filling of the lock chambers occupied a longer time than normally, because of the small displacement of the tug; in the case of a large vessel, much less water would have been used. The total lift was approximately 64.70 feet, divided between the three locks, about as follows: Lower lock, 11.2 feet; middle lock, 23.7 feet; upper lock, 29.8 feet.

During this operation of the locks, all of the operating devices were operated from local control, that is, each machine was operated from the panel in the same room with the machine. This made it necessary for the operator to move from machine to machine for the various operations, whereas, when the plant is completed, the entire flight will be controlled from the central control tower, from which point the machines will be operated and an indication received as each operation occurs.

The opening and closing of the gates, and the operation of the culvert valve and lock operating machinery during the tests, and the lockage of the vessel, were under the immediate supervision of Col. H. F. Hodges, the designer of the locks, their equipment and operating machinery, and the regulating works of the Canal. In this he was aided by Mr. Edward Schildhauer, the electrical and mechanical engineer of the Commission, and the inventor of the bull wheel which opens and closes the lock gates, and Mr. E. E. Lee, superintendent of erection; Mr. F. C. Clark, assistant superintendent of erection; Mr. C. P. Fortney, superintendent of mechanical installation; Mr. S. H. Grauten, testing engineer, and Mr. Geo. F. Guynn, inspector of lock gates and protective devices.

The *Gatun*, formerly the *H. B. Chamberlain*, is a steel seagoing tugboat, with a length of 101 feet, beam 22 feet, and a load line draft of 12½ feet. It was built by the firm of Neafie and Levy of Philadelphia in 1902, and was purchased by the Canal Commission for the use of the Atlantic Division in 1906, arriving at Colon on June 25 of that year. It is commanded by Capt. F. F. Stewart, and its navigation through the locks was in personal charge of Mr. W. G. Comber. The vessel had among its passengers on this initial trip, Col. H. F. Hodges, Lieut.-Col. William L. Sibert and family, Maj. James P. Jervey, and Mrs. Jervey, Maj. George M. Hoffman, Lieut. Geo. R. Goethals, and Mrs. Goethals, Mr. Henry Goldmark, Captain Corning of the steamer *Panama*, Mrs. Edward Schildhauer, and Mrs. E. E. Lee.

On Saturday forenoon, September 27, the tug was returned to the Atlantic channel, the record of its progress being, as follows:

8.27—Opened rising stem valves Nos. 254 and 255 to equalize water in both ends of upper lock.

8.34—Water equalized at 29 feet over sill.

8.35—Opened rising stem valve No. 260 to lake.

8.46—Opened intermediate gates Nos. 31 and 32.

8.47—Second rising stem valve No. 261 to lake opened four feet.

8.50—Opened upper guard gates Nos. 39 and 40.

8.55—Water equalized in upper end of lake at 28.4 feet over upper sill.

FIRST LOCKAGE.

8.58—Opened upper operating gates Nos. 35 and 36 for entry of tug.

9.00—Closed rising stem valves Nos. 260 and 261 to lake.

9.00—Closed upper operating gates Nos 35 and 36.

9.05—Closed upper guard gates Nos. 39 and 40. Opened rising stem valves Nos. 248 and 249 to middle lock. Opened gates Nos. 19 and 20, and 27 and 28, lower safety gates of upper lock.

9.26—Water equalized in middle and upper locks at 39.8 feet over sill.

9.26—Opened gates Nos. 23 and 24, operating. Tug passed to middle lock.

SECOND LOCKAGE.

9.27—Closed gates Nos. 27 and 28, safety gates, behind tug.

9.30—Closed gates Nos. 23 and 24, operating gates, behind tug. Closed rising stem valves Nos. 248 and 249, between upper and middle lock.

9.30—Water in middle lock 59 feet over sill. Water in lower lock about elevation plus 0.5 feet.

9.45—Opened rising stem valves Nos. 232 and 233, middle to lower lock.

10.04—Opened gates Nos. 15 and 16, between middle and lower lock.

10.05—Tug passed to lower lock.

10.06—Closed gates Nos. 15 and 16.

THIRD LOCKAGE.

10.00—Opened rising stem valve No. 216, between middle and lower lock; water in lower at 66 feet; water on sea gage at elevation 1 plus 0.5 feet.

10.28 (est.)—Water equalized at sealevel at elevation plus 0.5 feet.

10.30—Opened gates Nos. 7 and 8, lower operating gates.

10.35—The *Gatun* passed out to sealevel. Closed Nos. 7 and 8; and 3 and 4, lower operating and lower guard gates. Lockage completed. Time 1 hour 37 minutes.

On lockage down, the entire 1,000-foot lock was used as for the passage of a ship of maximum capacity.

Work on Panama's Exposition Begun.

The corner stone of the administration building to be erected on the site of the national exposition, which Panama proposes to hold in 1914-15 in commemoration of the four hundredth anniversary of the discovery of the Pacific Ocean by Vasco Nuñez de Balboa, was laid on Thursday, September 25, by President Porras. The sites allotted for the different buildings were blessed by the Bishop of Panama, Dr. William Rojas, and the plans were exhibited by Mr. Alejandro Bermudez, the director of the exposition. Following the laying of the corner stone, Dr. Ramón F. Acevedo, secretary of public works, made an address. The day was made a public holiday in Panama, partly on account of the corner stone ceremonies, and partly, because September 25, under the old calendar, was the date in 1513 when Balboa first saw the Pacific. It is planned to open the exposition on November 1, 1914, to continue six months, and for carrying out the project the Panama National Assembly has voted a preliminary credit of $150,000. The United States, Spain, and several of the neighboring Latin-American republics have been invited to participate. The grounds front the road to Las Sabanas, about opposite the orphan asylum, and cover an area of about 35 acres.

Civil Service Examinations.

Examination will be held probably on October 26 for the positions of stenographer and typewriter, Isthmian Canal Service; stenographer and typewriter, Philippine Service; and typewriter, Isthmian Canal Service. Applications will not be received after October 8; this date may be changed if necessary. Persons interested should request a copy of Form 1424, which contains information in regard to the abovenamed examinations.

Competitors in the abovenamed examinations must bring their own typewriting machines to the examination room.

The examinations will be held probably in the Commission clubhouse at Empire, but the place and date should be omitted in applications.

A card of admission will be sent to those found eligible to be admitted, just before the examination.

In answer to questions as to residence, applicants must show residence in a State or Territory of the United States, and county thereof, up to the time of filing application.

ISTHMIAN CIVIL SERVICE BOARD.

Culebra, C. Z., September 29, 1913.

Concrete Work in Locks and Spillways.

Concrete work in the Canal locks is nearly completed, the aggregate amount in place at the close of work on September 27, being 4,480,983 cubic yards.

A statement of the concrete laid in Pedro Miguel and Miraflores Locks, and in Gatun and Miraflores spillways, as of September 27, follows:

GATUN LOCKS.

The last concrete for the locks proper, as distinguished from that necessary to finishing work by the First Division, was mixed and placed on August 16, 1913. At the close of work on that day the total amount of concrete placed by the Atlantic Division amounted to 2,045,485 cubic yards.

PEDRO MIGUEL LOCK.

	Concrete laid. Cubic yards.
Sept. 22	..
Sept. 23	..
Sept. 24	..
Sept. 25	..
Sept. 26	8
Sept. 27	..
Total	8
Previously reported	924,175
Grand total	924,183

MIRAFLORES LOCKS.

Sept. 22	19
Sept. 23	16
Sept. 24	34
Sept. 25	7
Sept. 26	116
Sept. 27	47
Total	239
Previously reported	1,510,748
Grand total	1,510,987

GATUN SPILLWAY.*

Sept. 22	36
Sept. 23	70
Sept. 24	70
Sept. 25	98
Sept. 26	92
Sept. 27	136
Total	502
Previously reported	236,320
Grand total	236,822

MIRAFLORES SPILLWAY.

The total of concrete at Miraflores spillway—75,610 cubic yards—remained unchanged, no concrete having been laid during the week ending September 27.

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*Includes hydroelectric station.

Time Table Changes.

On account of new timetable No. 16 taking effect Monday, October 6, at 12.01 a. m., train No. 72, scheduled to leave Panama for Bas Obispo at 12.20 a. m., Monday, on timetable No. 15, will not run. The last train leaving Panama Sunday night, October 5, for Bas Obispo, is train No. 58, leaving at 10 p. m. The first train leaving Panama for Bas Obispo, Monday, October 6, will be at 6 a. m. Owing to the demand on the part of the public for an opportunity to inspect the locks, the Gatun shuttle train service has been extended to include Sundays. Parlor cars will be run on trains numbered 2, 3, 4, 5, 6, and 7, daily.

PANAMA RAILROAD COMPANY.

PASSENGER TRAIN TIME TABLE No. 16—IN EFFECT OCTOBER 6, 1913.

PANAMA-COLON MAIN LINE SERVICE.

SOUTHWARD.							Station.	NORTHWARD.				
FIRST CLASS.								FIRST CLASS.				
Saturday only.		Sunday only.	Daily except Sun.	Daily.				Distance from Colon.	Daily.			
71		11	9	7	5	3			2	4	6	8
P.M.		P.M.	P.M.	P.M.	A.M.	A.M.			A.M.	P.M.	P.M.	P.M.
11.20	......	9.30	8.25	5.00	11.05	7.30	Lv. †Colon Arr.	0	9.15	12.45	6.45	9.15
11.25	......	9 35	8.30	5.05	11.10	7.35	†Mount Hope	1.57	9.11	12.41	6.41	9.10
11.35	......	9.45	8.40	5.15	11.20	7.45	†Gatun	6.79	9.01	12.30	6.30	8.58
11.48	......	9.58	8.55	5.28	11.33	7.58	†Monte Lirio	14.48	8.48	12.15	6.18	8.43
A.M.												
12.00	......	10.10	9.08	5.40	11.44	8.10	†Frijoles	20.92	8.36	12.03	6.06	8.31
										P.M.		
12.09	......	10.19	9.17	5.49	11 53	8.19	†Caimito	26.13	8.27	11.54	5.57	8.22
					P.M.							
12.17	......	10.27	9.26	5.57	12.03	8.27	†Gamboa	30.26	8.19	11.44	5.49	8.14
12.28	......	10.38	9.37	6 08	12.14	8.38	†New Culebra	35.19	8 06	11.30	5.36	8.01
12.40	......	10.50	9.50	6.20	12.30	8.50	†Pedro Miguel Jc	40.23	7.55	11.17	5.25	7.50
12.46	......	10.56	9 56	6.26	12.36	8.56	Miraflores	41.74	7.48	11.08	5.18	7.43
12.54	......	11.04	10.04	6.34	12.44	9.04	†Corozal	44.24	7.40	11.00	5.10	7.35
1.05	......	11.15	10.15	6.45	12.55	9.15	Arr. Panama. Lv.	47.08	7.30	10.50	5.00	7.25
A.M.		P.M.	P.M.	P.M.	P.M.	A.M.			A.M.	A.M.	P.M.	P.M.
71		11	9	7	5	3	†Telegraph station.		2	4	6	8

Northward main-line passenger trains will wait at Pedro Miguel Junction for connections from Bas Obispo shuttle train, and northward Bas Obispo shuttle trains will wait at Pedro Miguel Junction for southward main line connections unless otherwise instructed.

PANAMA-BAS OBISPO PASSENGER TRAIN TIME TABLE.

SOUTHWARD.								Station.	NORTHWARD.							
SECOND CLASS.									SECOND CLASS.							
Sunday only.		Daily ex, Sun.	Daily.						Daily.					Daily ex. Sun.	Sunday only.	
55	53	51	49	47	45	43	41		40	42	44	46	48	50	52	54
P. M.	A. M.	P. M.	P. M.	P. M.	P. M.	A. M.	A. M.		A. M.	A. M.	P. M.	P. M.	P. M.	P. M.	A. M.	P. M.
11.40	1.30	10.55	7.10	4.45	1.35	10.30	7.10	Leave †Bas Obispo Arrive.	7.00	9.30	1.15	4.00	7.00	10.30	1.20	11.30
11.46	1.36	11.01	7.16	4.51	1.41	10.36	7.16	†Las Cascadas	6.54	9.24	1 09	3.54	6.54	10.24	1.14	11.24
11.52	1.42	11.07	7.22	4.57	1.47	10.42	7.22	†Empire	6.48	9.18	1.03	3.49	6.48	10.18	1.08	11.18
11.58	1.48	11.13	7.28	5.03	1.53	10.48	7.28	†Culebra	6.41	9.11	12.56	3.41	6.41	10.11	1.01	11.11
A.M.																
12.12	2.02	11.27	7.42	5 17	2.07	11.02	7.42	†Paraiso Jct.	6.27	8.57	12.42	3.27	6.27	9.57	12.47	10.57
12.15	2.05	11.30	7.45	5.20	2.10	11.05	7.45	†Pedro Miguel Jct	6.25	8.55	12.40	3.25	6.25	9.55	12.45	10.55
12.21	2.11	11.36	7.51	5.26	2.16	11.11	7.51	Miraflores	6.18	8 48	12.3	3.18	6.18	9.48	12.38	10.48
12.29	2.19	11.44	7.59	5.34	2.24	11.19	7.59	†Corozal	6.10	8.40	12.25	3.10	6.10	9.40	12.30	10.40
12.32	2.22	11.47	8.02	5.37	2.27	11.22	8.02	Diablo	6.07	8.37	12.22	3 07	6.07	9 37	12.27	10.37
12.40	2.30	11.55	8.10	5.45	2.35	11.30	8.10	Arrive †Panama. Leave.	6.00	8.30	12.15	3.00	6.00	9.30	12.20	10.30
P. M.	A. M.	P. M.	P. M.	P. M.	P. M.	A. M.	A. M.		A. M.	A. M.	P. M	P. M.	P. M.	P. M.	A. M	P. M.
55	53	51	49	47	45	43	41	†Telegraph station.	40	42	44	46	48	50	52	54

COLON-GATUN SHUTTLE TRAIN SERVICE.

Effective Monday, October 6, 1913, shuttle trains will be operated daily, between Colon and Gatun, on the following schedule, making stops as shown:

SOUTHWARD.						Station.	NORTHWARD.					
SECOND CLASS.							SECOND CLASS.					
131	129	127	125	123	121		122	124	126	128	130	132
P. M.	P. M.	P. M.	A. M.	A. M.	A. M.	Leave. Arrive.	A. M.	A. M.	A. M.	P. M.	P. M.	P. M.
5.50	4.35	3.30	9.20	7.40	6.00	Third Street, Colon	7.05	9.10	10.25	4.25	5.45	7.05
5.52	4.37	3.32	9.22	7.42	6.02	Fifth Street, Colon	7.02	9.07	10.22	4.22	5.42	7.02
5.54	4 39	3.34	9.24	7.44	6.04	Passenger Station, Colon	7.00	9.05	10.20	4.20	5.40	7.00
5.56	4.41	3.36	9.26	7.46	6 06	Commissary, Cristobal	6 58	9.03	10.18	4.18	5.38	6.58
5.58	4.43	3.38	9.28	7.48	6.08	Shops, Cristobal	6 56	9.01	10.16	4.16	5.36	6.56
6.02	4.47	3.42	9.32	7.52	6.12	Mount Hope	6.52	8.57	10.12	4.12	5.32	6.52
6.08	4.53	3.48	9.38	7.58	6.22	Mindi	6.46	8.51	10.06	4.06	5.23	6.43
6.12	4.57	3.52	9.42	8.02	6.26	New Gatun	6.43	8.48	10.03	4.03	5.18	6.38
6.15	5.00	3.55	9.45	8.05	6.30	Gatun	6.40	8.45	10.00	4.00	5.15	6.35
P. M.	P. M.	P. M.	A. M.	A. M.	A .M.	Arrive. Leave.	A. M.	A. M.	A. M.	P. M.	P. M.	P. M.
131	129	127	125	123	121	Trains stop at all stations.	122	124	126	128	130	132

Additonal Precautions in Case of Fires in Panama.

In order to avoid any delay or misinterpretation of requests when an increased water pressure is desired in case of a fire in the city of Panama, the gong in the Ancon pumping station will be connected with the new Gamewell automatic fire alarm system, which has been recently installed in Panama, and is now ready for service. The Panama fire brigade has been furnished with a copy of the printed fire alarm signals in effect in the Canal Zone, so that they may be translated into Spanish and adopted for use by the Panama fire companies.

◆

Numbering of Machines in Balboa Shops.

All machines transferred from other shops to Balboa shops, and all new machines purchased and installed at that point, will be numbered consecutively from one upward. All machine tools, whether stationary or portable, including overhead cranes, jib cranes, air compressors, furnaces, forges, boilers, blowers, fans, etc., will be carried on one list, and numbered consecutively. A separate list of motors, generators, switchboards, etc., will be kept, and the articles thereon will be numbered consecutively also, beginning with one. When an article on any one of these lists is condemned or sold, its number will be left vacant, and will not again be assigned. A record will be kept of the old serial numbers of the machines that are renumbered.

SOCIAL LIFE OF THE ZONE.

Ancon Study Club.

The Ancon Study Club held a reception in honor of its retiring president, Mrs. H. W. Shick, at the home of Mrs. Mark White on Monday afternoon, September 29. Invitations had been issued to many of Mrs. Shick's friends and there were about 25 present. Mrs. Shick is leaving the Isthmus for Vancouver, and the reception was in the nature of a farewell from her friends and associates. Mrs. Shick has been prominent in the woman's club work since its beginning. She was the first secretary of the Pedro Miguel Woman's Club, and later was its president. She was one of the founders of the Ancon Study Club, and has been the president of the organization since January, 1913. The club presented her with a piece of carved ivory as a souvenir of her Isthmian residence.

The membership of the Ancon Study Club will be limited to 18. This action has been taken with a view to keeping the club small enough to continue to meet in the home of Mrs. White, where the library is installed, and to prevent the introduction of any outside interest other than the study for which the club was formed. A waiting list will be kept and those registered will be voted in, in order of their application, as vacancies occur. At its meeting on September 11, the club voted $5 toward the playground of the Methodist mission school in Panama.

Church Notes.

The Sunday school of the Methodist Episcopal Church on the sea wall, Panama, will hold its annual rally on Sunday morning, October 5, at 10 o'clock. The regular official program issued by the Methodist church in the United States will be used. This consists of hymns, recitations, and speeches. The pastor, the Rev. Harry Compton, will deliver an address on Sunday school work. The program will be repeated in Spanish in the evening at 7.30 o'clock for the benefit of the Spanish-speaking members of the church.

The regular monthly meeting of the Woman's Foreign Missionary Society of the Methodist church will be held in the church rooms on Saturday afternoon, October 4, at 2.30 o'clock. At this meeting it is requested that delegates from other societies of church workers in the Canal Zone be present as the nature of the permanent organization for the centralization of the work will be discussed at this time and some definite plan will be adopted. The outlook is for a Canal Zone society, which will unite the women in Christian effort, to be composed of different societies, each working on independent lines, denominational or otherwise, but the central society will be undenominational. All women interested in this plan are invited to be present.

The junior Sunday school class of the Church of the Sacred Heart, Ancon Hospital, is preparing for first communion and confirmation, which will be held on Sunday, December 7. The class meets for instruction at 4 o'clock on Monday, Wednesday, and Friday afternoons of each week at the home of Mrs. M. H. Fowler, Ancon. The parents of these children are earnestly requested to see that their attendance at the meetings is punctual and regular.

The Rev. Father Ferdinand Allot, priest of St. Ferdinand's Church, Empire, sailed for New York on the *Panama* on Monday, September 29. He will sail from there to France where he will spend his vacation of two months. The Rev. Father McDonald will be in charge of the work of the church and parish during the absence of Father Allot.

A series of organ recitals is arranged to be held at Christ Church, Colon, on the second Sunday evening in each month. The first number of the series was given on Sunday, September 14, when a program of Schubert's music was played. Recitals of the works of other composers will follow. In each case the program is introduced by a short biographical sketch of the composer whose works are to be played. The concerts follow immediately after evensong, which begins at 7.30 o'clock.

Record of ½-Yard Cube Mixer at Battery Parke.

The following table shows consecutive three weeks' concrete output from a ½-yard mixer, working in connection with the construction of Battery Parke, at Naos Island:

BATTERY PARKE.

Date.	Hours Worked.	Output cu. yds.	Rate per Hour. cu. yds.
August 25	9	220	
August 26	9	217	
August 27	9	222	
August 28	9	238	
August 29	9	231	
August 30	8	208	
Total	53	1,336	25.20
September 1	....	....	
September 2	9	219	
Spetember 3	9	221	
Spetember 4	9	239	
September 5	9	231	
September 6	8	205	
Total	44	1,115	25.34
September 8	9	202	
September 9	9	224	
September 10	9	247	
September 11	9	218	
September 12	9	229	
September 13	8	209	
Total	53	1,329	25.07
Grand total	150	3,780	25.20

The mixer worked nine hours a day, except Saturdays, when it worked eight hours. It was fed from the storage piles nearby, by wheelbarrows, using elevating hopper for feeding the mixer drum and dumping into wooden chutes, which carried the concrete to the forms. Mr. R. Brewerton was the foreman in charge of mixer.

Afternoon Hearings by Joint Land Commission Discontinued.

The Joint Land Commission will discontinue the afternoon hearings, which have been held by individual members of the Commission on Mondays, Wednesdays, Fridays, and Saturdays of each week for the purpose of hearing claims of landholders, in view of the departure of Dr. Rowe, leaving but three members on the Commission.

Due notice will be given when further hearings of this kind are to be resumed.

Yom Kippur Services.

Yom Kippur services will be conducted in the synagogue at Third and F streets, Colon, on Friday evening, October 10, beginning at 6.30, and on Saturday, October 11, beginning at 8.30 a. m.

All Israelites in the Canal Zone are cordially invited.

V. C. PINTO, *Secretary*,
KAAL KADOSH YANGACOB.

END OF OLD P. R. R. STATION.

Has Served as Panama Passenger Terminal for Twenty-seven Years.

The last portions of the old railroad station, which has served the Panama Railroad Company as a passenger terminal in Panama for a period of over 27 years, were removed on Wednesday, September 24, in furtherance of the work of improving the ground about the new terminal building. Prior to 1884, the railroad company's passenger trains ran into the ancient station in the vicinity of the American wharf. The company's annual report for 1884 states:

> "The large increase of passenger business has rendered additional accommodations for that department indispensable, and the passenger depot has been removed from its old location to a point near the bridge and adjoining the Savanna road. A temporary house and platform have been erected there, and are now being used for passenger accommodations pending the arrival of material to build a new depot, which has been ordered for some time."

Although the report states that the material had been ordered for some time, it was exceedingly slow in coming, for the report of 1885 reiterates:

> "The great need, however, at this station (Panama), as well as at Aspinwall (Colon) is a new depot with enclosures, so that the ticket system may be put into effect at once. Your company has land at both places in desirable locations."

During the year 1885, extensive repairs were made to the Panama wharves; the English wharf was extended and the shed over the American wharf rebuilt. The report for 1886 announced the erection of a new iron station, the one that has just been torn down, as well as an iron station in Colon, which formerly stood at the head of Front street and was razed when the new terminal was completed on July 23, 1909, in the following words:

> "These stations were contracted for in New York by your company in May, 1886, and have been sent out and erected during the year. They will be ready for occupation on the 15th of March the present year (1887). The ticket system spoken of in the report for 1885 will then be put into effect, as all the arrangements for inaugurating this system are now perfected."

The old depot, near the American wharf, the first building erected by the Panama Railroad Company in Panama, was demolished in 1886 on account of its age and general insanitary condition. After the removal of the passenger business to temporary quarters on the site of the recent iron station in 1884, the upper floor of the old station was used as quarters for employes, and the lower floor as a transportation office for the French canal company. Two wooden buildings were immediately erected on its site, with suitable enclosures and a garden between, one for the engineers and mechanical department, and the other for the conductors and the clerks in the freight station. There was also constructed the same year, in the Panama railroad yard, a two-story wooden house of eight rooms, which furnished quarters at that time for the assistant roadmaster, section master, yardmaster, and assistant. These men formerly roomed in the town at a cost to the company for commutation of 100 soles (about $95) a month. Two of the buildings above referred to are still standing, and in service.

Mr. George A. Burt was general superintendent of the railroad in 1884, but was succeeded during the following year by Mr. Frank G. Ward, who, in turn, in 1887, gave way to Mr. A. L. Rives. The president of the company at this period was Mr. J. G. McCullough.

CANAL WORK IN AUGUST.

Monthly Report of the Chairman and Chief Engineer to the Secretary of War.

Culebra, C. Z., September 21, 1913.

The Honorable the Secretary of War,
Washington, D. C.

Sir: I have the honor to submit the following report of operations on the Isthmus for the month of August, 1913:

Effective August 9, 1913, Richard L. Metcalfe was appointed a member of the Isthmian Canal Commission and on that day entered upon his duties as Head of the Department of Civil Administration.

Department of Construction and Engineering.

The following table summarizes the principal items of work accomplished by the construction divisions during the month:

Item.	Unit.	Atlantic.	Central.	2d Div.	5th Div.	6th Div.	Total.
Work excavation, dry.	Cubic yds...	2,161	810,100	90,134	103,014	....	1,005,409
Work excavation, wet.	Cubic yds...	512,089	*83,200	†286,127	....	726,256	1,607,672
Total work excavation	Cubic yds...	514,250	893,300	376,261	103,014	726,256	2,613,081
Plant excavation, dry.	Cubic yds...	....	33,600	12,104	....	....	45,704
Total Canal excavation..............	Cubic yds...	514,250	926,900	388,365	103,014	726,256	2,658,785
Material placed in dams	Cubic yds...	73,797	....	....	18,350	....	92,147
Concrete placed, locks, dams, and spillways.	Cubic yds...	8,680	....	....	8,058	....	16,738
Explosives used......	Tons (Gross)	13.18	81.14	14.39	22.65	45.00	176.36
Rock drilled...........	Feet	12,075	195,422	44,734	40,522	14,787	307,540
Tracks removed......	Miles	1.22	9.35	4.45	....	....	15.02
New track laid......	Miles	1.34	....	6.79	0.65	....	8.78
Rock crushed.........	Cubic yds...	....	....	....	43,850	....	43,850
Cement used.........	Barrels.....	13,944	50	8,129	7,479	21	29,623
New roads built......	Miles	....	....	....	....	....	....
Water mains laid.. ...	Feet........	920	....	....	....	....	920
Sewers laid...........	Feet........	....	....	....	....	....	....
Open drains and ditches dug................	Feet........	....	....	4,850	....	....	4,850
Average daily force...	....	3,111	6,301	2,993	4,130	2,336	18,871
Average rainfall......	Inches......	15.11	11.82	6.74	5.46	6.74	11.28

*Removed by Fifth Division for Central Division.
†Removed by Sixth Division for the Second Division.

First Division—Office of the Chief Engineer.

LOCK GATE AND PROTECTIVE DEVICES.

All material for the 92 leaves has been completed and shipped, as well as that for the spare parts.

The status of the work in the several locks may be summarized, as follows:

Gatun—Work was in progress on all the leaves, 40 in number: Erection, 99.7 per cent completed; reaming, 99.9 per cent completed; riveting, 99.5 per cent completed; finishing, 84.27 per cent completed.

Pedro Miguel—Work was in progress on the entire 24 leaves: Erection, 99 per cent completed; reaming, 99.7 per cent completed; riveting, 97 per cent completed; finishing, 80.21 per cent completed.

Miraflores—Work was in progress on all of the 28 leaves: Erection, 97 per cent completed; reaming, 98.5 per cent completed; riveting, 90 per cent completed; finishing, 63.7 per cent completed.

ERECTION.

On September 1st, 99.2 per cent of the total tonnage of lock gate material in all locks had been erected. There are still to be erected 44 tons at Gatun, 52 tons at Pedro Miguel, and 546 tons at Miraflores.

LOCK ENTRANCE CAISSON.

On August 20, award was made to the Union Iron Works, for the construction of one lock entrance caisson at $330,760, delivered at the port of Ancon.

INSPECTION AND ERECTION OF OPERATING MACHINERY AND ELECTRICAL EQUIPMENT.

Valve machines—The present status of the mechanical erection is, as follows: Rising stem valve machines, 95 per cent completed; cylindrical valve machines, 100 per cent completed; auxiliary culvert valve machines, 100 per cent completed. The electrical installation of the above machines is 50 per cent complete for the rising stem valve, 50 per cent complete for the cylindrical valve, and 65 per cent complete for the auxiliary culvert valve machines. The mechanical erection of the 18 guard valve machines is 77 per cent complete, and the electrical installation for these machines is 15 per cent complete.

Miter gate moving machines—Eighty-nine per cent of the mechanical, and 29 per cent of the electrical installation, is completed.

Miter gate forcing machines—The mechanical erection is 29 per cent, and the electrical installation, 25 per cent completed.

Track—Approximately 85 per cent of all track is complete with concrete. Thirty-three per cent of single, and 66 per cent of double crossovers, have been placed.

Spillway gate machines—The mechanical erection is 73 per cent, and the electrical erection, 15 per cent accomplished.

Pumps—Mechanical erection is 59 per cent complete on miter gate sump pumps, 11 per cent complete on chain fender sump pumps, 100 per cent complete on drainage sump pumps, and 66 per cent on culvert pumps. Electrical installation is 19 per cent complete on miter gate sump pumps, and 50 per cent complete on drainage sump pumps.

Transformer room equipment—The installation of this equipment is 67 per cent complete at Gatun, 55 per cent complete at Pedro Miguel, and 39 per cent complete at Miraflores. For all the locks, this work is approximately 55 per cent complete.

Hydroelectric station—All foundations have been built, and the three turbines and their penstocks are set complete. The head gates are also in place.

Cable—Out of a total of 2,413,216 feet of cable on order, 671,755 linear feet have been pulled into the ducts.

Control houses—Sixty-six per cent of the steel beams for control house floors have been placed in concrete. The control house at Gatun is ready to receive the roof. Construction of the control house at Pedro Miguel has progressed to about the same point.

Illumination—At Gatun, the erection of the lamp posts, with cross-arms, is 75 per cent complete. At Pedro Miguel, 32 poles, without cross-arms, have been set.

Transmission line—Surveys were made from Mile 19 to Mile 26, inclusive, for the location of track-span bridges, and stakes were set for the alignment of concrete forms between Miles 40 and 41. During the month, 92 foundations for track-span bridges were placed to carry the transmission line, making a total of 161 foundations set to the close of the month.

EMERGENCY DAMS.

Gatun east dam—This dam has been completed, tested, and accepted.

Gatun west dam—This dam has been completed, tested, and accepted. The final tests of this dam were made during the month. The actual operating time of the various machines was practically the same as for the east dam at Gatun, as reported for the month of June.

Pedro Miguel west dam—All material has been delivered at the site. The pouring of concrete for the operator's house is finished. On August 28, this dam was swung across the lock for the purpose of making necessary adjustments. Riveting is complete. Painting of the dam continued during the month.

Pedro Miguel east dam—All material has been delivered at the site. During the month, a total of 14 tons of turning and wedging machinery was assembled and bolted in place. The switchboard house was completed. Installation of gate and girder hoisting machinery continued during the month. Riveting is complete. Painting continued during the month.

Miraflores west dam—A total of 1,890 tons of material was delivered at the site.

Miraflores east dam—All material has been delivered at the site. During the month, a total of 412 tons of turning and wedging machinery was assembled and bolted in place. Riveting is about 15 per cent complete.

AIDS TO NAVIGATION.

During the month, work was in progress erecting tower No. 10, Gatun Lake section, water stage registers at Gamboa, delivering material for the construction of beacon foundation at Bohio, and water stage register at the Gatun spillway; casting lamp bracket arms, lifting sockets in drain covers for chain fender pits, and beacon tops at the pile casting platform in Gatun; constructing transmission line across the Cut at Gamboa, clearing land for the Sixth Division, and making the necessary surveys and reconnoissances in connection with the construction of range towers, targets, beacons, etc.

Second Division—Office of the Chief Engineer.

SHOPS.

The designing and preparation of drawings for machine foundations, motorizing of machines, installation of machines, shafting, and motors for group drives were continued. The incorporation of architectural features in the designs of the general storehouse and of the oxygen-acetylene gas building was completed. The design and layout in pencil of the electrical power distribution systems in the machine and erecting shop, the forge shop, and the boiler and shipfitter shop were completed, including the switchboard, transformers, and motor-generator sets to be installed in the machine shop for supplying direct current for variable-speed motors. The design and general layout of the illumination systems in the administration building, machine and erecting shop, and the forge shop were completed, and requisition submitted for the material to be imbedded in concrete walls of the administration building. The layout of piping and plumbing systems in the administration building was completed, and requisition for the material submitted. During the month, requisitions were submitted for all pipe and fittings to be installed in the pipe and conductor tunnel; for the transformers, switchboards, wiring, conduit, reflectors, etc., for the power and illumination systems in the foundry and planing mill; for the steel rolling doors for closing the ends of the machine and erecting shop, the forge shop, the boiler shop, and the foundry, and for the structural steel for the shop office building. Award was made for the slate stalls for nine toilet buildings, for six 5-ton cranes for the forge shop, and for one 500-ton forging press. The delivery on the Isthmus of all structural steel for Buildings 1 to 26, inclusive, and for the shafting supports in the machine and erecting shop was completed. The cement tile roofing is complete on the oxy-acetylene building, and 70 per cent complete on the machine and erecting shop. The pattern shop and foundry were transferred from Gorgona to Balboa. The first pour of bronze was made on August 14, and of iron, on August 20.

EXCAVATION AND CONSTRUCTION.

On the site of the coaling plant, dry dock No. 1, and the entrance basin, there were 72,006 cubic yards of earth, and 30,232 cubic yards of rock excavated, of which 90,134 cubic yards were work excavation and 12,104 cubic yards were plant excavation, a total of 102,238 cubic yards. For fill and embankment in preparation of site, cofferdam, railroad yard tracks, construction tracks, shop tunnel, dikes, etc., there were 107,044 cubic yards of excavation, of which 53,158 cubic yards were work excavation and 53,886 cubic yards were plant excavation. Six thousand, three hundred and sixty cubic yards of concrete were placed, in connection with shop foundations, shops, tunnel, caissons, quay walls, etc., which involved the use of 527,786 pounds of reinforcing steel. A total of 27,912 feet of piles was driven for shops and machinery foundations, operating tunnel, cofferdam, trestles, and alteration to sand dock, which consisted of 20,430 linear feet of wooden piles, 6,540 linear feet of sheet piling, and 942 linear feet of pipe piles. The total amount of track laid was 35,892 feet, and 23,495 feet of track were removed. The following work was performed on the quay walls and pier: Seventy-three linear feet of superstructure completed, 2,848 linear feet of caisson manufactured, and 39 piers were sunk to rock; 2,597.5 linear feet of caisson were sunk to rock, which is the largest amount of caisson work ever performed on the Isthmus in one month.

Fifth Division—Office of the Chief Engineer.

DISTRICT NO. 1—LOCKS, DAMS, AND DRY EXCAVATION.

Excavation—The total excavation amounted to 103,014 cubic yards, of which 72,904 cubic yards were classified as rock, and 30,110 cubic yards as earth.

Filling and embankment—Dry filling in the prism of the west dam at Pedro Miguel was increased by 1,750 cubic yards, making the total amount of material used for this purpose 699,518 cubic yards. The backfill at Pedro Miguel was increased by 3,710 cubic yards, the total quantity in place at the close of the month being 1,023,913 cubic yards. At Miraflores, dry filling in the west dam was increased by 16,600 cubic yards, making the total quantities of dry and hydraulic filling in place at the close of the month 1,684,949 cubic yards and 661,048 cubic yards, respectively. The backfill at Miraflores was increased by 79,021 cubic yards, the total quantity in place on August 31 being 1,900,759 cubic yards.

Pedro Miguel Lock—Work consisted principally in loading out obsolete tracks and materials no longer needed, cleaning up, and grading off the backfill. Installation of the wooden fenders on the ends of the north and south guide walls was continued. The control house was made ready for the installation of the roof trusses.

OPERATION OF THE AUXILIARY CONCRETE CONSTRUCTION PLANT AT PEDRO MIGUEL.

Length of working day (hours)	8.00
Average number of hours per day worked laying concrete, actual working time	2.28
Average number of mixers per day	.35
Average hourly output per mixer, actual working time (cubic yards)	7.81
Concrete laid (cubic yards)	1,308.00

One ½-yard mixer was in service intermittently.

Miraflores Lock—Work in the locks proper was confined chiefly to the dismantling of berm cranes G and H, loading out of obsolete tracks and material, and general cleaning up. Chamber cranes Nos. 1 and 3 were dismantled by the contractors. Backfilling of the northeast and northwest wing walls was continued, and the filling of the middle and guide walls completed. Steamshovels continued to remove the dikes and high ground in the forebay of the locks and the excavation of the west forebay was finished. At the close of the month, the concrete work of the Miraflores spillway was completed, except for the opening left in the dam; the piers had been brought to grade; the footbridges were in position; the steel gates were in place in front of the openings, and four of them were in final position. Dry excavation in the prism south of the locks was practically completed, all equipment was removed, and the waters of the Rio Grande diverted into the prism between the locks and the dike. When the water in the prism reached elevation minus 29, the dike was blown up and, with the admission of the sea water, the prism was soon completely filled.

OPERATION OF THE PERMANENT AND AUXILIARY CONCRETE CONSTRUCTION PLANTS AT MIRAFLORES.

	Permanent Plant.	Auxiliary Plant.
Length of working day (hours)	8.00	8.00
Average number of hours per day worked laying concrete, actual working time	.35	1.58
Average number of mixers per day	2.00	.23
Average hourly output per mixer, actual working time (cubic yards)	19.23	7.63
Average amount of concrete laid per hour per berm or chamber crane, actual working time (cubic yards)	39.11	....
Total concrete laid (cubic yards)	2,844.00	3,180.00

Permanent plant—One berm and one chamber crane. *Auxiliary plant*—One ½-yard mixer, one 1-yard mixer, and locomotive cranes and derricks averaging 1.73 units per day.

DISTRICT NO. 4—ANCON QUARRY.

PERFORMANCE OF ROCK CRUSHER PLANT.

Length of working day (hours)	8.00,12.00
Average number of hours per day, actual working time	6.95
Average number of cubic yards crushed per hour per working day	171.96
Average number of cubic yards crushed per working hour	242.84
Total output for the month (cubic yards)	43,850.00

12-hour day from 11th to 18th, inclusive.

DISTRICT NO. 5—GOLD HILL SLUICING PLANT.

Excavation during the month totaled 83,181 cubic yards; this unfavorable showing was due to pump troubles, line breakages, and the necessity of cutting through heavy rock, in order to extend the flume on proper grade into the area of active slides.

Sixth Division—Office of the Chief Engineer.

PACIFIC END.

Seven dredges were engaged in channel and inner harbor excavation at Balboa, removing 465,457 cubic yards of earth and 260,799 cubic yards of rock from the Canal prism, and 286,127 cubic yards of earth from the inner harbor and terminal basin site, a total of 1,012,383 cubic yards. At the close of the month, there remained to be removed from the Canal prism, not including fill, 2,564,838 cubic yards. The French ladder dredge *Gopher*, engaged in sand excavation at Punta Chamé during the entire month, removed 16,100 cubic yards.

ATLANTIC END.

Nine dredges were in operation during the month, removing 487,600 cubic yards of earth and 24,489 cubic yards of rock from the Canal prism. On August 31, there remained to be excavated 1,023,651 cubic yards. In addition to prism excavation, 171,851 cubic yards of coral sand from Margarita Bay, 6,651 cubic yards of earth from between piers Nos. 2 and 3 at Colon, 3,500 cubic yards of earth and coal from the coal dock slip, 21,564 cubic yards of coral sand from along the south side of pier No. 17, and 8,139 cubic yards of earth and 2,850 cubic yards of coral from around the corners of piers Nos. 15 and 16 and along the face of pier No. 15, were taken out. At the close of the month, 40 feet of water could be carried from zero to zero plus, 2,100 feet; 35 feet to mile post 6, plus 2,300 feet; 30 feet to mile post 6, plus 2,320 feet; 20 feet to mile post 6, plus 2,350 feet; 10 feet to mile post 6, plus 2,800 feet, at the barrier across the Canal.

Division of Municipal Engineering—Office of the Chief Engineer.

NORTHERN DISTRICT.

The construction of the new Colon waterworks progressed satisfactorily. During the month, the main floor of the filter building was finished, work in the sedimentation basin practically completed, and in the aeration basin all concrete was in place except the lamp posts. The Colon improvements were practically completed, with the exception of a small amount of curb and gutter on the west side of G street. The usual maintenance of the streets, sewers, and water system was carried on in Cristobal, Gatun, and New Gatun.

SOUTHERN DISTRICT.

At Balboa, the construction of the storm sewer in the new American townsite, and work on the West Indian townsite were continued. The usual maintenance work on sewer and water systems, streets, and roads was performed.

New Panama waterworks—Work was continued on excavation for the building and pump sump of Miraflores pump station No. 1. The concrete foundation for the intake house was completed and work on the walls was well under way at the end of the month. Excavation in connection with the Miraflores filtration plant was continued and the site for the wash water tank was cleared. On August 5, work was commenced on the Ancon high service reservoir.

Atlantic Division.

GATUN LOCKS.

The month's excavation totaled 18,543 cubic yards. The backfill placed during August amounted to 18,608 cubic yards; at the close of the month, the backfill was 97.08 per cent completed.

Receiving and issuing material—The issues of rock amounted to 8,927 cubic yards. Sand receipts amounted to 2,582 cubic yards, the issues to 3,398 cubic yards. Cement receipts totaled 8,414¼ barrels, and the issues amounted to 8,904¼ barrels.

Concrete work—A total of 200 cubic yards of concrete was laid, distributed, as follows: Upper locks, 24 cubic yards; lower locks, 176 cubic yards. The locks masonry is practically completed.

OPERATION OF CONCRETE CONSTRUCTION PLANT.

Length of working day (hours)		8.00
Average number of hours per day worked, per strand of cableway, laying concrete, actual working time		0.296
Average number of mixers per day		2.00
Average hourly output per mixer, actual working time (cubic yards)		60.00
Average amount of concrete laid per hour, per strand of cableway, actual working time (cubic yards		29.42
Concrete laid (cu. yds.), cableways	1,813	
Concrete laid (cu. yds.), portable mixers	318	
Concrete laid (cu. yds.), hand mixed	103	
Concrete laid (cu. yds.) transmission duct line	197	
Total amount of concrete laid (cu. yds.)		2,431.00

GATUN DAM.

Construction during the month increased the total fill, as determined by car measurement, 78,795 cubic yards, making the total amount in place 21,962,362 cubic yards. On September 1, the dam was 99.83 per cent completed. Additions to the dry fill amounted to 73,797 cubic yards, which were placed on the north and south toes of the dam, east and west of the spillway, making the total dry fill in place 11,743,950 cubic yards.

GATUN SPILLWAY.

Concrete laid during the month amounted to 2,104 cubic yards, making the total quantity in place 227,749 cubic yards. Concrete work was 99.45 per cent completed at the close of the month.

Hydroelectric plant—The total excavation reported for July was not increased. During the month, 924 cubic yards of concrete were placed, making a total of 6,675 cubic yards.

WEST BREAKWATER—COLON.

Out of a total of 24,026 cubic yards of Porto Bello rock placed on the breakwater during August, 8,247 cubic yards were unloaded by cranes and 15,799 cubic yards by derrick barges. The total amount placed upon the breakwater to September 1 was 296,693 cubic yards.

Central Division.

The total amount of material excavated during the month was 843,700 cubic yards, of which 185,441 cubic yards were classified as earth and 658,259 cubic yards as rock. The entire amount was removed by steamshovels, 810,100 cubic yards being classified as primary excavation and 33,600 cubic yards as plant excavation. Of the total primary excavation, 245,000 cubic yards were taken from within the lines of the Canal prism, and 648,300 cubic yards from without the Canal prism, the latter amount being excavated from slides, and from high levels as a preventive measure against slides.

The daily average number of steamshovels at work was 34.65, and the total number of shovel days was 901, as compared with 40.74 shovels at work and 1,018 shovel days in July. For comparison with the work done by steamshovels during the corresponding month of the previous year, the following table is presented:

Period	Excavated by shovels.	Classification of material.		Av. No. of shovels at work.	W'kg days.	Av. yards per shovel day.
		Rock.	Earth.			
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*			*C. Y.*
1912: Aug.	1,094,132	896,535	197,597	34.11	27	1,187.98
1913: Aug.	843,700	658,259	185,441	34.65	26	936.00

Rainfall at Empire: 1912, 10.53 ins.; 1913, 10.46 ins.

The estimated amount of material removed and to be removed, according to the revision of July 1, 1913, is 115,696,455 cubic yards. Up to September 1, 1913, 108,931,355 cubic yards had been removed, leaving 6,765,100 cubic yards to be removed, in order to complete all excavation in this division. At the close of the month, 94.15 per cent of all excavation was completed. On August 31, the status of the work in the two sections which compose this division was, as follows:

CULEBRA CUT.	*Cubic yards.*
Dry excavation accomplished	96,546,700
Excavation to be accomplished	6,615,100
CHAGRES SECTION.	
Dry excavation completed	12,384,655
Wet excavation to be accomplished	150,000

Material dumped from the Naos Island trestle during the month totaled 31,557 cubic yards.

The daily average number of laborers at work was 5,738, while the average number of gold men working was 563.

Quartermaster's Department.

LABOR.

The force report of August 27 showed 39,962 men actually working for the Commission and the Panama Railroad Company. The actual working forces of the several contractors totaled 2,923 men. There was a surplus of labor throughout the month. Reports show an excess of emigration over immigration during the month of about 1,700.

BUILDINGS.

The work performed by the building division was greater in amount than for any previous month since building work was taken over by this department; it was practically all rush work. The number of men employed was greater than in any single month since the erection of quarters for American employes in the early days of the work; a great deal of overtime was put in. The amount of maintenance and repair work on Panama railroad buildings, taken over on August 1, exceeded anticipations. On February 14, it was estimated that 12 gangs of 40 men each, working continuously from March 1 to September 1, would complete the demolition and removal of all American buildings used as married and bachelor quarters in Gorgona. An average of only eight gangs was used and, in addition to work on American quarters, eight French buildings were moved and three of them reerected, all shop buildings were demolished and two of them moved and reerected, and the work was completed on the date set.

QUARTERS.

Save at Ancon and Balboa there is no congestion in bachelor quarters. The transfer of families from Gorgona was completed, and the regular assignment lists in all districts, closed in March last in order the the residents of Gorgona might be taken care of, were opened. The lists of applications for married quarters at Cristobal and Colon were consolidated, and the rules governing assignments to railroad and Commission quarters were made uniform. There was a decrease in the total number of applications.

MATERIAL AND SUPPLIES.

The value of material received was $913,-142.13. This material came forward in 37 steamers having a total weight of cargo, exclusive of lumber, piling, and ties, of 15,942 tons. Nine million feet of lumber were received during the month; this is the largest amount received in any one month during the American occupation.

Subsistence Department.

The Hotel Tivoli was operated at a profit of $5,621.91. The operation of the line hotels, laborers' messes, and restaurants resulted in a net profit of $1,725.70. The total net profit on subsistence operations during the month was $7,347.61.

Department of Civil Administration.

COURTS.

During the month, 53 civil and 50 criminal cases were disposed of in the circuit courts, and 72 civil and 470 criminal cases in the district courts.

POSTS, CUSTOMS, AND REVENUES.

Money order sales amounted to $402,985.-80, and the fees to $1,890.38. Receipts from stamp and card sales and newspaper postage aggregated $8,214.22. The total collection of revenues was $15,169.18, and the collections on account of court fines, costs, and fees, $2,755.61. A total of $164,968 was deposited in postal savings accounts, and a total of $155,489 was withdrawn. At the port of Ancon, 20 vessels entered and 21 cleared; at the port of Cristobal, 19 entered and 21 cleared.

POLICE AND PRISONS

The total number of persons arrested was 484, of whom 412 were men and 72 women. Fifteen convicts were committed to the penitentiary and 10 were discharged, leaving 143 convicts in confinement at the close of the month. The cost of guarding and subsisting these prisoners was $2,466.25, and the value of the work performed by them on the roads of the Canal Zone was $2,569.10.

FIRE PROTECTION.

Ten fires were reported in the Canal Zone. The property involved was estimated to be worth $35,112. The damage occasioned was $60.

Department of Sanitation.

The total number of deaths from all causes among employes was 39 divided, as follows: From disease 21, and from violence 18, giving an annual average per thousand of 4.31 and 3.69, respectively. The annual death rate per thousand among employes for the month of August, 1912, was 10.01.

The annual average death rate per thousand in the Canal Zone, and in the cities of Panama and Colon, including both employes and nonemployes, was 24.23. This rate is based upon a population in the Canal Zone of 62,810, according to the census of February, 1912, and populations in Panama and Colon, respectively, of 47,172 and 20,232, as estimated by the Department of Sanitation. The annual average death rate per thousand among the same classes of population for the month of August, 1912, was 25.69.

Segregating the whites from the blacks, the annual average death rate per thousand from disease among employes was: Whites, 2.91; blacks, 4.69, giving a general average for disease of 4.31. For the same month during 1911, the annual death rate per thousand from disease among whites was 6.45; blacks, 6.23, giving a general average of 6.27; and for the same month in 1912: Whites, 6.91; blacks, 7.86, giving a general average of 7.63.

Among employes, deaths from the principal diseases were: Lobar pneumonia, four; malaria fever, E. A., three; tuberculosis of the lungs, three; abscess of the liver, entamoebic, two, leaving nine deaths from all other diseases and 18 deaths from external violence.

No cases of yellow fever, smallpox, or plague originated on, or was brought to the Isthmus, during the month.

Respectfully,
Geo. W. Goethals,
Chairman and Chief Engineer.

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Red Cross Finances.

A statement of the finances of the Canal Zone Chapter, American National Red Cross, for the month of August, 1913, follows:

RECEIPTS:

August 1, On hand	$2,101.21	
August 12, Refund for meals furnished at Cristobal hotel	2.35	
August 31, Membership dues	1.00	
August 31, Interest credited at bank	7.40	
		$2,111.96

DISBURSEMENTS:

August 5, Deportation of destitute wife of ex-employe	$25.00	
August 5, Postage	2.00	
August 8, Relief of American unable to get work	25.00	
August 19, Relief of destitute American, Cristobal	1.75	
August 25, Deportation of American lady, Ancon	30.00	
August 26, Making cut for advertising ball	10.00	
		$93.75
August 31, Balance on hand		$2,018.21

John L. Phillips,
Treasurer.

Approved:
Edw. Schildhauer,
Chairman.

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Missing Men.

Any one having information regarding the whereabouts of Mr. George Albert Grant, who is supposed to be on the Isthmus, is requested to communicate with the American Consulate General, Panama.

Any one having information regarding the whereabouts of Mr. Leslie Crawford, who is supposed to be on the Isthmus, is requested to communicate with Mr. Wm. O. Beckel, Box 18, Cristobal.

Any one having information regarding the whereabouts of Mr. J. S. Singer, who is supposed to be on the Isthmus, is requested to communicate with Mr. G. C. Singer, Hotel Veranda, Norristown, Pa.

Any one having information regarding the whereabouts of Mr. John Ryner, who is supposed to be on the Isthmus, is requested to communicate with The Canal Record, Ancon.

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Examinations by Board of Local Inspectors.

The Board of Local Inspectors will conduct examinations at the Administration Building, Ancon, on Wednesday, October 8, 1913, beginning promptly at 2 p. m., for persons desiring to procure the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for licenses must procure from the Executive Office, Ancon, form of application and information respecting the filling out of same, at least one day before the examination. Applicants for chauffeurs' licenses must also bring automobiles.

LABOR FORCE AND QUARTERS IN AUGUST.

The force report for August 27 shows the actual working force of the Canal Commission to be 35,005; of the Panama railroad, 4,957, and of the contractors, 2,923, a total effective working force of 42,885 men, an increase of 401, as compared with the statement for July. The gold force on the Canal work, composed almost exclusively of white Americans, was 4,087, a reduction of 86, as compared with the previous month. A statement of the Canal force by divisions, follows:

Department or Division.	SILVER EMPLOYES*													Total silver.	Total gold.	Grand total.
	Artisans.						European laborers.		West Indian laborers.							
	Monthly	44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents	7 cents.			
Construction & Engineering	4,615	9	9	375	1,480	4,126	3,120	797	91	441	6,908	3,072	260	25,303	3,110	28,413
Civil Admin'tion	118	..	..	...	.....	.....	......	......	...	...	.....	.....	...	118	281	399
Sanitation	640	..	..	3	3	5	......	......	...	...	8	311	2	972	341	1,313
Quartermaster's	902	..	..	216	425	602	24	3	...	...	354	1,255	16	3,797	206	4,003
Subsistence	691	..	..	2	2	1	......	......	...	...	.....	.....	21	717	49	766
Disbursements	7	..	..	..	.. ..	.....	......	......	...	...	.....	.....	...	7	16	23
Examination of Accounts	4	..	..	...	.....	.....	......	......	...	...	.....	.....	...	4	84	88
Total	6,977	9	9	596	1,910	4,734	3,144	800	91	441	7,270	4,638	†299	30,918	4,087	35,005
Month previous	7,031	12	11	535	1,808	4,382	2,694	505	555	636	6,338	4,871	‡279	29,657	4,173	33,830

I. C. C. force, 33,830; Panama railroad force, 3,894; Panama railroad commissory force, 1,382; total 39,106.
*All wages specified are in gold. †Includes four at five cents. ‡Includes one at five cents.

The force report of the Department of Construction and Engineering, including the employes of contractors, as of August 27, was, as follows:

Division.	SILVER EMPLOYES*													Total silver.	Total gold.	Grand total.
	Artisans.						European laborers.		West Indian laborers.							
	Monthly	44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents.	7 cents			
Chief Engineer	2,869	..	1	273	982	2,815	1,365	476	23	22	4,745	1,017	†127	14,715	1,614	16,329
Mechanical Div.	225	9	7	43	123	392	29	......	...	2	1,218	88	16	2,152	719	2,871
Atlantic Div.	557	..	1	45	272	597	436	197	...	6	453	253	19	2,836	243	3,079
Central Division	961	..	..	14	103	322	1,290	124	68	411	492	1,714	98	5,600	534	6,134
U. S. Steel Products Co.	......	..	..	...	.....	.....	......	......	..	...	.....	......	...	85	234	319
Chicago House Wrecking Co.	......	..	..	...	... .	.....	......	......	...	..	.....	......	...	20	3	23
McClintic-Marshall Co.	......	..	..	...	.....	.....	.....	......	...	...	....	......	...	2,294	287	2,581
Total	4,615	9	9	375	1,480	4,126	3,120	797	91	441	6,908	3,072	†260	25,303	3,110	28,413
Month previous	4,638	12	11	362	1,506	3,986	2,680	505	555	636	6,051	3,544	240	24,726	3,225	27,951

*All wages specified are in gold. †Includes three at five cents.

QUARTERS.

A report of Commission quarters occupied on August 31, follows:

Place.	Gold.			Europeans.			West Indians.		
	Men	*Women*	*Children*	*Men*	*Women*	*Children*	*Men*	*Women*	*Children*
Balboa	486	36	44	409	....	....	772	....	......
Ancon[1]	593	306	243	6	....	....	864	6	......
Corozal	810	229	162	482	....	....	641[2]	9	6
Miraflores	18	1	1	214[3]	3	11	264[4]	11	12
Pedro Miguel	298	73	92	305	3	2	251	32	48
Paraiso	183	74	91	118	3	11	251	103	148
Culebra	370	147	160	424	50	95	331	101	157
Empire	805	267	291	406	45	80	539	152	240
Las Cascadas	190	99	138	37	25	43	243	141	172
Bas Obispo	86	47	46	128	12	17	215	50	70
Gatun	614	201	210	1,000	20	24	765	20	12
Cristobal[6]	999	425	486	40	....	....	1,342[6]	229	363
Toro Point	51	12	17	86	....	....	311	....	......
Porto Bello	73	29	29	113[7]	....	....	230	2	4
Total	5,576	1,946	2,010	3,768	161	283	7,019	856	1,232

(1) Includes Sabanas police station, Taboga Island, Culebra Island, Palo Seco and Naos Island. (2) Includes 74 Panamanians. (3) Includes nine East Indians. (4) Includes 54 Panamanians. (5) Includes Colon Beach, and Colon Hospital. (6) Includes 41 East Indians, 9 American citizens and, 59 Panamanians. (7) Includes 23 Asiatics. Gold force of contractors (included above), 31 families, and 481 bachelors.

CHANGE IN ORGANIZATION.

Central Division to be Abolished—Work Apportioned Among Other Departments.

The Central Division will be abolished at the close of business on Friday, October 10, the date set for the blowing up of Gamboa dike. It was first organized on July 1, 1909, succeeding the Department of Excavation and Dredging, and was assigned the Canal territory extending from the south toe of Gatun Dam to the north end of the lock site at Pedro Miguel, a distance along the axis of the Canal of 31.69 miles. It embraced the entire extent of the former Culebra and Chagres Divisions, which have since been known as the Culebra and Chagres sections of the Central Division. Its scope of operations also included the construction of the Naos Island breakwater, the clearing of timber from the channel in the lake section, and such municipal, sanitary, and building work as was included within its territorial limits. The Canal work was divided into five construction districts, and was placed in charge of Lieut.-Col. D. D. Gaillard, as division engineer, with the following assistants: Mr. Earl A. Bronk, chief clerk; Mr. Louis K. Rourke, assistant division engineer; Mr. A. S. Zinn, resident engineer; Mr. Mark W. Tenny, Mr. R. W. Hebard, Mr. W. L. Thompson, and Mr. George H. Ruggles, assistant engineers. Of the division engineer's assistants at that time, only two, Messrs. Zinn and Tenny, are now connected with the organization.

With the resignation of Mr. Rourke on May 1, 1910, a reorganization of the work was effected. The position of assistant division engineer was abolished, and that of general superintendent of construction created. The five construction districts were consolidated into four, as follows: The Chagres River district, extending from Gatun to the Chagres River, at Gamboa; the Empire district, extending from Gamboa to the Empire suspension bridge; the Culebra district extending from the suspension bridge to the railroad crossing north of Pedro Miguel Locks, and the Pedro Miguel district embracing the excavation between the railroad crossing and the locks, the dumps south of Pedro Miguel, and the construction of the Naos Island breakwater. At the beginning of the dry season in 1909, the clearing, grubbing, and burning of trees and brush in the Gatun Lake channel was begun, and a total of 950.4 acres was cleared up to June 30, 1910.

On May 10, 1911, the engineering branch of the division was reorganized. Previous to this time, the field and office work had been handled by the resident engineer at Empire, with offices in charge of assistant engineers at Las Cascadas and Paraiso. The two latter offices were abolished, and their work transferred to the office of the resident engineer at Empire. Slides became troublesome during 1910-11, but the movement at Cucaracha, with which both the French and the Americans have had to deal, ceased temporarily, the last steamshovel cut at this point having been made in the early part of June, 1911, on the permanent berm at the 95-foot level. The slide at Culebra began to assume a formidable aspect at this stage. Clearing in the Gatun Lake section, embracing a total area of about 1,132 acres, was completed during the fiscal year 1910-11.

During the fiscal year 1911-12, it was decided to continue the plan of decreasing the pressure on the Canal banks at all places where breaks were likely to occur, by removing the material above, and this arrangement has continued without interruption until the present time. A board was appointed and submitted a report on the Naos Island breakwater, which had been giving trouble for some time, due to the sliding of the bottom under pressure caused by the weight of stone dumped from the trestle. The board recommended the building of a double trestle, which permitted of dumping on either side, thereby spreading the fill, and the plan was carried out.

The Chagres district of the division was abolished on August 19, 1912, and the title of it changed to the Relocation Dumps. On October 1, 1912, the Empire district was extended from the Chagres River to Station 1760 the Culebra district from Station 1760 to Pedro Miguel Locks, and the Pedro Miguel district was changed to comprise the Central Division tracks south from a point opposite the north face of the northeast wing wall of Pedro Miguel locks, and the Miraflores and Balboa dumps. On September 26, 1912, the Empire district was made to include the slide on the west bank at Culebra. On November 16, 1912, the timekeeping of the Culebra and Empire districts was concentrated in the office of the division engineer, and on January 15, 1913, the same action was taken with respect to the relocation dumps. On July 1, 1912, the Empire shops, formerly under the division, and the Las Cascadas wrecking outfit, were transferred to the Mechanical Division.

The Naos Island dike, 3.29 miles long, continued to give trouble during the fiscal year 1912-13, and it has proved one of the most difficult pieces of engineering the division has had to contend with. Up to June 30, 1913, the trestle had been entirely completed, and filled with the exception of a stretch about 600 feet long. The settlement continued, and in one locality, the vertical movement was as much as 50 feet. Not a single foot of the trestle constructed during the past three years remains at present under the track for which it was intended, having moved to one side laterally as much as 100 feet. So large has been this movement that actual observations in recent months have shown that the quantity of stone required to complete the dike up to its present height was at least ten times the theoretical quantity which would have been required had the bottom been unyielding. The dike has nearly always slid out when the surface of the water is at the lowest elevation, at which time, the pressure on the bottom of the dike is maximum.

The distribution of the work after the division is abolished is outlined in an official circular printed on another page of this issue of The Canal Record. Lieut.-Col. Gaillard, division engineer, on account of ill health, was compelled to return to the United States on August 9, 1913.

The total amount of explosives used in this territory since the beginning of work by the Americans is approximately 38,729,000 pounds.

The total amount of material removed from the territory of the Central Division from May 4, 1904 until September 10, 1913, the date steamshovel operations were permanently suspended, including all accessory work, with the exception of sluicing back of Gold Hill, is, as follows:

Fisc. yr. ending June 30	*Earth.*	*Rock.*	*Total.*	*Per cent rock.*
1904....	24,024	36,083	60,107	60.03
1905....	397,043	344,601	741,644	46.46
1906....	764,327	742,235	1,506,562	49.27
1907....	2,429,720	3,338,294	5,768,014	57.88
1908....	5,383,160	8,456,102	13,839,262	61.10
1909....	6,444,897	12,622,880	19,067,777	66.29
1910....	4,630,425	13,235,383	17,865,808	74.08
1911....	4,583,719	13,968,925	18,552,644	75.29
1912....	2,799,665	14,343,402	17,143,067	83.67
1913....	2,732,563	10,098,099	12,830,662	78.80
1913 (July&Aug.)	394,272	1,393,728	1,788,000	77.95
Total..	30,583,815	78,579,732	109,163,547	72.98

The yardage for September 1st to 10th inclusive, as shown by car measurement, was 136,627 cubic yards.

Of the above total, 105,743,176 cubic yards were removed from the Canal prism; 1,360,673 cubic yards from the Obispo Diversion, while 271,698 cubic yards consisted of outside work.

Of the three great construction divisions organized on July 1, 1908—Atlantic, Central, and Pacific—only one, the Atlantic remains in existence. The Pacific Division was abolished upon the resignation of Mr. S. B. Williamson, its division engineer, on January 1, 1913.

PERSONAL.

Lieut.-Col. Eugene T. Wilson returned from leave of absence on the United Fruit Company's steamer *Abangarez*, from New Orleans, on Thursday, September 25.

Maj. James Postell Jervey, Corps of Engineers, U. S. A., resident engineer in the Atlantic Division, has been transferred from the Canal Commission service, and, accompanied by his family, sailed for New York on the *Cristobal* on September 27. He arrived on the Isthmus on July 24, 1908, and was assistant engineer in the Atlantic Division until September 15 of that year. Upon the reorganization of that division, he was made resident engineer and placed in charge of the masonry construction of Gatun Locks, which is now completed. Major Jervey was graduated from West Point, with a commission of second lieutenant, Corps of Engineers, on June 11, 1892, and attained his present rank of major on February 28, 1908. His army career includes service in the Philippines; from February to September, 1906, he was engineer of the Moro province, and from that time until July of the following year, he was both engineer and secretary. In addition to his other army duties, he has served as instructor of engineering at West Point, and at the Engineer School at Washington. On October 15, Major Jervey will relieve Major F. W. Altstaetter, Corps of Engineers, of duties on the Ohio River pertaining to the Wheeling district.

Maj. George M. Hoffman, Corps of Engineers, U. S. A., resident engineer in the Atlantic Division, with headquarters at Gatun, has been transferred from the Canal Commission service, and sailed for New York on the *Panama* on Monday, September 29. He arrived on the Isthmus on January 10, 1908, and was made assistant division engineer of the old Chagres Division. With the beginning of operations on Gatun Dam and Spillway, he was placed in charge of this work by Lieut.-Col. Sibert, and leaves with both projects practically completed. He was made resident engineer on August 1,

1910. Major Hoffman entered the United States Military Academy at West Point on June 15, 1892, and upon his graduation in 1896, was made a second lieutenant in the Corps of Engineers. He was promoted to First Lieutenant on July 5, 1898; to Captain on April 23, 1904, and to Major on December 3, 1909. He has been transferred to the Mississippi River improvement service, with headquarters at Rock Island, Ill.

Mr. Arthur Sessions, superintendent of transportation in the Central Division, has resigned, effective October 15. He has accepted the position of general superintendent of transportation for the Bocas Division of the United Fruit Company, with headquarters at Bocas del Toro, Panama. He came to the Isthmus on May 10, 1905, entering the service of the Canal Commission as trainmaster. He was appointed assistant superintendent of transportation in the old Culebra division on July 1, 1906, and was promoted to his present position on August 22, 1908.

Judge H. A. Gudger sailed for New York on the *Panama*, on Monday, September 29, on his annual leave of absence.

Gov. O. B. Colquit, Mrs. Colquit, and Miss Mary C. Colquit of Austin Tex.; Mr. and Mrs. J. N. Graves of Oklahoma City, Okla.; Mr. and Mrs. J. H. Bonner, Miss Garland Bonner, and J. S. Bonner, Jr., of Houston, Tex., and Mrs. W. E. Fitzgerald of Austin, were members of a party that arrived from New Orleans on the *Parismina* on Monday, September 29, on a sightseeing trip to the Canal.

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Falling Off in Immigration.

According to the figures of the quarantine service the number of steamship passengers, who embarked at Colon for foreign ports during August, was greatly in excess of the number who landed; the total was 4,267, consisting of 1,935 cabin, and 2,332 steerage passengers. The number of persons who landed from foreign ports was 2,403, consisting of 1,189 cabin, and 1,214 steerage passengers. The number of persons who embarked over those who landed was 1,860. The immigration from the West India islands consisted of 135 cabin, and 858 steerage passengers. This is a falling off of 665 in the number of steerage passengers, as compared with the month of July, and shows that the information, which was recently disseminated throughout the islands to the effect that no more employment with the Isthmian Canal Commission is to be had, has been of benefit. Apart from the West Indies, the country sending the most steerage passengers to the Isthmus of late is Colombia. The number of steerage passengers from Colombian ports in August was 103, as compared with 139 in July. There were only 53 steerage passengers from Europe during the entire month. The number of persons arriving "in transit," practically all tourists, was 2,407, as compared with 2,306 in July, an increase of 101.

The number of persons who landed at the ports of Panama and Ancon during the month from foreign ports was 570, consisting of 453 cabin, and 117 steerage passengers. The number of persons who embarked for foreign ports was 554, consisting of 382 cabin, and 172 steerage passengers. The number who landed over those who embarked was 16. The net emigration from the Isthmus during August was 1,844.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The moving picture schedule for the week October 6 to 11, is, as follows: Monday, Cristobal; Tuesday, Empire; Wednesday, Corozal; Thursday, Gatun; Friday, Culebra and Porto Bello.

On September 28, a meeting of the representatives of the Y. M. C. A. chess clubs was held at the Cristobal clubhouse, when it was decided to hold an all-Isthmian chess tournament, to begin on Saturday, October 4. Rules and regulations for the tournament were adopted and forwarded to the various clubhouses.

Through special arrangement with Mr. R. A. Linton, who has secured sole right to exhibit Thos. A. Edison's recently invented kinetophone (talking moving pictures), in several South American countries, these pictures are being exhibited at the Zone clubhouses during the current week. This is the first time that talking moving pictures have been exhibited on the Zone.

COROZAL.

Corozal defeated Gatun at basketball on Saturday evening, September 27, by a score of 23 to 11.

There was a large attendance at the "Smoker" held on Thursday evening, September 25. The program consisted of a baritone solo by Mr. Case; selections by the Tenth Infantry orchestra; violin solos by Mr. Whitehead; blackboard sketches by "Steve;" recital of an Irish poem by "Dick" Roberts; the "Canal digger's dream," by Mr. Biedermann; moving pictures; and two wrestling matches, one between Messrs. Howe and Grimm, won by Howe; in two minutes; and the other, between Christy and Martinoff, resulting in a draw after 10 minutes work. Cigars and refreshments were served.

Edison's invention, the kinetophone, or talking moving picture machine, will be at the clubhouse on Friday night of this week.

The Culebra basketball team is scheduled to play the Corozal team on Thursday night, October 2.

Culebra won three games in bowling from the Corozal players on Saturday evening, September 27.

CULEBRA.

The concert given by the Tenth Infantry band on Sunday evening was attended by over 300 people.

For the benefit of those who were unable to attend the first entertainment, Mr. D. V. Stratton repeated his lecture on the Sacramento Valley and the Panama-Pacific Exposition, illustrated by slides and moving pictures, on Monday night, September 29.

The regular moving picture show will be given Friday night, October 3, instead of Thursday night.

The Sunday night song service will be held on October 5, at 7.30 p. m. All are invited to attend.

EMPIRE.

Four games of basketball were played in the local league during the past week, at the close of which the league standing was, as follows :

	Won.	*Lost.*
Reds	3	1
Blues	3	1
Whites	2	2
Greens	0	4

The opening game for Empire in the Isthmian basketball league will be played at Cristobal.

The Empire tenpin bowling team defeated the Camp Elliott team three games on Tuesday evening, September 23, on the Empire alleys.

The opening game of the Isthmian tenpin bowling tournament will be between Empire and Camp Elliott, at Empire, on Saturday evening, October 4.

About 50 new books have been added to the library, and can be drawn.

A public debate will be held on Friday evening, October 3, to which all are invited to attend. Subject, "Resolved, that the United States should take military steps to pacify Mexico." Speakers for the affirmative will be Messrs. F. G. Swanson and W. F. Morrison; for the negative, Messrs. J. H. Beckmeyer and W. H. Dougherty. Mr. Watson will be chairman of the meeting, and Mr. Barrett, secretary.

GATUN.

President Brown extends a cordial invitation to all members of the Y. M. C. A. to join in the local chess club. In addition to the local tournament, Gatun will be represented in the interassociation chess tournament.

The standing of the local tournament on Saturday evening, September 27, was, as follows:

Name.	*Won.*	*Lost.*	*P. C.*
Logan	5	0	1.000
Marquand	8	2	.800
Farley	1	1	.500
Byrne	2	3	.400
Brown	2	4	.333
Carson	2	6	.250
Fiege	0	1	.000
Dashiell	0	3	.000

H. E. Dewey of Gatun has accepted the challenge of Chas. Wehmaier of Cristobal for a series of two matches of 150 balls each, to decide the pool championship of the Isthmus. The first match was played at Gatun on Tuesday evening, September 23, and resulted in a victory for Mr. Dewey, the score being 161 to 139. The second match to complete the 300 balls will be played at Cristobal in the near future.

The standing of the "Popular" handicap pool tournament on Saturday evening, September 27 was, as follows:

Name.	*Won.*	*Lost.*	*P. C.*
Dewey	8	0	1.000
Pettitt	4	1	.800
Townsley	3	1	.750
Von	5	3	.625
Bailey	4	3	.571
Kerruish	3	3	.500
Johnson	1	1	.500
Gray	3	4	.450
O'Hara	2	3	.400
Bradley	2	6	.250
Reisner	1	4	.200
Dennis	0	3	.000
Wall	0	4	.000

Mrs. J. J. Walsh holds the duckpin record for ladies, having scored 136 during the month of September.

The following have joined the Gatun Y. M. C. A. orchestra: Messrs. McNeeley, Giddings, Fatland, Smith, Whiston, and Lutz, Mr. and Mrs. D. R. Walker, and Mrs. McLeod. Others are welcome to join at any time.

CRISTOBAL.

A concert was given by the string orchestra of the steamship *Prinz August Wilhelm*, on Tuesday night, September 23. Gatun defeated Cristobal the same night at basketball; score 19 to 8.

"President Woodrow Wilson's Mexican policy" will be considered by Messrs. Hipp and Daly at the discussion club meeting on October 9. On the following Thursday night, Dr. C. C. Pierce, superintendent of Colon Hospital, will speak on "Sex hygiene." The public is invited to attend these meetings.

Members of the boys' department made the trip to Gatun Friday afternoon, September 26, to witness the passage of the first boat through the locks.

In a closely contested game, the Marines defeated the Cristobal team at basketball on Saturday night, September 27, by a score of 22 to 20.

On Saturday night, September 27, the Cristobal team took two out of three games at tenpins from Gatun by the following scores:

Gatun.				*Cristobal.*			
O'Meara	168	130	162	Barrett	130	143	171
Wall	187	208	145	Buser	181	155	180
Sherrard	155	166	178	Collins	162	171	158
McCalley	167	158	118	Russell	161	176	167
Humphreys	187	179	198	Bullard	171	201	170
Totals	864	841	801		805	846	846

The opening games in the annual Isthmian tenpin league will be rolled on Saturday night, October 4. The members of the Cristobal team that will contend for the championship of the Isthmus in interassociation bowling for what will probably be the last time will be, as follows: J. W. Barrett, W. F. Barnum, H. C. Collins, Geo. Barte, C. M. Bullard, and W. G. H. Russell. The Cristobal association won the championship in 1907, and since that year the Empire association has won each series. Mr. Barte was a member of the Cristobal team in 1907, but for the past three years has been bowling with Gatun. Messrs. Barrett, Collins, and Bullard will enter on the fifth year as members of this team. Messrs. Barnum and Russell are new members of the team.

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Misdirected Letters.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be procured upon request of the addressees::

Abello, M. D.
Arner, Otto
Barnes, Walter
Berntson, Bernt
Caley, R. D.
Campbell, O. F.
Cody, T. A.
Conger, Stanley E.
Dean, Miss Jazrine
Demuth, E.
DeLong, Chas.
Dursenberry, Claud
Fowle, Jno.
Freedman, Sam D.
Fridley, E. S.
Guilford. Frank B.
Hall, Fred P.
Hernandez, Lus
Horn, M. E.
January, Mrs. C. L. (4)
Jensen, J. C.
Judge, Thomas F.
Keough, John M.
Kett, David
Lenow, Francis J.
Love, W. J. A.
Malmo, Robert H.
Masque, J. M.
McCullock, A.
McHenry, Paul
McLean, Miss Annle (2)
Neverson, C. T.
Ponsaint, H.
Robertson, Walter
Robinson, L. W.
Rocky, Mrs. Ruth
Ridge, Steve
Sandiford, Evans
Schott, U. E.
Seaver, Horace
Tripp, B. A.
Twitchell, Miss Elizabeth
Walsh, E. L.
Walrond, Mrs. E. D.
Ward, Geo. B.
Williams, P.

OFFICIAL CIRCULARS.

Central Division Abolished.

CULEBRA, C. Z., September 27, 1913.

CIRCULAR No. 183-z-1.

Effective October 1, 1913, the timekeeping and costkeeping for the Central Division and the costkeeping for the Quartermaster's Department will be transferred to the Chairman and Chief Engineer's Office, together with the personnel necessary to take care of the work.

Effective at the close of business October 10, 1913, the Central Division will be abolished. The following changes in organization will be made, effective October 11, 1913:

All surveying work will be transferred to Mr. W. G. Comber, resident engineer, Sixth Division, under whose supervision excavation in the wetted prism will be completed by dredging.

Transportation forces will be transferred to the Second Division of the Chief Engineer's Office, under the supervision of the superintendent of transportation, who will also have supervision of transportation in the First Division, the Fifth Division, and the transportation forces of the Fortifications Division on tne Pacific side.

The steamshovel and other construction work of the Central Division outside the wetted prism will be transferred to this office, Mr. A. S. Zinn, resident engineer, reporting to the Chief Engineer. The force under Mr.Zinn will be carried on the rolls of this office.

The property accountability, now carried by the Central Division, will be transferred to the office of the Chief Quartermaster, where it will be maintained for account of this office. The Chief Quartermaster will issue the necessary instructions to consummate the transfer and see that proper memorandum receipts are secured.

Transfers of force will be authorized as soon as the several new organizations are approved and employes to be retained determined.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Issuance of Commissary Coupon Books.

CULEBRA, C. Z., September 26, 1913.

CIRCULAR No. 256-M:

Effective October 10, 1913, the following instructions relative to issuing coupon books will be observed by all concerned:

1. No $2.50 commissary books will be issued. Issues will be limited to $5 and $15 books. (The $2.50 books on hand will be used up by issuing to silver employes two books on each $5 request until the stock is exhausted.)

2. Gold employes are instructed to use the facilities provided for purchasing books for cash, wherever practicable.

3. Employes who cannot supply themselves with books by purchase for cash are directed to order, between the 10th and 25th of each month, sufficient books to last one month, unless they expect to sooner leave the service.

4. Requests for books received before the 10th or after the 25th of the month will be honored for new employes, or in the case of an unforeseen emergency. Foremen or other officials who approve requests for coupon books will be held responsible for the proper observance of this rule.

5. All employes are instructed to submit no requests for coupon books to be issued against pay roll deductions prior to the day on which an amount sufficient to cover the total value of all the books ordered shall have been earned. Meal tickets issued must be charged against the amount earned before coupon books can be issued.

6. Requests for books must in all cases be fully and carefully filled out. The form of request has been revised (new No. C. E. 145-2). The revised form will be used exclusively after October 10. The old forms will be destroyed.

7. Foremen and others whose duty it is to approve and forward employes' requests for books will promptly forward them to the time offices daily, if the requests are in order.

8. Books will be delivered by the timekeeping office within two days after the request is made, or the employe will be notified of the reason for nonissuance. Failure to receive an acknowledgment of a request within two days should be reported immediately in writing to the Chief Clerk, Chairman's Office, Culebra, with a duplicate of the request.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Shipments of Employes' Household Goods Out of New York.

CULEBRA, C. Z., September 29, 1913.

CIRCULAR No. 186-G.

The attention of employes is directed to the fact that on shipments of household goods to the States the railroads running out of New York City require that freight charges must be prepaid and that shipments must be forwarded in cases, not trunks. If the goods are shipped in trunks, the trunks must be crated. It would, therefore, be advisable for employes to ship household goods by the steamer preceding the one on which they take passage, in order that arrangements may be made to prepay charges when the employe arrives in New York City; otherwise, a delay may result or it may be necessary to forward the shipment by express, as this is the only way a shipment can be forwarded C. O. D. It is not possible to make arrangements to prepay all charges on the Isthmus when the shipment is destined for a point beyond New York City.

GEO. W. GOETHALS,
Chairman.

Use of Hand Shovels.

CULEBRA, C. Z., September 20, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

Until further notice, hand shovels on construction work shall be used, as follows:

(1) For handling of earth; No. 2 round point, short handle, malleable iron "D" handle shovel.

(2) For general railroad construction and ordinary tamping in connection therewith; No. 2 round point, short handle shovel.

(3) For railroad maintenance work; No. 2 square point, short handle shovel for tamping, and No 2. round point, short handle shovel for ditching, weed cutting, etc.

(4) For shoveling concrete material from boards, including sand, gravel, and broken stone; No. 2 square point, short handle shovel.

(5) For mixing and placing concrete; No. 2 square point, short handle shovel.

(6) No. 2 long handle, square point and round point shovels, respectively, shall be used whenever material is to be raised to such an elevation as will render their use economical.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Termination of Service Papers.

CULEBRA, C. Z., September 24, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

In addition to termination of service papers, Form 171-1 C. E., at present being forwarded to this office, it is directed that an extra copy be sent direct to the superintendent of Ancon and Colon Hospitals.

It is also directed that these termination papers be prepared and forwarded as soon as possible after an employe has tendered his resignation, or his services are otherwise terminated.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Acting Purchasing Agent.

CULEBRA, C. Z., September 5, 1913.

CIRCULAR No. 501:

Effective September 6, 1913, and during the absence on leave of Capt. Courtland Nixon, Mr. Charles L. Parker, assistant depot quartermaster, will perform the duties of purchasing agent on the Isthmus.

GEO. W. GOETHALS,
Chairman.

Acting Depot Quartermaster.

OFFICE OF CHIEF QUARTERMASTER,
CULEBRA, C. Z., September 12, 1913.

Effective September 6, and during the absence on leave of Capt. Courtland Nixon, Mr. Charles L. Parker will act as depot quartermaster. He is authorized to receive and receipt for supplies for the Isthmian Canal Commission consigned to Capt. R. E. Wood, or the Chief Quartermaster, Isthmian Canal Commission, to accomplish bills of lading, to certify invoices for payment as to quantity and quality of supplies shown on such invoices, and, in general, to perform such duties as properly belong to the position of depot quartermaster.

R. E. WOOD,
Chief Quartermaster.

Change in Circular Number.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., September 24, 1913.

CIRCULAR No. 216:

All Concerned—Referring to my circular No. 102, dated September 20, appointing Mr. F. B. Clements as local auditor of the Panama Railroad Company:

Please change this circular number to read 206, instead of 102.

JOHN D. PATTERSON,
General Superintendent.

Married.

EBDON-ASHTON—On September 20, at the home of Mr. and Mrs. William Ashton, Mount Hope, Canal Zone, Emma E. Ashton of Calumet, Mich., to Thomas J. Ebdon of Houston, Tex., Rev. C. O. Purdy officiating. Canal Zone residence, Gatun.

WHITE-FROST—At the residence of the bride's mother, Cristobal, on Thursday, September 18, 1913, Miss Odina J. L. Frost of Caracas, Venezuela, to Mr. Walter Joseph White of Covina, Cal., the Rev. Father Henry Pouget officiating.

JENSEN-WESTLEY—In the Union Church, Cristobal, on September 22, Miss Blanche Myrtle Westley of Altoona, Pa., to Mr. John Christian Jensen of Alexandria, Va., the Rev. Carl H. Elliott officiating. Residence, Porto Bello.

CAMPEY-HAWKINS—On September 29, in the Union Church, Cristobal, Mary Elizabeth Hawkins of Houston, Texas to George Miles Campey of Detroit, Mich., the Rev. Carl H. Elliott officiating. Canal Zone residence, Cristobal.

Rainfall, Sept. 1 to Sept. 27, 1913, Inclusive.

STATIONS.	Maximum in one day.	Date	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	1.88	19	7.49
Balboa	1.86	8	6.55
*Miraflores	1.42	23	7.87
Pedro Miguel	1.18	24	7 56
Rio Grande	1.73	19	8.54
Central Section—			
Culebra	1.93	8	9.85
*Camacho	2.24	9	6 38
Empire	1.23	8	8 74
Gamboa	1.27	19	8 38
*Juan Mina	2.15	6	7.82
Alhajuela	1.22	3	6.94
*El Vigia	1.38	19	6.84
*Frijoles	2.22	5	10 38
*Monte Lirio	3.26	5	12 32
Atlantic Section—			
Gatun	1.46	23	7 94
*Brazos Brook	1.49	18	9 33
Colon	1.54	8	7 81
†Porto Bello	3.25	19	10.22

*Standard rain gage—readings at 5 p.m., daily. Automatic rain gage at unstarred stations—values midnight to midnight. †To 5 p.m., September 26.

Stages of the Chagres.

Maximum height of the Chagres River for the week ending midnight, Saturday, September 27, 1913. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.			
	Vigia.	Alhajuela	Gamboa.	Gatun Lake*
Sun., September 21	131.5	96.4	64.8	64.7
Mon., September 22	130.0	96.2	65.0	64.9
Tues., September 23	127.2	93.7	65.1	65 1
Wed., September 24	127.6	93.8	65.3	65.3
Thurs., September 25	126.9	93.4	65.4	65.3
Fri., September 26	126.6	93.0	65.5	65.5
Sat., September 27	126.6	92.8	65.6	65.6
Height of low water to nearest foot	125.0	91.0	44 0	

*Sluice gates in spillway at Gatun were closed on June 27, 1913, with surface of lake at elevation 48.25,

Tide Table.

The following table shows the time of high and low tide at Panama for week ending September 13, 1913:

DATE.	High	Low	High	Low	High
	A.M.	A.M.	A.M.	P.M.	P.M.
Oct. 5	......	12 55	6.53	1.18	7 26
Oct. 6	......	1.41	7.41	2.11	8 22
Oct. 7	......	2.40	8.38	3.12	9.30
Oct. 8	......	3 49	9.52	4 25	10.53
Oct. 9	......	5 08	11.24	5 41	......
Oct. 10	12.18	6 25	P. M. 12.47	6 47	......
Oct. 11	1.20	7.27	1 47	7.43	......

75th meridian time.

Ancon Crusher.

Ancon crusher operations for week ending September 27:

DATE.	Cubic yards.	Hours worked.
Sept. 22	1,842	7.35
Sept. 23	2,197	7.25
Sept. 24	1,836	7.40
Sept. 25	2,004	7.40
Sept. 26	1,903	7.05
Sept. 27	1,844	7.35
Total	11,626	45.00

COMMISSARY DEPARTMENT.

The commissary stores are open during the following hours:

Cristobal, 8 a. m., to 12.30 p. m., and 2 to 7 p. m.
Balboa, 8 a. m. to 12.30 p. m., and 2.30 to 7 p. m.
Ancon, 8 a. m. to 1 p. m., and 3 to 6 p.m.
All others, 8 a. m. to 1 p. m., and 3 to 7 p. m.

Retail prices of cold storage provisions for the week beginning October 1, 1913:

FRESH MEATS.	Price.
Mutton—Stewing, per pound	6
Shoulder, neck trimmed off (4 pounds and over), per pound	9
Entire, forequarter (not trimmed, 10 pounds and over), per pound	8
Legs (8 to 10 pounds), per pound	17
Cutlets, per pound	18
Short cut chops, per pound	20
Lamb—Stewing, per pound	6
Entire forequarter, neck trimmed off, per pound	9
Legs (5 to 8 pounds), per pound	20
Chops, per pound	24
Cutlets, per pound	24
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	12½
Chops, shoulder, per pound	17
Chops, per pound	26
Loin, for roasting per pound	26
Cutlets, per pound	30
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	8
Plate, per pound	9
Corned, No. 1, per pound	14
Corned, No. 2, per pound	12
Chuck roast, 3 lbs., and over, per pound	12
Rib roast, second cut (not under 3½ pounds), per pound	16
Rib roast, first cut (not under 3 pounds), per pound	18
Pot roast, per pound	19
Rump roast, per pound	19
Porterhouse roast, per pound	20
Steak, Chuck, per pound	12½
Round, per pound	13
Rib, per pound	18
Sirloin, per pound	19
Rump, per pound	19
Porterhouse (not less than 1½ pounds), per pound	20
Tenderloin (Western), per pound	30
Pork—Loin chops or roast, per pound	17
Hams, fresh, per pound	§20
Shoulders, fresh, per pound	§17
Spare ribs, per pound	15
Backbones, per pound	15
Pigs' feet, each	7
Pigs' head, ½-head	60
Sausage, home made, per pound	20

MISCELLANEOUS.	
Livers—Beef, per pound	11
Calf, each	60
Half, each	30
Steak, Hamburger, package	13
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Devonshire Farm, per pound	20
Sweetbread, beef, per pound	34
Eggs, fresh, per dozen	†36
per ½-dozen	†18
Bluefish, per pound	12
Halibut, fresh, per pound	15
Salmon, per pound	15
Roe shad, each	75
Shad roes, pair	40

POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, large, each	1.40
Fancy roasting, mild fed, med., each	1.10
Fancy roasting, corn fed, about 5½ pounds, each	1.25
Fancy roasting, corn fed, about 4½ pounds, each	1.00
Fowls, each ††60, 70, 80, 90, and	1.00
Ducks, Western (about 4½ pounds), each	1.25
Capons, each	2.00
Broilers, milk fed, each	70
Broilers, corn fed, each	60
Turkeys, per pound	28
Squabs, each	50
Rabbits, skinned, each	30
Partridges, pair	1.30
Grouse, per pair	1.30
Pheasants	1.30

CURED AND PICKLED MEATS.	
Ham—Genuine Westphalia, per pound	40
Ham—Sugar cured, per pound	20
Sliced, per pound	22
Half, for boiling, per pound	21
Boiled, per pound	28
Hocks, per pound	‡8
Beef, salt, family, per pound	12
Bacon—Breakfast, whole piece, per pound	25
Sliced, per pound	26
Ham, lunch, per pound	32
Pork, salt, family, per pound	14
Ox tongues, each	1.00
Pigs' feet, per pound	*7
Tongues, per pound	18

DAIRY PRODUCTS.	Price.
Butter—Creamery, special, per pound	†36
Shetfield Farms, extra fancy, per lb.	46
Cheese—Philadelphia cream, cake	10
Cheese—Roquefort, per pound	35
Young America, per pound	22
Swiss, per pound	28
Edam, each	1.00
Edam, tin	25
Parmesan, per pound	35
Gouda, per pound	30
Snappy, per cake	10
Milk (certified), per quart	**.20
Fer-mil-lac, bottle	**.20
Ice cream, quart	‡25
½-gallon	‡50

VEGETABLES AND FRUITS.	
Beets, per pound	3
Celery, per head	6
Cabbage, per pound	3½
Cucumbers, per pound	4
Carrots, per pound	4
Egg plant, per pound	4
Lettuce, per pound	14
Onions, per pound	3
Potatoes, white, per pound	3
sweet, per pound	2
Parsley, bunch	5
Peppers, green, per pound	4
Romaine, per pound	14
Squash, per pound	3
Turnips, per pound	4
Tomatoes, per pound	5
Yams, per pound	3
Canteloupes, each	7
Grapes, Malaga and Tokay, per pound	*12
Niagara and Delaware, per pound	8
Grape fruit, each	4
American, each	15
Lemons, per dozen	24
Limes, per hundred	80
Peaches, per pound	†9
Plums	10
Pears, per pound	*7
Oranges, Jamaican, per dozen	18
Watermelons, each	40

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

††Fowls weigh each, about as follows: 3, 3½, 4, 4½, and 5 pounds. Prices are based accordingly; when size ordered is not in stock, next lightest weight is supplied and refund note sent for difference.

‡Sold only from commissaries; no orders taken for delivery.

§Not less than half of a fresh ham or shoulder will be sold.

Supplies for the Canal.

The following steamers with supplies for the Isthmian Canal Commission and Panama Railroad Company, arrived at the ports of Colon and Cristobal, during the week ending September 20:

Pastores, September 14, from New York, with 760 bags oats, for stock; 762 pieces structural material, for Mechanical Division; 21 reels wire cable, for First Division; 76 pieces furnace material, for Second Division; 24 bales rubber hose, for stock.

Sixaola, September 15, from New Orleans, with 3,293 sacks creosoted blocks, for Mechanical Division; 63 bundles cypress shingles, for stock; 2,795 pieces lumber, for stock and Mechanical Division; 432 bales hay, 25 push cars, for stock.

Carl Schurz, September 15, from New York, with 100 cases soap, for stock; 886 pieces furnace material, for Mechanical Division; 348 pieces pipe, 36 cases brushes, for stock.

Advance, September 16, from New York, with 80 crates roofing tile, for First Division: 32 cases toe calks, 50 reels sash cord, for stock; 28 reels wire cloth, for First Division; 75 cases lanterns, 167 cases candles, for stock; 4,570 pieces building tile, for Second Division; 103 cases oil, 40 rolls cotton duck, 72 kegs horseshoes, for stock; 86 bundles wire, for First Division; 49 drums unslacked lime, for stock; 42 pieces structural material, for fortifications; 24 bundles pipe-fittings, 50 cases paint, 15 bales harness leather, 50 kegs nails, for stock; one case medical supplies, for medical depot; and a miscellaneous cargo, the whole consisting of 5,859 pieces, weighing 168 tons.

Cristobal, September 17, from New York, with 110,981 bags cement, for stock; 289 pieces pipe, for various departments; 188 bundles steel bars, for Panama Railroad Company; 40 reels copper cable, for First Division; 160 kegs red lead, for emergency dams, and a miscellaneous cargo, total weight 5,825 tons.

Metapan, September 17, from New York, with 744 bags oats, 22 cases brass valves, for stock; four boxes pipe-fittings, for Mechanical Division.

Turrialba, September 18, from New Orleans, with 1,649 sacks creosoted blocks, for Second Division; 65 barrels brake shoes, for Mechanical Division; 922 bales hay, 2,009 pieces lumber, for stock.

Launch Service to Taboga.

The steam launch *Sanidad* leaves the dredge landing at Balboa at 9 o'clock, Tuesday, Thursday, and Saturday mornings. On the return trip it arrives at Balboa about 4.30 p. m., In time to make connection for the 5.25 train at Panama.

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings of the Panama Railroad Steamship Company; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line.

NEW YORK TO CRISTOBAL.*

Colon	P. R. R.	Saturday	Sept.	27
Advance	P. R. R.	Saturday	Oct.	4
Panama	P. R. R.	Friday	Oct.	10
Allianca	P. R. R.	Thursday	Oct.	16
Colon	P. R. R.	Wednesday	Oct.	22
Advance	P. R. R.	Tuesday	Oct.	28
Panama	P. R. R.	Monday	Nov.	3
Allianca	P. R. R.	Monday	Nov.	10
Colon	P. R. R.	Monday	Nov.	17
Advance	P. R. R.	Saturday	Nov.	22
Panama	P. R. R.	Saturday	Nov.	29
Allianca	P. R. R.	Friday	Dec.	5

CRISTOBAL TO NEW YORK.*

Allianca	P. R. R.	Saturday	Oct.	4
Colon	P. R. R.	Thursday	Oct.	9
Advance	P. R. R.	Thursday	Oct.	16
Panama	P. R. R.	Wednesday	Oct.	22
Allianca	P. R. R.	Tuesday	Oct.	28
Colon	P. R. R.	Tuesday	Nov.	4
Advance	P. R. R.	Sunday	Nov.	9
Panama	P. R. R.	Sunday	Nov.	16
Allianca	P. R. R.	Saturday	Nov.	22
Colon	P. R. R.	Saturday	Nov.	29
Advance	P. R. R.	Friday	Dec.	5

NEW YORK TO COLON.

Almirante	U. F. C.	Wednesday	Sept.	24
Prinz Joachim	H.-A.	Saturday	Sept.	27
Carrillo	U. F. C.	Saturday	Sept.	27
Magdalena	R. M.	Saturday	Sept.	27
Santa Marta	U. F. C.	Wednesday	Oct.	1
Carl Schurz	H.-A.	Saturday	Oct.	4
Pastores	U. F. C.	Saturday	Oct.	4
Metapan	U. F. C.	Wednesday	Oct.	8
Prinz August Wilhelm	H.-A.	Saturday	Oct.	11
Tivives	U. F. C.	Saturday	Oct.	11
Danube	R. M.	Saturday	Oct.	11
Zacapa	U. F. C.	Wednesday	Oct.	15
Emil L. Boas	H.-A.	Saturday	Oct.	18
Tenadores	U. F. C.	Saturday	Oct.	18
Almirante	U. F. C.	Wednesday	Oct.	22
Tagus	R. M.	Saturday	Oct.	25
Carrillo	U. F. C.	Saturday	Oct.	25

COLON TO NEW YORK.

Emil L. Boas	H.-A.	Tuesday	Oct.	7
Tenadores	U. F. C.	Tuesday	Oct.	7
Almirante	U. F. C.	Thursday	Oct.	9
Prinz Joachim	H.-A.	Tuesday	Oct.	14
Carrillo	U. F. C.	Tuesday	Oct.	14
Tagus	R. M.	Tuesday	Oct.	14
Santa Marta	U. F. C.	Thursday	Oct.	16
Pastores	U. F. C.	Tuesday	Oct.	21
Carl Schurz	H.-A.	Tuesday	Oct.	21
Metapan	U. F. C.	Thursday	Oct.	23
Oruba	R. M.	Tuesday	Oct.	28
Tivives	U. F. C.	Tuesday	Oct.	28
Prinz August Wilhelm	H.-A.	Tuesday	Oct.	28

NEW ORLEANS TO COLON.

Atenas	U. F. C.	Saturday	Sept.	27
Sixaola	U. F. C.	Wednesday	Oct.	1
Turrialba	U. F. C.	Saturday	Oct.	4
Heredia	U. F. C.	Wednesday	Oct.	8
Abangarez	U. F. C.	Saturday	Oct.	11
Parismina	U. F. C.	Wednesday	Oct.	15
Sixaola	U. F. C.	Saturday	Oct.	18
Cartago	U. F. C.	Wednesday	Oct.	22

COLON TO NEW ORLEANS.

Abangarez	U. F. C.	Thursday	Oct.	2
Parismina	U. F. C.	Saturday	Oct.	4
Atenas	U. F. C.	Thursday	Oct.	9
Sixaola	U. F. C.	Saturday	Oct.	11
Turrialba	U. F. C.	Thursday	Oct.	16
Heredia	U. F. C.	Saturday	Oct.	18
Abangarez	U. F. C.	Thursday	Oct.	23

*Amended schedule, resulting from temporary withdrawal of the *Allianca* for repairs.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 1 p. m.; for Southampton on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays and Saturdays at 3 p. m.; ships for New York via Kingston, on Tuesdays at 1.30 p. m. and Thursdays at 1.30 p. m., for Bocas del Toro on Mondays at 5 p. m.; for Limon, via Bocas del Toro, on Tuesdays at 5 p. m.; and for Limon direct, Tuesdays at 3 p. m.

Hamburg-American steamers sail for New York, via Kingston and Santiago de Cuba, on Tuesdays; the *Prinz Joachim* and *Prinz August Wilhelm* at 10 a. m. and the *Emil L. Boas* and *Carl Schurz* at 2 p. m.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, OCTOBER 8, 1913. No. 7.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Destruction of Gamboa Dike.

The dynamiting of Gamboa dike will take place at 9 a. m., on Friday, October 10. The drilling of holes was completed on Wednesday, October 8, and the work of loading them was begun the day before. Over 1,000 holes, extending over every part of the barrier, have been drilled to an average depth of 35 feet. Owing to the fact that the 24-inch discharge pipes leading from the lake into the Cut has been increased by two from the number first planned, making six in all, the Cut between the dike and Cucaracha slide is filling rapidly, and it is estimated that by the morning of the 10th, the water will be within about five feet of the lake level. On Tuesday, October 7, the stage of water in the lake was 67.2 feet, and that in the Cut at 57.6 feet above sea-level. It is the present plan to ditch through the slide at Cucaracha on the day before the dike is destroyed. Work on the dredge landing and pontoon bridge approach at Paraiso has been advanced in anticipation of this event, and on Saturday night, the steamshovels completed the work of excavating the recess in the east bank of the Canal. It is necessary to build a concrete pier for the east bridge approach, and this work had reached the point on Tuesday where the concrete could be poured. This work is expected to be so far completed by Friday as to be entirely out of the way of the water when it enters this part of the channel.

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Seismic Disturbances.

An earthquake shock, which, in intensity, has not been equalled since the establishment of the Ancon seismograph station, occurred at 11.25 p. m., on Wednesday, October 1. The needles on the Ancon seismograph were thrown off the paper, and the amplitude of the shock was only recorded to 75 millimeters. Its duration so far as the perceptibility of individuals is concerned is estimated to be about 25 seconds. A second pronounced shock of less violence than the first occurred at 11.43 p. m., October 1. The seismograph recorded vibrations for a period of one hour and 16 minutes after the movement first began. The direction as indicated by the record was from southwest to northeast, and the approximate distance of the epicenter of the disturbance was 115 miles. The intensity was Force VI on the Rossi-Forel scale, I to X.

The above shock was only one of a series, which began at 1.48 p. m., on Wednesday, October 1. All appear to be related and to have a common point of origin, thought to be southwest of Panama city in the province of Los Santos. From 11.25, Wednesday night, until 5.18 the following morning, eleven distinct movements were recorded, and up to and including Monday, October 6, there had been 24, three only of which could be classed as pronounced. The third shock to be plainly felt occurred at 5.06 p. m., on Saturday, October 4, but it was little more than half the intensity of the first severe disturbance and lasted not more than seven seconds.

Advices received by the Panama Government from points in the interior, and wireless messages to the United Fruit Company from Bocas del Toro and Port Limon, indicate that Wednesday night's shock was not experienced in Costa Rica; that while noticeable at Bocas del Toro, and at David, in the province of Chiriqui, it was not strong enough to do any damage, and that its effect so far as known was greatest in the province of Los Santos about 110 miles distant from Panama City. In the village of Los Santos, the tower of the church, destroyed by the earthquake of September 7, 1882, was again toppled over; the government building was wrecked; the walls of the police station cracked, and two or three dwellings damaged. In Macaracas, in the same province, the church tower fell, and at Las Tablas some damage was done to buildings. Late advices received by the Panamanian Government indicate that probably the heaviest damage was done in the vicinity of Tonosí, in the province of Los Santos. No fatalities have been reported aside from the death of a woman from fright in Penónome, province of Coclé. In Panama City, there was no damage of importance. Wednesday night's shock caused slight cracks to develop in the walls of some three-story stone buildings on Twelfth street, near Santa Ana Plaza, and the one on Saturday afternoon had a similar effect on a stone building on lower Central avenue. There has been no damage whatever to any part of the Canal work.

Mr. D. F. McDonald, the Commission geologist, and Mr. W. C. Johnston, assistant chief engineer of the Republic of Panama, left on the Panama Steamship Company's *Panama* on Tuesday, October 7, to study the effect of the disturbances in Los Santos province.

DREDGES FOR CULEBRA CUT.

Will be Raised from Atlantic and Pacific Entrances to Complete Channel.

It is purposed to pass a portion of the Atlantic entrance dredging fleet through Gatun Locks during the forenoon of Thursday, October 9, for the excavation of Gamboa dike. Fourteen vessels will be lifted to the level of Gatun Lake and towed through the Canal channel to the vicinity of Gamboa, where they will lie ready to begin operations as soon as the blowing up of the dike has been completed. The equipment will be handled as three groups, the pieces in each group being lashed together and towed by a tug. The French ladder dredges *No. 1* and *No. 5*, with two dump scows of 400-cubic yards capacity, will compose one group; a second group will be two dump scows, a 75-ton coal scow, and a coal hoist; and the third group will be one 600-ton coal barge and two former cement lighters, adapted to hauling coal. It is believed that the groups can be so arranged and handled as to be put through the locks together, necessitating only one filling of each lift. After the groups have been conveyed across the lake, two of the tugs will return to the Atlantic entrance, leaving one to handle the barges from the dredges and for general service in the dredging operations. Forces of the Sixth Division have staked off areas in the old channel of the Chagres River, opposite Gorgona, for the disposition of the spoil. The dumping grounds will be indicated by flags on stakes, and at night, by lights.

By the time the two ladder dredges have cleared the entrance to Culebra Cut, pipeline suction dredges *No. 4* and *No. 86* will have been brought up from the Atlantic entrance. They will be towed along the Cut through the completed channel to the foot of Cucaracha slide, which is about six and a half miles from the north end of the Cut. Since steamshovel excavation was discontinued at the slide it has pushed across the channel, and is now blocking the flow of water from Gatun Lake. The first work at the slide will be to cut a trench to let the water through to the remainder of the Cut, about two and a half miles to Pedro Miguel Locks. Water can then be passed through the wall culverts of the lock, if desired, to hasten the filling of Miraflores Lake and allow the passage of dredging vessels from the Pacific side. When this has been accomplished, pipeline dredge *No. 85*, an oil barge, a small lighter, a steam launch, and a barge to handle the removable span in the railroad bridge across the Cut at Paraiso, will be detached from service in the Pacific entrance and raised through Miraflores and Pedro Miguel Locks to the south end of the Cut, and towed to the south side of Cucaracha slide. After the channel has been cleared, this dredge will be returned to the Pacific entrance.

Two pipeline suction dredges will then

be available for service at the bottom of the slide. As the normal monthly output for each of these is approximately 200,000 cubic yards, it is expected that the two will be able to handle this excavation without difficulty. The laying of discharge pipes and the installation of two relay stations for handling the spoil up the west bank of the Canal and over into the Rio Grande valley is sufficiently advanced to be ready for service as soon as needed.

One of the pipeline dredges, *No. 4*, to be used on this work, came from the dry dock at Mount Hope on September 26, after extensive overhauling and adaptation to the service required of it. Pontoons, five feet three inches wide by nine feet six inches deep were fitted on either side of the hull, extending its entire length, 112 feet six inches, to provide storage for 400 barrels of fuel oil. This will make the dredge relatively independent of oil barges and allow it greater freedom of movement. Moreover, the addition, by increasing the beam of the vessel from 29 feet six inches to 40 feet, enlarges its displacement and effects a desirable increase of freeboard. Additions will be made to the superstructure to provide quarters for the silver, as well as the gold members of the crew.

Dredge *No. 85* is only used on the south side of Cucuracha, until a channel is cut through allowing *Nos. 4* and *86* to pass through the Cut, to station on south side of slide when *No. 85* returns to the terminals at Balboa.

Permanent Water Stage Registers.

Forces of the Lighthouse Subdivision are engaged in erecting, for the Second Division, four concrete towers for permanent water stage registers to record the elevation of the surfaces of Gatun and Miraflores Lakes when the Canal is in operation. One of these is situated at Gatun, between the Panama railroad and the present edge of the lake, and about 200 feet south of the concrete wharf for small vessels. The base of this tower is 72 feet above sealevel and the floor of the gage-recording room is at elevation plus 92. At the upper end of the lake and north end of Culebra Cut, is a second tower, situated on the east bank of the Chagres River, about 300 feet upstream from the Gamboa bridge of the Panama railroad. The base and floor of this tower are at elevations 72 and 100 feet, respectively. The higher level than at Gatun is for the purpose of better recording the rises in the river.

Two other towers are at the upper and lower ends of Pedro Miguel Lock. The one at the outer end of the northeast wing wall will record the levels at the extreme southern end of Culebra Cut. It is set at the same level as the tower at Gatun. The other, at the end of the southeast wing wall, will gage the surface of Miraflores Lake. Its base is 38 feet above sealevel, and the floor, 68 feet.

A fifth tower will be constructed below the Gatun Dam spillway. Part of the material for it has been delivered at the site, and erection will begin shortly.

In construction, these are modified forms of what has been designated locally as the Atlantic and Pacific type of range tower. The concrete was placed between collapsible steel forms which were used for the erection of the lighthouses along the two entrance channels. The roof has been extended, the interior stairway omitted, and a bridge footwalk added, at the level of the floor. The foundation bases of the towers are concrete slabs, octagonal in plan, having inscribed diameters of from 16 to 18 feet, according to the depth of water in which the towers are built. The inside of the shaft is circular, seven feet 10 inches in diameter, and the wall varies in thickness from four inches at the top to 15 inches at the base. The towers are designed to withstand any shock of wave action to which they may be subjected.

All of the towers will be equipped with automatic water stage registers, and those at Gamboa and Pedro Miguel will each, in addition, be equipped with an anemometer, anemoscope, and meteorograph.

Order Retaining Lieut-Col. D. D. Gaillard as a Member of the Canal Commission.

War Department,
Washington, D. C.

Lieut.-Col. D. DuB. Gaillard, Corps of Engineers, U. S. A., Member of the Isthmian Canal Commission now on leave of absence, will be retained as a member of the Isthmian Canal Commission and is hereby granted leave of absence with full pay on status of sick leave, until further notice.

By direction of the President.

Lindley M. Garrison,
Secretary of War.

September 20, 1913.

Concrete Work in Locks and Spillways.

Concrete work in the Canal locks is nearly completed, the aggregate amount in place at the close of work on October 4, being 4,480,728 cubic yards.

A statement of the concrete laid in the three sets of locks for the Canal, and in Gatun and Miraflores spillways, as of October 4, follows:

GATUN LOCKS.

The last concrete for the locks proper, as distinguished from that necessary to finishing work by the First Division, was mixed and placed on August 16, 1913. At the close of work on that day the total amount of concrete placed by the Atlantic Division amounted to 2,045,485 cubic yards.

PEDRO MIGUEL LOCK.

	Concrete laid. Cubic yards.
Oct. 4	2
Total	2
Previously reported	924,183
Grand total	924,185

MIRAFLORES LOCKS.

Sept. 29	42
Sept. 30	29
Oct. 1	..
Oct. 2	..
Oct. 3	..
Oct. 4	..
Total	71
Previously reported	1,510,987
Grand total	1,511,058

GATUN SPILLWAY.*

Sept. 29	58
Sept. 30	40
Oct. 1	60
Oct. 2	50
Oct. 3	170
Oct. 4	34
Total	412
Previously reported	236,320
Grand total	236,732

MIRAFLORES SPILLWAY.

Sept. 29	..
Sept. 30	..
Oct. 1	..
Oct. 2	136
Oct. 3	149
Oct. 4	63
Total	348
Previously reported	75,610
Grand total	75,958

*Includes hydroelectric station.

CANAL ZONE SCHOOLS.

Reopened October 1, With an Increased First Day Enrollment of White Children.

The Canal Zone schools were opened on Wednesday, October 1, with an increased enrollment over the first day last year in the schools for white children, of 54. There are 11 grade schools for white children, and high schools at Ancon, Empire, and Gatun. The first day's enrollment by schools, follows: Ancon (grades), 175; Corozal, 103; Pedro Miguel, 61; Paraiso, 28; Culebra, 30; Empire, 161; Las Cascadas (church building), 25, (hotel building) 23; Gatun, 98; Cristobal, 188; Porto Bello, nine; high schools, Ancon, 23; Empire, 18; Gatun, 21; Total 963.

To this total should be added 13 children living at Bas Obispo, assigned to school at Las Cascadas, who were not enrolled on the first day, because transportation was not provided for them. Forty-three regular teachers and two substitute teachers are employed in the white schools.

In 10 schools for colored children there were 550 children enrolled on the first day. This number does not include the enrollment in the school for native children at Majagual, the report of which has not been received. Following is the enrollment by schools: Ancon, 92; Paraiso, 25; Cucaracha, 20; Culebra, 80; Empire, 85; Mandingo, 25; Gatun, 39; Mount Hope, 11; Cristobal, 173. Twenty-five colored teachers are employed in these schools.

The assignment of white teachers is, as follows:

Ancon-Empire high schools—Albert R. Lang, principal, N. F. Petersen, Frederika Hine, Dorothy Riedesel, Amelia C. deLassus.

Ancon—Bertha H. Mallory, principal, Shellie M. Dunn, Sara D. Elwell, Mallye A. DeCamp, Jessie Wilson Clark, Etta Reed.

Corozal—Mary M. Shea, principal, Anna Mosteller, Anna R. Young, Edna M. Spencer, Mary Edmonds.

Pedro Miguel—Ida O. Erickson, principal, Clelia Crespi Calhoun, Florence Cruson.

Paraiso—Mary F. Adams.

Culebra—Jennie D. Perkins, principal, Ida Keys Lawlor.

Empire—Elise Cage, principal, Natalie Hine Humphrey, Lucy Nichols, Dove L. Prather, Jeannette McClure, Ida B. Potts.

Las Cascadas—Hotel building, Marie Birmingham; church building, Charlotte Carter.

Gatun—Jessie E. Daniels, principal and high school, Archie Pratt, high school, Shirley C. Dorsey, Annie E. Stone, Ezoa Smith, Cora E. Sessions.

Cristobal—Emma M. Cobban, principal. Wenonah Whiting Dillon, Edith McIntyre McCarthy, Florence M. Dildine, Helen Daniels Parmelee, Leah A. Zook.

Porto Bello—Verna M. Sawtelle.

Substitute teachers—Grace E. McCray, primary grades; Georgia T. Munroe, upper grades.

Accidental Drowning.

John F. Stanton, a private in Company A, Tenth Infantry, at Camp Otis, was accidentally drowned in the Canal, at a point about opposite the camp, about noon on Sunday, September 28. He was born in Philadelphia a little over 21 years ago, was unmarried, and had been on the Isthmus since May 13, 1913. A friend, Charles Landas, lives at No. 512 North Eleventh street, Philadelphia.

MIRAFLORES LAKE.

Rise Began October 1, to Provide Passage Between Pedro Miguel and Miraflores Locks.

The formation of Miraflores Lake began on October 1, when a timber bulkhead was placed across the drainage culvert in the spillway dam, which, with its bottom at 5.33 feet above sealevel, was the final diversion of the Rio Grande and its tributaries, the Pedro Miguel, Caimitillo, Camerón, Cocoli, and Dominica Rivers, during the construction of the spillway. The opening is being filled with concrete.

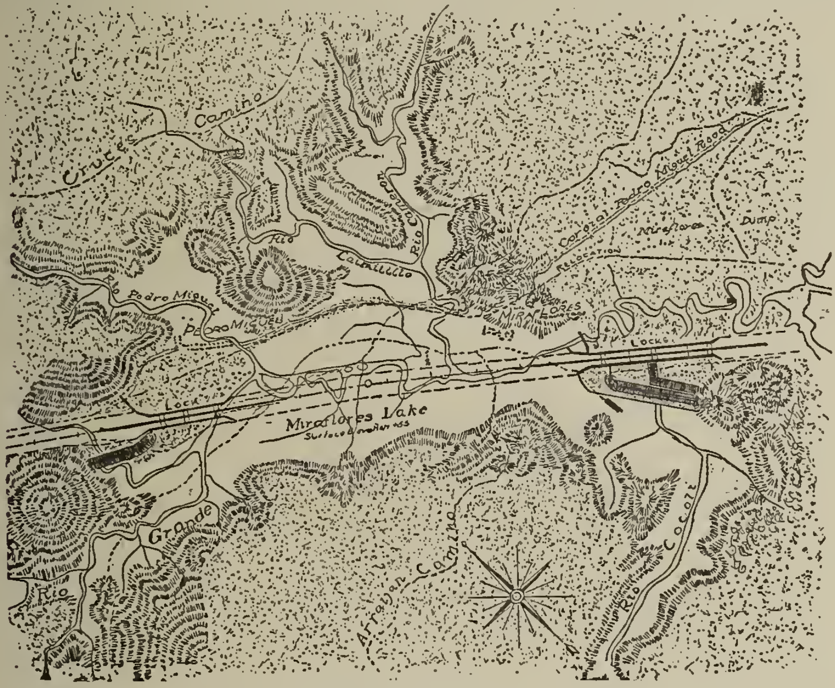
It is estimated by the hydrographic office that the normal run-off, calculated from 22 years' rainfall measurements, from the 55.5 square miles of lake watershed will raise the lake surface to elevation 35.8 feet above sealevel by the end of October; to elevation 38.67, level with the top of the ogee of the spillway dam, on November 4; and to the normal operating level of 55 feet above the sea, by December 4.

Should it be desired to fill the lake earlier, however, water may be drawn from the high level of Gatun Lake and Culebra Cut, through the culverts of Pedro Miguel Locks. To fill Miraflores Lake completely, from dry land to proposed normal level, would lower the surface of Gatun Lake, from its present elevation of about 67 feet, not more than .35 foot. Filling Culebra Cut will lower Gatun Lake about .118 foot. Hence, to fill both Cut and Miraflores Lake would lower Gatun Lake from its present level less than six inches, which is equivalent to retarding its rise about three days. Further comparison of the two lakes is shown herewith:

	Miraflores,	Gatun.
Elevation of surface, ft.......	55	85
Area watershed, sq. miles	55.5	1,320
Area surface, sq. miles........	1.88	163.4
Capacity, million cu. feet.....	11.2	183,136.2
Canal channel, miles..........	1.4	*31
Width of channel, feet.........	500	300 to 1,000
Elevation, bottom of channel, ft	10	40

*Including nine miles in Culebra Cut.

The location and outlines of Miraflores Lake are indicated in the accompanying sketch. The purpose of the lake is to avoid the excavation which would have been required for a sealevel channel from the site of Miraflores Locks to Pedro Miguel, approximately 15,000,000 cubic yards. The bottom of the channel across the lake, between the two locks, is 10 feet above sealevel, which is 55 feet higher than that of the sealevel section on the Pacific side. A part of the channel through Miraflores Lake is naturally at or below elevation plus 10, and some excavation was made by the French in this area. An old ladder dredge, abandoned in the channel it was cutting through this area, has recently been set afloat, after repairs to its hull, by the rising waters of the lake. A secondary use of the lake will be as a source of water supply for the Canal villages on the southern slope of the continental divide, and for Panama, for which a pumping and filtration plant, capable of handling about 15,000,000 gallons daily, is under construction on the east side of the lake.



Miraflores Lake.
Showing relation to Pedro Miguel and Miraflores Locks, Panama railroad, tributary streams, etc.

The northeast section of the lake area is crossed by the relocated line of the Panama railroad, between Miraflores tunnel and Pedro Miguel. Filling is now in progress to increase the area available for Pedro Miguel village, east of the railroad, and a depressed area between the track and Pedro Miguel Locks is also to be raised above the 55-foot contour. The Canal village of Miraflores is being removed, and the native houses in the lake area have been demolished or burned. The Sanitary Department has cleared the area of trees and brush below the 55-foot level, in order to prevent as far as possible the breeding of mosquitoes.

Fatal Accidents.

George C. Gunthorpe, an Antiguan, check No. 165861, employed as a carpenter in the Fifth Division, and William Elliott, a native of the island of Nevis, check No. 161764, employed as a laborer in the same division, were accidentally drowned while working in the T-culvert in the east wall at the south end of Pedro Miguel Locks, at about 12.50 p. m., on Thursday, October 2. Both ends of the culvert had been dammed by bags of sand to prevent the inflow of water while the men, nine in number, were at work. The barrier at the south end gave way, and caught two men before they could escape. The other five workmen succeeded in reaching a place of safety.

Joseph Brown, a Jamaican, check No. 192907, employed as a carpenter in the Division of Municipal Engineering, was struck on the head by a rock from a "dobey" blast at the site of the new reservoir on Ancon Hill, at about 4 p. m., on Friday, October 3, sustaining injuries from which he died less than an hour later.

Wilford Walkin, a native of Fortune Island, check No. 8922, employed by the Panama railroad, was drowned at Balboa at about 4.25 p. m., on Saturday, October 4. He attempted to board I. C. C. engine No. 533, but missed his footing and fell between a wooden trestle into the water. The body was recovered.

Obituary.

Mrs. J. F. Hern, residing at Ancon, died at Ancon Hospital on Monday, September 29. She was 34 years of age, had been on the Isthmus seven years, and is survived by her husband, an employe of the Fifth Division at Balboa.

Samuel Jackson, an American in the employ of the United States Steel Products Company, with residence at Balboa, died at Ancon Hospital on Wednesday, October 1. He was 24 years of age, was unmarried, and had been on the Isthmus four months.

Word has been received of the death of William T. Reynolds, formerly a superintendent of construction in the Central Division, who resigned on September 13, 1913, and left for the United States on the *Colon* on September 14. He died at a hospital in New York City soon after the steamer docked. He entered the service of the Canal Commission on October 15, 1906, and was continuously in the employ of the old Culebra Division, and later the Central Division, up to the time of his resignation. He was a native of Maryland, 40 years of age, and was unmarried.

Columbus Day Exercises.

The exercises under the auspices of the Knights of Columbus, in observance of Columbus Day, will be held this year at Panama, on Sunday, October 12. At 9.15 a. m., or as soon thereafter as the arrival of the first train from Colon will permit, high mass will be sung at the Cathedral; lunch at Hotel Central at 12 noon; regular meeting of Panama Council and election of officers for ensuing year, 1 p.m.; exemplification of the first and second degrees, Ancon Hall, 2 p. m.; banquet, Hotel Tivoli, 9 p. m. Special trains will leave for both Bas Obispo and Colon directly after the banquet. Rooms will be provided at the Hotel Tivoli for rest and dressing. All Catholics, irrespective of affiliation with the Knights of Columbus, are extended an invitation to participate at the mass, lunch, and banquet.

Married.

CRITCHLOW-MOHLER—At the home of the bride's parents in Ithaca, N. Y., on Wednesday, September 24, Miss Grace Isabel Mohler to Mr. Howard Thompson Critchlow, of Prospect, Pa. Canal Zone residence, Culebra.

EAST BREAKWATER.

Construction Contemplated as a Preventive Against Silting in Atlantic Channel.

The construction of an east breakwater in Limon Bay is contemplated, and some preliminary work has been authorized. The Toro Point, or west breakwater, now nearly completed, with the exception of the armored portion, is designed for the protection of the Colon and Cristobal harbors and the shelter of vessels against "Northers," and its line of direction is normal to the prevailing wind during these storms. It was not built to afford protection against wave action produced by the "Trades," which prevail almost constantly in these latitudes during the dry season, and which generally come from the north or northeast. The trade winds will not endanger the safety of vessels using the Canal, and, therefore, do not on this account enter into the necessity for an east breakwater.

Another factor, however, has developed, one which has an important bearing on the cost of maintaining the Atlantic channel. Soundings and surveys that have been made from time to time show that the trade winds wash the shores of Limon Bay in the vicinity of the Canal entrance, and a survey made in March, 1913, showed that the channel in the vicinity of the Canal entrance, previously excavated to its full depth of 41 feet, had filled, so that a depth of but 27 feet was available, and this only in the middle of the channel. During the 12 months previous to this time it was estimated that the accumulation of silt in the channel amounted to 2,213,082 cubic yards. An investigation of this condition led to the belief that this silting was in a large measure due to the trade winds, which, upon disturbing the soft material in the bottom of the bay into a state of suspension, later deposited it again, during cessation of the winds, a large part settling in the deeper channel. The soundings showed that the deposit was generally uniform in the channel, with the exception of that part near the shores of the bay.

During the visit of the Atlantic Fleet to the Canal about nine months ago, it lay at anchor under the lee of the west breakwater, and it was a difficult matter at times, due to the strong "Trades" blowing, for small boats to reach the ships. As a result of this condition, the General Board of the Navy recommended the construction of a detached breakwater for the protection of the anchorage area, which would afford security to small boats, and to barges engaged in coaling, while lying alongside a ship.

It is proposed to extend the new breakwater out from Coco Solo Point on the east side of the Bay of Manzanillo, and authority has been granted for the construction of a railroad track to Coco Solo Point, leading off from the Mount Hope–Margarita Point line, thereby establishing a track connection with the Panama railroad main line at the Cristobal yards. The length of the new track will be about 3,500 feet. A quantity of piling for building the breakwater trestle has been ordered, together with a new piledriver. Investigations have been conducted in the endeavor to find a quarry more accessible than the one at Porto Bello. A rock deposit near Mile Post 24½, north of Caimito, was explored, but it is doubtful if sufficiently large rock can be procured for the armor of the breakwater. It is probable that rock for the interior will be quarried at this locality.

Transfer of Masonic Temple to Panama Railroad.

The Masonic lodge has relinquished all of its rights and equities in its partly finished temple at Colon, including the original contract with the McClintic-Marshall Construction Company, to the Panama railroad, and has also released the McClintic Marshall Company from its contractual obligations; the railroad, therefore, now owns the building, and has recovered possession of the land on which it stands through cancellation of the lease. The Masonic lodge has reserved the right to purchase the building from the railroad within five years at the full cost price, plus eight per cent interest.

The restoration of the foundations was undertaken by the Panama railroad, and involved a much greater amount of work than was first anticipated. Diamond drill borings made over the site of the structure showed that the foundations rested on filled ground, consisting of earth and rock, superimposed on a bed of decomposed coral rock and soft mud. This had very little supporting power, as demonstrated by the fact that the rate of progress in drilling was, in some cases, as high as 60 feet an hour. The lowest point was found to be in the northeast corner of the building, where the foundations had settled 1.53 feet. The place of least settlement was at the southwest corner. It was found that the Eleventh street side had settled more than the remaining portion, and as the entire structure was considerably out of plumb, it was determined to adjust the side walls and the interior foundations to agree with some given point. The Eleventh street side was accordingly selected as the base to work from, and it was decided to settle the west and south sides to make their foundations agree with those on the Eleventh street side. The plan adopted was to drive untreated piling entirely around the exterior of the building; to sink 10 and 12-inch wrought iron pipe, filled with concrete, along the inside walls; to install new foundations of 16 and 20-inch pipe, filled with concrete, for nine individual columns in the center of the building, and to put in a number of reinforced concrete footings.

PERSONAL.

William Jennings Price, the new American Minister at Panama, arrived on the Isthmus on the *Colon*, on October 3. He made a formal call upon Col. Goethals at Culebra on October 6, presented his credentials to the Minister of Foreign Affairs of the Panama republic on October 7, and entered upon his duties as Minister, after calling officially upon President Porras, on October 9. Mr. Price is a resident of Danville, Ky., and is a lawyer by profession. He has held no public office previous to his present position.

Mr. W. W. Warwick, Assistant Comptroller of the Treasury, accompanied by Mrs. Warwick, and their son, arrived on the Isthmus on the *Ancon*, on Thursday, October 2. He was called here to confer with local Canal Commission officials relative to a permanent system of accounting.

Lieut. Frederick Mears, accompanied by his family, returned from leave of absence, on the *Ancon*, on Thursday, October 2.

Colonel Gorgas and Assistants to Investigate Sanitary Conditions in South Africa.

Col. W. C. Gorgas, accompanied by Mrs. Gorgas, will sail on the United Fruit Company's steamer *Carrillo* for New York on Tuesday, October 14. Col. Gorgas has been granted four months special leave of absence, and, together with Maj. Robert E. Noble and Dr. S. T. Darling, will leave New York about November 1 for Johannesburg, South Africa. At Johannesburg, they will make investigations and recommendations regarding the sanitation of the district of the consolidated mines of the Rand, at the request of the companies in the consolidation, which employ about 200,000 men.

Commissary Cold Storage.

No changes are reported in the list of cold storage supplies sold at the commissaries published in THE CANAL RECORD of October 1.

CLASSIFIED EXPENDITURES—ISTHMIAN CANAL COMMISSION.

A statement of classified expenditures of the Isthmian Canal Commission to June 30, 1913, follows:

PERIODS.	Department of Civil Administration.	Department of Law.	Department of Sanitation.	Department of Construction and Engineering	General Items.	Fortifications.	Total.
Total to June 30, 1909	3 427,090.29	....	9,673,539.28	69,622,561.42	78,022,606.10	....	160,745,797 09
Total—Fiscal Year, 1910	709,351 37	....	1,803,040.95	26,300,167.05	2,863,088 83	....	31,675,648.20
Total—Fiscal Year, 1911	755,079.44	....	1,717,792.62	27,477,776.19	3,097,959.72	....	33,048,607.97
Total—Fiscal Year, 1912	820,398 57	24,729.16	1,620,391.12	28,897,738.10	2,819,926.53	1,212,881.66	35,396,065.14
July, 1912	63,913.12	1,448.53	123,803.64	2,649,246.61	200,970.55	104,126.92	3,143,509 37
August, 1912	62,182.51	1,468.26	123,154.48	2,539,680.83	*98,054.61	111,402.55	2,739,834 02
September, 1912	59,201.01	1,207.82	120,385.70	2,285,979.89	77,003.53	127,168.25	2,670,946 20
October, 1912	64,383.37	2,033.75	137,574.61	2,473,280.76	83,523.30	129,736.37	2,893,532.16
November, 1912	62,200.12	1,892.14	119,031.66	2,420,085.77	75,779.01	300,016.33	2,979,005 03
December, 1912	58,987.96	1,462.18	115,819.26	2,871,977.03	120,946.61	118,152.57	3,287,345.61
January, 1913	57,699.58	1,469.59	114,562 04	2,825,872.06	6,463.72	119,272 77	3,125,339 76
February, 1913	56,586.06	1,649.00	127,324 80	3,784,370.51	123 034.12	314,994 96	4,407,959 45
March, 1913	58,761.03	1,899.22	105,891.08	2,712,218.10	*7,706.70	131,940 75	3,003,003 48
April, 1913	57,218.29	1,585.87	114,146.79	2,677,640.00	132,223.98	131,970.93	3,114,785.86
May, 1913	57,814.27	2,872.19	115,598.00	2,849,292.60	169,306.77	164,275.24	3,359,159.07
June, 1913	22,441.74	1,264.56	118,108.90	2,928,208.83	179,832.24	148,418.22	3,398,274.49
Grand total	6,393,308.73	44,982.27	16,250,164.93	185,316,095.75	87,866,903.70	3,114,357.52	298,988,812.90

* Denotes credit.

EXECUTIVE ORDER.

To Provide Maritime Quarantine Regulations for the Canal Zone and the Harbors of the Cities of Panama and Colon, Republic of Panama.

Whereas the official opening of the Panama Canal will require a revision of the maritime quarantine regulations of the Canal Zone and the harbors of the cities of Panama and Colon, Republic of Panama, and

Whereas the Government of the United States and the authorities of the Canal Zone are authorized to establish such rules and regulations for the ports and harbors of said cities, by virtue of the second paragraph of Article VII of the Treaty between the United States and the Republic of Panama for the construction of the Isthmian Canal, signed November 18, 1903, which paragraph reads, as follows:

> "The Republic of Panama agrees that the cities of Panama and Colon shall comply in perpetuity with the sanitary ordinances whether of a preventive or curative character, prescribed by the United States and in case the Government of Panama is unable or fails in its duty to enforce this compliance by the cities of Panama and Colon with the sanitary ordinances of the United States the Republic of Panama grants to the United States the right and authority to enforce the same."

and Section 6 of the Executive Order of December 3, 1904, known as the Taft Agreement made between the Secretary of War of the United States and the Chief Executive of the Republic of Panama, which section reads, as follows:

> "Section 6. This Order also shall be inoperative unless the proper Governmental authorities of the Republic of Panama shall grant power to the authorities of the Canal Zone to exercise immediate and complete jurisdiction in matters of sanitation and quarantine in the maritime waters of the ports of Panama and Colon."

and Article I of Decree No. 66 of December 6, 1904, issued by the President of Panama, agreeably to said Executive Order, and published in the Official Gazette, No. 70, of 1904, which article reads, as follows:

> "Article I. The authorities of the Canal Zone are empowered to exercise freely, immediate and complete jurisdiction in all matters of sanitation and quarantine in the waters of the ports of Panama and Colon. In consequence, the authorities of the Republic shall proceed in conformity with the provisions of this decree to the end that these may be strictly complied with."

By virtue of the authority vested in me and in conformity with the foregoing treaty provision and the Executive Order and Presidential Decree above mentioned, I hereby establish the following maritime quarantine regulations for the Canal Zone and for the harbors of the cities of Panama and Colon, Republic of Panama:

BILLS OF HEALTH.

Section 1.—Masters of vessels clearing from any foreign port or from any port in the possessions or other dependencies of the United States for a port in the Canal Zone or for the ports of Panama or Colon, Republic of Panama, must obtain an original bill of health in duplicate from the officer or officers authorized by the quarantine laws and regulations of the United States to sign such certificates for vessels entering the ports of the United States.

The following form is prescribed for such bills of health:

Form No. ———.

CANAL ZONE.

Original Bill of Health.

I, ——— (the person authorized to issue the bill, at the port of ———), do hereby state that the vessel hereinafter named clears from the port of ——— under the following circumstances:

Name of vessel, ———. Nationality, ———. Rig, ———. Master, ———. Tonnage, gross, ———; net, ———. Iron or wood, ———. Number of compartments for cargo, ———; For steerage passengers, ———. For crew, ———.

Name of medical officer, ———.

Number of officers, ———; of crew, including petty officers, ———; of passengers, first cabin, ———; second cabin, ———; steerage, ———. Officers' families, ———. Total number of persons on board, ———.

Passengers destined for the Canal Zone or the city of Panama or Colon, ——— first cabin, ——— second cabin, ——— steerage.

Previous port, ———.

Number of cases of sickness, and character of same, during last voyage, ———.

Number of cases of sickness and character of same, while vessel was in this port, ———.

Vessel engaged in ——— trade, and plies between ——— and ———.

Nature, sanitary history, and condition of cargo ———.

Source and wholesomeness of water supply, ———.

Source and wholesomeness of food supply, ———.

Sanitary history and health of officers and crew, ———.

Sanitary history and health of passengers, cabin, ———.

Sanitary history and health of passengers, steerage, ———.

Sanitary history and condition of their effects, ———.

Location of vessel while in port—wharf, ———; open bay, ———; distance from shore, ———.

Time vessel was in port, ———.

Character of communication with shore, ———.

Sanitary condition of vessel, ———.

Sanitary measures, if any, adopted while in port, ———.

Sanitary condition of port and vicinity, ———.

Prevailing diseases at port and vicinity, ———.

Malaria, ——— deaths during month of ———.

Number of cases and deaths from the following-named diseases during the past two weeks, ending ———.

DISEASES.	No. of cases.	No. of deaths.
Yellow fever		
Asiatic cholera		
Cholera nostras, or cholerine		
Smallpox		
Typhus fever		
Plague		
Leprosy		

REMARKS.

Any condition affecting the public health existing in the port of departure or vicinity to be here stated.

When there are no cases or deaths, entry to that effect must be made.

I certify that the vessel has complied with the quarantine rules and regulations made under the Act of February 15, 1893, and that the vessel leaves this port bound for ———, Canal Zone, or ———, Republic of Panama, via ———.

Given under my hand and seal this ———, day of ———, 191.....

(Signature of consular officer) ———.

(SEAL) ——— ———.

Section 2.—Vessels clearing from any foreign port or from any port in the possessions or other dependencies of the United States for a port in the Canal Zone or for the port of Panama or Colon, Republic of Panama, and entering or calling at intermediate ports, must procure at all said ports a supplemental bill of health in duplicate, from the officer or officers authorized by the quarantine laws and regulations of the United States to sign such certificates for vessels entering the ports of the United States. If a quarantinable disease has appeared on board the vessel after leaving the original port of departure, or other circumstances presumably render the vessel infected, the supplemental bill of health should be withheld until such sanitary measures have been taken as are necessary.

The following form is prescribed for supplemental bills of health:

CANAL ZONE.

Supplemental Bill of Health.

Port of ———.

Vessel ———, bound from ——— to ———, Canal Zone, or ———, Republic of Panama.

Sanitary condition of port and vicinity, ———.

Prevailing diseases at port and vicinity, ———.

Malaria, ——— deaths during month of ———.

Number of cases and deaths from the following-named diseases during the past two weeks, ending ———.

DISEASES.	No. of cases.	No. of deaths.	Remarks.*
Yellow fever			
Asiatic cholera			
Cholera nostras, or cholerine			
Smallpox			
Typhus fever			
Plague			
Leprosy			

*Any condition affecting the public health existing in the port to be stated here. When there are no cases, or deaths, entry to that effect must be made.

Number and sanitary condition of passengers and crew landed at this port:

First cabin, No.———; sanitary history and condition, ———.

Second cabin, No. ———; sanitary history and condition ———.

Steerage, No. ———; sanitary history and condition ———.

Crew, No. ———; sanitary condition and history ———.

NOTE—If any passenger or member of crew disembarked on account of sickness, state disease.

Number and sanitary condition of passengers and crew taken on at this port, and sanitary condition of effects:

First cabin, No.———; sanitary condition and history, ———.

Second cabin, No. ———; sanitary condition and history, ———.

Steerage, No. ———; sanitary condition and history, ———.

Number of passengers for Canal Zone: ——— first cabin, ——— second cabin, ——— steerage.

Number of passengers for Republic of Panama: ——— first cabin, ——— second cabin, ——— steerage.

Crew, No. ———; sanitary condition and history, ———.

Sanitary condition of effects, ———.

Total passengers on board, ———; total crew on board, ———.

Sanitary measures, if any, adopted while in port, ———.

Location of vessel while in port—wharf, ———; open bay, ———; distance from shore, ———.

Time vessel was in port, ———.

Character of communication with shore, ———.

Nature, sanitary history, and condition of cargo taken on at this port, ———.

(Cancel Form A, B, or C, as the case requires.)

Form.

(Form A will be used at intermediate ports where the vessel does not enter.)

A—To the best of my knowledge and belief—
B—I have satisfied myself that—
} no quarantinable disease has appeared aboard since leaving ———.

C—Since leaving ———, the following quarantinable disease has appeared on board ———, and I certify that the necessary sanitary measures have been taken.

I certify also that with reference to the passengers, effects, and cargo taken on at this port, the vessel has complied with the rules and regulations made under the Act of February 15, 1893.

Given under my hand and seal this ——— day of ——— 191—.

(Signature of consular officer:)

(SEAL) ——— ———.

———.

Section 3.—The master of a vessel entering the ports of the Canal Zone or the ports of Panama and Colon, Republic of Panama, from any port of the United States, must present to the Quarantine Officer and to the Customs Officer of the Canal Zone, or his authorized agent, each a bill of health signed by the customs officer of the port of the United States from which said vessel sails.

FOREIGN REGULATIONS.

Inspection of Vessels from Foreign Ports and Ports in the Dependencies of the United States.

Section 4.—The officer issuing the bill of health shall satisfy himself, by inspection if necessary, that the conditions certified to therein are true, and is authorized to withhold the bill of health or the supplemental bill of health until he is satisfied that the vessel, the passengers, the crew, and the cargo have complied with these regulations.

Section 5.—Inspection is required of:

(*a*) All vessels from ports in which cholera, yellow fever, or plague in men or rodents prevails, or at which smallpox or typhus fever prevails in epidemic form, and at which a medical officer is detailed.

(*b*) All vessels carrying steerage passengers; but need only include the inspection of such passengers and their living apartments, if sailing from a healthful port.

(*c*) Inspection of the vessel is such an examination of the vessel, cargo, passengers, crew, personal effects of same, including examination of manifests and other papers, food and water supply, the ascertainment of its relations with the shore, the manner of loading and possibilities of invasion by rats and insects as will enable the inspecting officer to determine if these regulations have been complied with.

(*d*) When an inspection is required, it should be made by daylight, as late as practicable before sailing. The vessel should be inspected before the passengers go aboard, the passengers just before embarkation, and the crew on deck, and no communication should be had with the vessel after such inspection except by permission of the officer issuing the bill of health.

GENERAL REQUIREMENTS.

Section 6.—Vessels, prior to stowing cargo or receiving passengers, should be mechanically clean in all parts, especially the hold, forecastle, and steerage.

Section 7.—Any portions of the vessel liable to have been infected by any communicable disease should be disinfected before the issuance of the bill of health.

Section 8.—Street sweepings, city cleanings, or anything containing organic refuse should not be taken as ballast from any port.

Section 9.—Bedding, upholstered furniture, soiled wearing apparel, personal effects, and second-hand articles of a similar nature, coming from a district known to be infected with cholera, smallpox, typhus fever, or as to the origin of which no positive evidence can be obtained, and which the consular or medical officer has reason to believe are infected, should be disinfected prior to shipment. In the case of typhus fever, the destruction of vermin should be assured. Articles similar to the abovementioned, if from a district infected by plague, should be inspected, and, if necessary, disinfected and treated to destroy vermin.

Section 10.—Articles from an uninfected district shipped through an infected port may be accepted without restriction if not exposed to infection in transit.

Section 11.—Any article shipped from or through an infected port or place, and which the consul or medical officer has reason to believe infected, should be disinfected.

Section 12.—Any article presumably infected, which cannot be disinfected, should not be shipped.

Section 13.—Passengers, for the purpose of these regulations, are divided into two classes, cabin and steerage. (*a*)

Section 14.—So far as possible passengers should avoid embarking at a port where quarantinable disease prevails, and communication between the vessel and the shore should be reduced to a minimum. In such a port the personnel of the vessel should remain on board during their stay.

Vessels carrying passengers from any port where quarantinable disease prevails in epidemic form should have a medical officer.

Section 15.—No person suffering from a quarantinable disease, or scarlet fever, measles, diphtheria, or other communicable disease, should be allowed to ship.

Section 16.—All baggage of steerage passengers destined for the Canal Zone, or the ports of Panama or Colon, Republic of Panama, should be labeled. If the baggage is in good sanitary condition, the label shall be a red label bearing the name of the port, the vessel on which the baggage is to be carried, the word "Passed" in large type, the date of inspection, and the seal or stamp of the consular or medical officer of the United States. All baggage that has been disinfected shall bear a yellow label, upon which shall be printed the name of the port, the vessel upon which the baggage is to be carried, the word "Disinfected" in large type, the date of disinfection, and the seal or stamp of the consular or medical officer of the United States. It is understood, and it will be so printed on the blank, that the label is not valid unless bearing the consular or medical officer's stamp or seal.

Section 17.—Each steerage passenger shall be furnished with an inspection card, as follows. This card, stamped by the consular or medical officer, is to be issued to every member of a family as well as to the head thereof, and shall be in the following form:

INSPECTION CARD.

(Immigrants and Steerage Passengers.)

Port of departure ———. Date of departure ———.

Name of ship ———. Last permanent residence ———.

Name of immigrant ———.

Inspected and passed at	Passed at quarantine, port of	
.... (Seal or stamp of consular or medical officer)	.... Canal Zone (or) .... Republic of Panama .... (Date)	Vaccinated (Signature or stamp)

(The following to be filled in by ship's surgeon or agent prior to or after embarkation.)

Ship's list or manifest ———. No. on ship's list or manifest ———.

Berth No.	Steamship inspection. Days.	To be punched by ship's surgeon at daily inspection.
......	1st, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14.	

Section 18.—Passengers and crews, merchandise and baggage, prior to shipment at a noninfected port, but coming from an infected locality, should be subject to the same restrictions as are imposed at an infected port.

LOCAL INSPECTION OF VESSELS.

Section 19.—Vessels arriving at any of the ports of the Canal Zone or the cities of Panama and Colon, Republic of Panama, under the following conditions, shall be inspected by the quarantine officer of the port prior to entry:

(*a*) Vessels from the United States; (*b*) Vessels from foreign ports; (*c*) Vessels with sickness aboard; (*d*) Vessels from Panamanian ports where any quarantinable disease prevails; (*e*) Vessels from Panamanian ports carrying passengers or articles suspected by the quarantine officer as being capable of conveying the infection of a transmissible disease.

Section 20.—The limits of anchorage of vessels awaiting inspection and of vessels

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(*a*) The sanitary measures applicable to second cabin passengers will be those designated for first cabin passengers or for steerage passengers, according as the arrangements of their quarters and accommodations aboard, both sanitary and for association, class them in the opinion of the inspecting officer with the first cabin or steerage.

undergoing quarantine, shall be fixed from time to time by the Chief Sanitary Officer of the Canal Zone.

Section 21.—Every vessel subject to quarantine inspection shall be considered in quarantine until granted free pratique, and such vessels shall fly a yellow flag from the foremast head from sunrise to sunset and shall observe all the other requirements of vessels actually quarantined.

Section 22.—The captain or master of a vessel in quarantine shall allow no communication with his vessel except as provided for in these regulations, nor shall any water craft approach within 200 meters of any such vessel.

Section 23.—No person or article shall be allowed to leave a vessel in quarantine without written authority from the quarantine officer.

Section 24.—Towboats, or any vessel or boat having had communication with a vessel in quarantine shall be submitted, with their personnel, to such measures of sanitation as the quarantine officer may judge to be necessary.

Section 25.—No person, except such officers of the port as are required to do so by the nature of their duties, and the agent of the vessel, if such agent has the consent of the quarantine officer, shall go aboard any vessel subject to quarantine until such vessel has been granted free pratique. Any person going aboard prior to the issuance of free pratique shall be subject to the same restrictions as the personnel of the vessel, if, in the opinion of the quarantine officer, this is necessary for the protection of the public health.

Section 26.—The quarantine officer, after his inspection of the vessel and its documents, shall decide whether said vessel, or its personnel, or passengers, or any article aboard said vessel is liable to convey any of the following diseases: Plague, yellow fever, cholera, smallpox, typhus fever, or leprosy; and if so, such vessel shall be placed in quarantine and forbidden entry until the period of incubation of such diseases is past, and he shall take such measures in respect to the vessel, its passengers or personnel or cargo as, in his judgment, may be required to prevent the entry of such diseases into the Canal Zone or the cities of Panama or Colon, Republic of Panama.

Section 27.—Passengers boarding vessels from ports subject to quarantine will be required, in the discretion of the Chief Sanitary Officer of the Canal Zone, to present personal certificates from the officer authorized by these regulations to sign bills of health, certifying to their sanitary history and condition, provided due notice has been issued to the agents of the steamship companies on the Isthmus of Panama.

Section 28.—Every case of sickness aboard any vessel in the harbor shall be immediately reported by the master of the vessel to the quarantine officer, who shall see the case and take such sanitary measures as may be necessary.

Section 29.—The Chief Quarantine Officer shall have charge of the sanitation of the harbors and vessels lying therein and shall see that such measures are enforced as are necessary for the proper hygiene of vessels, their cargoes, and their personnel, whether in port or en route, and to prevent the vessels from being a source of danger to other vessels or to the port, and he is authorized to certify bills of health to vessels clearing from ports under his jurisdiction, setting forth in such bill of health the conditions of the port, vessel, cargo, passengers, and crew; and he is authorized at the request of the master of any vessel to disinfect and otherwise place such vessel in a sanitary condition so that it may leave the port in free pratique and be able to make entry at the port of destination without further disinfection or detention in quarantine.

Section 30.—The quarantine officer shall make such charges for the disinfection of vessels and their cargoes, and for the transportation and subsistence of passengers while in quarantine as may be fixed from time to time by the Governor of the Canal Zone.

Section 31.—A certificate from the quarantine officer that a vessel has complied with all the quarantine regulations shall be required of every vessel subject to inspection, as a pre-requisite for customs entry or passage through the Canal.

Section 32.—Quarantine stations shall be established and maintained at such places as may be decided upon by the Chief Sanitary Officer of the Canal Zone, with the approval of the Governor.

Persons detained in quarantine under these regulations shall not be permitted to go outside the limits of the quarantine station until discharged therefrom by the quarantine officer and if any such person shall leave the quarantine station without being duly discharged therefrom he may be taken into custody by the quarantine officers wherever found and returned to the quarantine station and, in addition, he may be punished as hereinafter described.

No person except the Chief Sanitary Officer of the Panama Canal or his representative, the quarantine officers and employes and personnel of the station shall be permitted to enter in or upon a quarantine station without permission from the Chief Sanitary Officer or the Chief Quarantine Officer of the Panama Canal.

Section 33.—The Governor of the Panama Canal may establish from time to time such rules and regulations as he may deem necessary to execute this Order.

Section 34.—Any person violating any of the provisions of these regulations shall be punished by a fine not exceeding $500, or by imprisonment in jail not exceeding 90 days, or both, at the discretion of the Court.

Section 35.—The medical officers of the Canal Zone, duly clothed with authority to act as quarantine officers at any port or place within the Canal Zone and the ports of the cities of Panama and Colon, Republic of Panama, and when performing the said duties, are hereby authorized to administer oaths and take declarations thereunder in matters relating to the administration of the quarantine laws and regulations of the Canal Zone Government.

Section 36.—These regulations shall take effect from and after the date upon which the Panama Canal is officially and formally opened for use and operation, by proclamation of the President of the United States.

WOODROW WILSON.

THE WHITE HOUSE,
April 15, 1913.
[No. 1761.]

JOINT LAND COMMISSION.

Additional Awards.

The following additional awards have been made by the Joint Land Commission:

Award No. 32—In the matter of certain houses in Gorgona—The evidence before the Commission shows that the persons hereinafter named received the houses herein referred to under the will of Juliana Miranda de Leon, who died in 1909, and who became the owner of the houses before she accepted a lease from the Isthmian Canal Commission. In no case did the persons hereinafter named make any claim to the ownership of the land.

In conformity with the principles formulated in the opinion of July 25, 1913, on the demurrer of counsel of the United States to the jurisdiction of the Commission in the matter of the claim of Juan Sotillo, and in accordance with the evidence submitted to the Commission, an award is hereby made against the United States of America for certain buildings hereinafter identified by the respective tax numbers, the said award to include all rights, claims, and interests of any persons in the said buildings, together with all claims for improvements of whatsoever nature on the part of any persons hereinafter named, and all rights claimed by them, in the sum of $2,450.

This award shall be paid to the respective persons named hereinafter, in the amounts hereinafter specified, on or before the 8th day of October, 1913, and if payment or tender of payment of any of the items of this award is not made on or before that date, such items shall thereafter bear interest at the rate of six per centum per annum until paid.

To José L. Larrea, docket No. 496, for House 823, the sum of $450. To the owners of House 771, the sum of $2,000, to be divided among the owners for their respective portions of the said house, as follows: Juana Miranda V. de Sayas, docket No. 1,630, the sum of $1,350; Mercedes Larrea de Bernard, the sum of $650. Total, $2,450.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners.*

September 9, 1913.

Award No. 33—In the matter of the claim of Alfred Cadet, and the estate of George Andrade, deceased, for improvements located on the lands of Juan Grande—The evidence in this case shows that the property occupied by the late George Andrade and Alfred Cadet on the lands of Juan Grande was purchased by them from D. T. McLean, and that McLean entered upon these lands under a lease granted by the Isthmian Canal Commission, by the terms of which lease no compensation could be claimed from the United States of America on the cancellation of the same.

The evidence shows, however, that a certain portion of the improvements made by Andrade and Cadet were not on the public lands of the United States, but upon the land owned by Luz Espinosa, and it is for this portion of the improvements that the award of the Commission is made. The evidence before the Commission shows that the late George Andrade was the owner of two-thirds of the property, and that Alfred Cadet was the owner of one-third.

On the basis of the evidence presented, an award is hereby made against the United States of America in favor of the persons hereinafter named for the settlement of all rights, claims, or other interests in all growing crops, fruit trees, buildings, and all other improvements of whatever kind, and all rights claimed by them on the estate of Juan Grande, in the sum of $400.

The conditions of the award are:

First—This award shall be paid to the respective claimants hereinafter named in the amounts hereinafter specified on or before the 15th day of October, 1913, and if payment or tender of payment of any of the items of this award is not made on or before that date such items shall thereafter bear interest at the rate of six per centum per annum from date until paid.

Second—The above mentioned award shall be distributed among the claimants hereinafter named, and the amounts to be received by each shall be, as follows:

Name.	*Amount.*
Alfred Cadet..........................	$133.33
W. H. Carrington, as administrator of the estate of George Andrade, deceased	$266.67

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners.*

September 13, 1913.

Award No. 34—In the matter of houses Nos. 713, 719, 808, and 813 in the town of Gorgona—On July 19, 1913, Maria T. de Bosque filed with the Joint Commission a claim (Docket 1,460) for a certain interest in Houses 713, 719, 808, and 813 in the town of Gorgona, which houses appear in the various records pertaining thereto as the property of Hilario V. Seixas. Subsequently, on July 24, 1913, Seixas filed a claim

(Docket 1,550) for the value of these houses. In a letter of the attorney of Seixas to the Collector of Revenues, dated February 1, 1908, the location and history of these houses is given, as follows:

> "House No. 51, situated on lot No. 5, block No. 2, consists of a two-story frame and corrugated iron roof building, measuring 10 by 10 meters, the upper floor of which is occupied by the owner, H. V. Seixas, as his domicile and the first floor by the Panama Banking Company, at an annual rental of $600 U. S. currency. This house was originally built in 1887 and was purchased by the present owner in 1894. It is bounded on the east by a government building, on the west by the main street, on the north by a building of one Garido, and on the south by July's building.
>
> House No. 55, situated on lot No. 2, block No. 6, consists of a two-story frame and corrugated iron roof building, 16 by 17 meters, and is occupied at an annual rental of $840 U. S. currency. This property has been in the continuous possession of the present owner since 1886, and is bounded on the east by the main street, on the west by a building belonging to Seixas, on the north by the house of a Chinaman, and on the south by a similar building.
>
> House No. 70, situated on lot No. 7, block No. 5, consists of a two-story frame and corrugated iron roof building, measuring 12 by 15 meters. This lot was obtained from the municipality of Gorgona in 1906 for the purpose of erecting a building, and was purchased by the present owner in 1907. It is now occupied at an annual rental of $1,030 U. S. currency, and is bounded on the east by the street, on the west by a vacant lot, on the north by the house of one McCalla, and on the south by the building of N. Barsallo.
>
> House No. 73, situated on lot No. 18, block No. 6, consists of a two-story frame and corrugated iron roof building, measuring 12 by 12 meters, and is occupied at an annual rental of $900 U.S. currency. This property has been in the continuous possession of the present owner since 1886 and the building was erected in 1905. It is bounded on the east by a house belonging to Seixas, on the west by a building of one Passaje Miranda, on the north by the property of the owner, and on the south by the street."

It seems that Seixas refused to sign the lease issued by the Isthmian Canal Commisson. On January 7, 1908, the Collector of Revenues, in a letter to H. V. Seixas, made the following statement:

> "You are in possession and occupying certain lots in the town of Gorgona, which are the property of the Isthmian Canal Commission. I am advised by Mr. Robinson, district tax collector, that you have refused to sign leases for this property. I have therefore to advise you, if it is not your intention to sign leases as provided for by the Government of the Canal Zone for property that you are occupying it will be necessary for me to take steps at once to have you evicted from the property referred to."

No further action was taken until July 12, 1909, when the assistant attorney for the Isthmian Canal Commission wrote the following letter to Seixas:

> "Ancon, July 12, 1909.
>
> Dear Sir:
>
> On April 2, 1909, Mr. Grover C. Bradford, district tax collector, wrote you relative to the four lots occupied by you in Gorgona, Canal Zone, upon which is situated houses Nos. 51, 55, 70, and 73. He notified you that unless you signed leases to these lots on or before the 10th of April, it would be necessary for the Canal Zone Government to bring suit for the possession of these lots.
>
> This is to further notify you that unless you sign leases to these lots on the regular forms required by the Government of the Canal Zone on or before the 25th day of July, 1909, and pay the back land rent, the Government of the Canal Zone will take such steps as may be necessary to secure possession of these lots and to collect the back land rent due thereon since April 15, 1907, up to April 15, 1909, as follows: Lot No. 73, $26.40 per annum, 2 years, $52.80; lot No. 70, $32.25 per annum, 2 years, $64.50; lot No. 55, $35.75 per annum, 2 years, $71.50; lot No. 51, $19.12 per annum, 2 years, $38.24. Total, $227.04.
>
> Very truly yours,
> (Signed) W. K. Jackson,
> *Assistant Attorney for I. C. C.*"

Under date of July 29, 1909, the district tax collector, Mr. Grover C. Bradford, in writing to the attorney of Seixas, makes the following statements:

> "The form of lease enclosed is the one that was used at the time the municipalities were abolished, and have been in use ever since that time, and it seems to me that the case of Mr. Seixas should be governed in accordance with the existing circumstances at the time the above mentioned form was put in use, which was about April 1, 1907. I know that you will say that you want a contract wherein something is promised or agreed to by the Government in the way of a compensation, should the lands be required for Canal purposes, but in all previous cases of this nature these matters have been placed before a commission to decide on what the property owner should receive as a compensation, and I believe that this same procedure will be followed in the future and that the Government will consider any just claim.".

The continued refusal of Seixas to sign any leases led to the institution of a suit for unlawful detainer on August 14, 1909, in the District Court of the District of Gorgona. Judgment was rendered by the District Court in favor of the United States. The further proceedings in the case are fully described in the answer of the United States to the claim of Hilario Seixas filed July 26, 1913, as follows:

> "Judgment was rendered by said District Court in favor of the United States of America; that an appeal was taken therefrom by the defendant Seixas to the Circuit Court of the Second Judicial Circuit of the Canal Zone at Empire; that upon a trial *de nova* of all the issues involved in said action on December 21, 1909, a judgment was rendered by the judge of that Court in favor of the United States of America for the sum of $268.67 and costs and directed that a writ of restitution issue for the lots or parcels of land in the Administrative District of Gorgona occupied by the said Seixas; that thereafter said Seixas prayed a writ of certiorari from the Supreme Court of the Canal Zone in order that the judgment of the Circuit Court of the Canal Zone might be reviewed and reversed; that the Supreme Court of the Canal Zone on September 7, 1910, rendered an opinion refusing to issue the writ of certiorari prayed for; that thereafter Seixas secured an alternative writ of mandamus from the Supreme Court of the Canal Zone, directing that cause be shown why the full record and judgment of the Circuit Court of the Second Judicial Circuit of the Canal Zone should not be sent to the Supreme Court for their review and reversal; that upon motion to quash the alternative writ of mandamus issued by the Supreme Court, in an opinion filed at the November term of the Supreme Court of the Canal Zone, it was directed that the alternative writ be quashed and the petition for mandamus dismissed, with the costs against said Seixas; that the decision of the Supreme Court of the Canal Zone was duly certified to the Circuit Court of the Second Judicial Circuit of the Canal Zone and that on January 9, 1912, a writ of possession was issued from said Circuit Court and possession of the said four building lots and houses thereon within the town of Gorgona given to the United States of America by the marshal of the Canal Zone in accordance with said writ of restitution and order of the Second Judicial Circuit of the Canal Zone."

It appears, therefore, that Seixas remained in possession of the property until January 9, 1912, when the writ of possession was finally issued by the Circuit Court, and possession taken by the marshal of the Canal Zone.

The evidence before the Commission clearly shows that Seixas was in possession of these lots many years prior to American occupation. In accordance with the rule laid down by the Commission in the opinion on the demurrer to the jurisdiction of the Commission in the case of Juan Sotillo, the claimant was entitled to the protection of Article 5 of Law No. 50 of 1894, and neither the acceptance of an Isthmian Canal Commission lease or license nor the refusal to accept the same deprived him of this right. The conclusion reached by the Commission in this case does not in any way affect or question the validity of the judgments of the District Court of the Administrative District of Gorgona, the Circuit Court of the Second Judicial Circuit, or the Supreme Court of the Canal Zone. These judgments relate exclusively to the right of the United States of America to obtain possession of lands when a tenant thereon refuses to pay rental. In none of these proceedings was the question of the right of Seixas to compensation for the value of his houses presented to the court.

On October 12, 1909, the following judgment was entered by the District Court of the District of Gorgona, to wit:

> "That the plaintiff do have and recover of and from the defendant, the possession of lots Nos. 51, 55, 70, and 73 situated in the town of Gorgona, Canal Zone, and that the plaintiff also do have and recover of and from the defendant the sum of $288.72, and the costs fixed at $6.30, United States currency."

This judgment included arrears of rentals due to June 30, 1909, inclusive.

In view of the fact that Seixas remained in possession of these houses until January, 1912, but has paid no rental for the lots since the 1st of July, 1907, the Commission decrees that from the total amount of the award the following sums be deducted:

First—The sum of $295.02, representing the amount of judgment entered against the said Hilario V. Seixas for arrears of rental to June 30, 1909, inclusive, together with costs........................ $295.02.

Second—Arrears of rental on lots Nos. 51, 55, 70, and 73, from July 1, 1909 to January 1, 1912, a period of 2½ years, to-wit:

(*a*) Rent on lot No. 51, from July 1, 1909, to January 1, 1912, 2½ years, at $19.60 per year........................ $49.00

(*b*) Rent on lot No. 55, from July 1, 1909, to January 1, 1912, 2½ years, at $47.70 per year........................ $119.25

(*c*) Rent on lot No. 70, from July 1, 1909, to January 1, 1912, 2½ years, at $33.22 per year........................ $83.05

(*d*) Rent on lot No. 73, from July 1, 1909, to January 1, 1912, 2½ years, at $27.80 per year........................ $69.50

$615.82

The valuation made by the Commission for the four houses for which claim has been made, is, as follows:

1. House No. 55, tax No. 713, $1,200. 2. House No. 51, tax No. 719, $450. 3. House No. 70, tax No. 813, $1,300. 4. House No. 73, tax No. 808, $1,100. Total, $4,050.

From this total the following sums shall be deducted, to-wit:

1. The sum of $295.02 in full satisfaction of the judgment entered against said Hilario V. Seixas for arrears of rentals to June 30, 1909, inclusive, together with costs, $295.02.
2. For arrears of rental on lots Nos. 51, 55, 70, and 73, from July 1, 1909, to January 1, 1912, $615.82.

In accordance with the principles herein formulated and with the evidence submitted to the Commission, an award is hereby made against the United States of America to the owner of certain buildings identified by the tax Nos. 713, 719, 808, and 813, the said awards to include all right, title, and interest in the said buildings, together with all claims for improvements of whatsoever nature, in the sum of $3,434.18 United States currency.

This award shall be paid into the Circuit Court of the Second Judicial Circuit of the Canal Zone for distribution among the owners of said buildings as their interests may appear, on or before the 20th day of October, 1913, and if not so paid before that date it shall thereafter bear interest at the rate of six per centum per annum until paid.

(Signed) Federico Boyd, Roland P. Falkner, Samuel Lewis, L. S. Rowe, *Commissioners.*

September 20, 1913.

Award No. 36—In the matter of the claim of Leopoldo Cantoral for property located at Chagrecito, near Old Frijoles, docket No. 128.—The claim of Leopoldo Cantoral is divided into two parts; the first part refers to damages alleged to have been caused by the operations of the Canal authorities in 1905; the second to damages caused by the rising of the waters of Lake Gatun in 1912.

After careful consideration of all the evidence submitted, the Commission has reached the conclusion that such evidence does not support any claim for damages alleged to have been suffered in 1905.

With reference to the claim for damages suffered by reason of the rising of the waters of Lake Gatun. The evidence submitted in this case shows that the claimant, Cantoral, was for many years a tenant of the French Canal Company. All the leases issued by the French Canal Company contained the following clause:

> "In case the Company sells the land herewith leased, or requires it for any purpose of the Company, no matter what such purpose may be, this contract shall be deemed rescinded. Notice of one month shall be sufficient, and shall be given to all lessees."

It is evident, therefore, that upon the sale of the property of the French Canal Company to the United States, the relationship of landlord and tenant established between the French Canal Company and this claimant was terminated. It is true that the evidence submitted shows that there was a payment made in August, 1905, apparently under a mistaken impression that the contract of lease which had expired by reason of the sale of the property by the French Canal Company to the United States of America, was still in existence.

From 1905 to 1912, the claimant remained in undisturbed possession of the property without the payment of any rental to the United States, and no attempt was at any time made to establish the relation of landlord and tenant.

It is evident that this claimant became an occupier of public lands. The rights of such occupiers have been fully set forth by the Commission in an opinion dated July 25, 1913. Under the terms of this opinion such occupiers are entitled to the value of the cultivation on the land occupied by him.

The Commission has, therefore, reached the conclusion that this claimant is entitled to compensation for damages inflicted, and that the measure of such compensation is governed by Article V of Law No. 48 of 1882, and Article 739 of the Civil Code.

An award is therefore made against the United States of America to Leopoldo Cantoral for the settlement of all rights, claims, or other interests in al growing crops, fruit trees, and buildings, and all other improvements of every kind, situated in or near Chagresito, in the sum of $1,500 United States currency. This award shall be paid to the aforementioned claimant in the amount specified, on or before the 20th day of October, 1913, and if payment or tender of payment is not made on or before that date this item shall thereafter bear interest at the rate of six per centum per annum until paid.

(Sgd.) Federico Boyd. Samuel Lewis, L. S. Rowe, *Commissioners*, Commissioner Falkner dissenting.

September 20, 1913.

Award No. 37—In the matter of sundry claims, docket No. 1,240-A, etc.—An award is hereby made against the United States of America, in favor of the persons hereinafter named, in the sum of $6,785 U. S. currency. This award shall be paid to the respective claimants hereinafter named in the amounts hereinafter specified on or before the 20th day of October, 1913, and if payment or tender of payment of any of the items of this award is not made on or before that date, such items shall thereafter bear interest at the rate of six per centum per annum until paid:

Amaguer, Mauricia, for all rights, claims, and other interests in growing crops, fruit trees, house tax No. 873 and any other buildings, and any other improvements which the said Mauricia Amaguer may possess or may have possessed on the lands of Juan Grande (Waterloo), the sum of $60 U. S. currency.

Alvarez, José, deceased, Estate of, docket No. 380, for all rights, claims and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Alvarez may have possessed on the west side of the Chagres River on the lands known as Caño Quebrado, in the sum of $175 U. S. currency. This award is subject to such equities, if any, as may be possessed by José Perdiz or any other person claiming an interest in the said property, and it is directed that the said award be paid into the Circuit Court of the Second Judicial District of the Canal Zone for distribution in accordance with the terms of this award.

Alveo, José de Carmen, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Alveo may possess or may have possessed at Gambi Hill, near the headwaters of the Bailamonos River, on public lands of the United States, the sum of $45 U. S. currency.

Alveo, Manuel, docket No. 1,294, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Alveo may possess or may have possessed at Balboa Hill, near the headwaters of the River Maquenque, the said property being distinct from that located at Bailamonos Arriba, for which an award was made by the Joint Commission to another claimant of the same name, the sum of $125 U. S. currency.

Alveo, Manuel, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Alveo may possess or may have possessed in the region known as Bailamonos Arriba, the said property being distinct from that located at Balboa Hill, for which an award was made by the Joint Commission to another claimant of the same name, the sum of $290 U. S. currency.

Ayarza, Nicolas, docket No. 1,607, for all rights, claims, and other interests in growing crops, fruit trees, house tax No. 914, and any other buildings and any other improvements which the said Ayarza may possess or may have possessed on the lands of Juan Grande (Waterloo), and not including claims of said Ayarza for property said to be covered by Dump 4, the sum of $25 U. S. currency.

Batista, R. Manuel, dockets Nos. 376 and 377, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Batista may possess or may have possessed in lands lying between the rivers Agua Salud and Aujeta, and which the said Batista may have possessed in the region designated as Juan Maria, near Tabernilla, the property covered by this award being distinct from that owned by another person by the name of Manuel Batista, located at La Loma, Frijoles, and purchased by the United States, in the sum of $300 U. S. currency.

Betancourt, Damaso, dockets Nos. 1,638 and 1,639, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Betancourt may possess in two properties located near the headwaters of the river Maquenque, in the sum of $120 U. S. currency.

Bilorio, José, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Bilorio may possess or may have possessed at points west of Mile 23½ and Mile 21¼, respectively, on the Panama railroad line on the lands of Barbacoas, the sum of $75 U. S. currency.

Bolano, Roman, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Bolano may possess or may have possessed at Baldo Espino on the lands of Tabernilla, together with any claims for property destroyed in 1907 on the lands of Tabernilla by the making of Tabernilla dump and the overflowing of the land, the sum of $300 U. S. currency.

Caballero, José Modesto, docket No. 786, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Caballero may possess or may have possessed on the lands of Caño Quebrado, the sum of $600 U. S. currency.

Concepcion (Concession), Pedro, in docket No. 1,-444 for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Concepcion may possess or may have possessed on lands located above the 87-foot contour line, on the lower waters of the River Caño Quebrado on the lands of Caño Quebrado, this property being distinct from that lying below the 87-foot contour line in the same locality, which was purchased from Concepcion by the United States in December, 1911, and being distinct also from property on the upper waters of the River Caño Quebrado, for which an award was made by the Joint Commission, the sum of $20 U. S. currency.

Concepcion (Concession), Pedro, in docket No. 1,-444, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and other improvements which the said Concepcion may possess on lands located above the 87-foot contour line on the upper waters of the River Caño Quebrado on the lands of Caño Quebrado, this property being distinct from that on the lower waters of the Caño Quebrado, of which the part lying below the 87-foot contour line was purchased by the United States in December, 1911, and of which the part lying above the 87-foot contour line is included in an award made by the Joint Commission, the sum of $50 U. S. currency.

Dennis, Edward, docket No. 1,531, for all rights, claims, and other interests in growing crops, fruit trees, house tax No. 1,871, and any other buildings, and any other improvements which the said Dennis may possess or may have possessed at Caimito, the sum of $100 U. S. currency.

Doxey, Pascual, docket No. 1,089, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Doxey may possess on lands lying on both banks of the Quebrado Pico, and located partly within the estate of Juan Grande (east bank of the Chagres River) and partly within the estate of Mamey y Culo Seco, the sum of $105 U. S. currency.

Fernandez, Juan Galeano, for all rights, claims, and other interests in growing crops, fruit trees, house tax No. 878, and any other buildings, and any other improvements which the said Fernandez may possess or may have possessed on the lands of Juan Grande (Waterloo), the sum of $50 U. S. currency.

Flores, Pablo, docket No. 1,366, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Flores may possess or may have possessed on the lands of San Pablo and Caño Quebrado *above* the 87-foot contour line (this property being distinct from that lying *below* the 87-foot level, which was purchased from the claimant by the United States in 1911), the sum of $215 U. S. currency.

Garcia, Santiago, docket No. 1,513, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Garcia may possess or may have possessed on the lands of Caño Quebrado *above* the 87-foot contour line (this property being distinct from that located *below* the 87-foot contour line, which was purchased from the claimant by the United States in 1911), the sum of $30 U. S. currency.

Gutierrez, Martin, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Gutierrez may possess or may have possessed on the lands of Juan Grande (Waterloo), the sum of $85 U. S. currency.

Herrera, Cornelio, docket No. 1,629, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Herrera may possess or may have possessed on the lands of Caño Quebrado *above* the 87-foot contour line (this property being distinct from that *below* the 87-foot contour line which was purchased from the claimant by the United States in 1911), the sum of $10 U. S. currency.

Huie, J. R., docket No. 346, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Huie may possess or may have possessed at Agua Salud, including any claim for property which may have been destroyed at Baldo Espino in the work of constructing the relocated line of the Panama railroad, the said property being distinct from that located at Buena Vista, which was said to have been in the name of the mother of claimant, E. Campbell, and which was purchased by the United States, the sum of $135 U. S. currency.

Jaramillo, Juan, for all rights, claims, and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Jaramillo may possess or may have possessed at two places on or near the River Paja, on the lands of Caño Quebrado, the sum of $60 U. S. currency.

Lam, Lee, docket Nos. 882 and 1408, for all rights, claims and other interests in growing crops, fruit trees, houses tax Nos. 882 and 1793, and any other buildings and any other improvements which the said Lam may possess or may have possessed on the lands of Juan Grande (Waterloo) the sum of $500 U. S. currency.

Martes, Damien, docket No. 241, for all rights, claims and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Martes may possess or may have possessed on the lands of San Pablo near Quebrado Macho, in the sum of $170 U. S. currency.

Modest, James, for all rights, claims and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Modest may possess or may have possessed, on the public lands of the United States near Mile Post 19¼ of the Panama railroad, the sum of $100 U. S. currency.

Moran, Eliseo, for all rights, claims and other interests in growing crops, fruit trees, house tax No. 1798, and any other buildings, and any other improvements which the said Moran may possess or may have possessed in the lands of Juan Grande (Waterloo) and not including claim of said Moran for property said to be covered by Dump 4, the sum of $40 U. S. currency.

Moran, Fermin, docket No. 1512, for all rights, claims and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Moran may possess or may have possessed near the Rio Canito on the public lands adjoining the lands of Caño Quebrado and San Pablo, the sum of $450 U. S. currency.

Moran, Isidoro, docket No. 1514, for all rights, claims and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Moran may possess or may have possessed near the Quebrado Macho and the Rio Paja on the lands of San Pablo, the sum of $80 U. S. currency.

Moreno, Eufemio (Efigenio), docket No. 1509, for all rights, claims and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Moreno may possess or may have possessed near the Rio Canitó on public lands of the United States adjoining the lands of Caño Quebrado and San Pablo, the sum of $180 U. S. currency.

Muñoz, Gervacio, in docket No. 747, for all rights, claims and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Munoz may possess or may have possessed on the Rio Paja, in the lands known as San Pablo and Caño Quebrado, the said property being distinct from that at Quebrado Macho, for which an award was made by the Joint Land Commission, the sum of $20 U. S. currency.

Muñoz, Gervacio, in docket No. 747, for all rights, claims and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Muñoz may possess or may have possessed on the Quebrado Macho in the lands known as San Pablo and Caño Quebrado, the said property being distinct from that at Rio Paja, for which an award was made by the Joint Land Commission, the sum of $45 U. S. currency.

Muñoz, Manuel, docket No. 348, for all rights, claims and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Muñoz may possess or may have possessed at various places on the lands of Caño Quebrado *above* the 87-foot contour line (this property being distinct from that *below* the 87-foot contour line within the lake area which was purchased from Muñoz by the United States in 1911, and which property was included by the claimant in his statement before the Commission, but excluded by the Commission in making its award), in the sum of $155 U. S. currency.

(To be Continued.)

SOCIAL LIFE OF THE ZONE.

Annual Meeting of the Cristobal Woman's Club.

The Cristobal Woman's Club began its seventh year at an adjourned annual meeting held at the Commission clubhouse on Wednesday afternoon, October 1. The annual meeting of the club was held on April 23, but at that time it was found impossible to elect officers, or to decide upon the question as to whether or not the club should continue for another year, so an adjournment was taken. At the meeting on October 1, the following officers were chosen:

President, Mrs. Thomas Edwin Brown, Jr.; first vice-president, Mrs. Frederick Mears; second vice-president, Mrs. William Harrison; recording secretary, Mrs. John J. Murray; corresponding secretary, Mrs. G. E. Whitney; treasurer, Mrs. Webster Morris.

The program committee is composed of Mrs. William Harrison, chairman; Mrs. Frederick Mears, and Mrs. Charles Butters. Mrs. George Armiger is chairman of the house and social committee. The club will not be divided into departments this year, but will work on a more concentrated and general plan. The meetings will be held on the first and third Wednesdays in each month. For the first meeting in each month there will be a formal program, with a paper or lecture; the second meeting will be rather informal in character, with a program composed of short papers on topics of general interest, and the reading of these will be followed by a general discussion. The club will hold a social meeting as a welcome to the new members and officers on Wednesday afternoon, October 15.

Proposed Federation of Canal Zone Christian Societies.

The question of the organization of a federation of women engaged in Christian work was the principal topic of discussion at the monthly meeting of the Woman's Foreign Missionary Society of the Methodist Episcopal Church held in the church parlors on Saturday afternoon, October 4. The society adopted a resolution in favor of an undenominational organization the chief purpose of which will be the discussion of religious issues, cooperative planning of future efforts, and the study of missionary work in all fields and by all denominations. There are 10 church societies of women in the Canal Zone, Panama, and Colon, with an approximate total membership of 200. Should such a federation as is proposed be formed it would result in a strong permanent organization of American women for Christian effort. It is hoped that plans will be perfected, so that the meeting for organization may be held in November at the time of the annual visitation of Bishop Stuntz, the Methodist bishop in charge of the work in Central and South America.

The missionary society elected officers for 1913-1914 at its meeting on October 4, as follows: President, Mrs. Harry Compton; vice-president, Mrs. J. H. Stokoe; secretary, Mrs. C. H. Ports; treasurer, Mrs. Townsend. The committee on federation is composed of Mrs. Compton, Mrs. Stokoe, Mrs. Keyser, and Mrs. Ports.

Miscellaneous Church Notes.

The Cristobal Young Peoples' Society, in connection with the Union Church, has issued a card announcing the schedule of its meetings, with the subject of each program and the name of the leader, from September to December 28. The meetings are held in the church every Sunday evening, beginning at 7 o'clock. The public is cordially invited to attend. The following is the program for the next three months.

October 12, favorite verses in the Epistles; leaders, Ruth Wilkins, Ruth Farrell, Julia Nielsen, Mary Verner.

October 19, "How to make this the best year in our society's history;" leader, Mr. Irwin DeLong.

October 26, missionary essentials; leaders, Clara Matthews, William Fraser.

November 2, "The ideal Christian;" leader, Mrs. M. F. Harrison.

November 9, "Christian home life;" leader, Mr. B. L. Larcom.

November 16, temperance facts and figures; leaders, Swift Carpenter and W. T. Donohue.

November 23, (Thanksgiving) "Discontent or praise;" leader, Mrs. Wm. Harrison.

November 30, "The church at work for our country;" leader, F. F. Zundel.

December 7, "The ideal Christian" (paper No. 2); leader, Mr. W. H. Fredericks.

December 14, lessons from the men and women of the Bible; leaders, Arthur Farrell and Sara Harrison.

December 21, "The Christian spirit and how it may prevail;" leader, Mr. A. J. Bowers.

December 28, "The church at work for the world;" leaders, Minot Cotton, Etha Bevington, Ray Appleton, Elizabeth Ragsdale.

The Woman's Altar Society and the Men's Catholic Club of St. Ferdinand's Church, Empire, combined in giving a reception at the parish house on Saturday evening, September 27, in honor of the Reverend Father J. McDonald, C. M., who is to take charge of the parish and church work during the absence on vacation leave of the Reverend Father Allot. The reception was also a farewell to Father Allot who sailed on September 29.

Farewell Banquet of Pedro Miguel Masonic Club.

The Pedro Miguel Masonic Club held a disbanding banquet on October 4 in the Pedro Miguel hotel. The president, John Kane, was toastmaster. There were addresses by John A. Walker, M. L. French, Alma White, F. H. Whitney, J. W. Sweeney, and Dr Curney.

The club numbers among its members, Masons from 92 different lodges and 24 states, as well as from England, Ireland, Scotland, Canada, Mexico, Costa Rica, and Alaska. E. P. Matter represented Alexandria-Washington, No. 22, the lodge where "The Father of his Country" presided as master.

One of the features of the evening was an address by Frank H. Whitney on "Forty-five years a Mason."

The club was organized on June 8, 1909, being a continuation of the Paraiso Sojourners Club, and had always maintained a good membership, even after the advent of the various Masonic bodies on the Isthmus.

The last officers were: President, John Kane; secretary, Ira M. Showers; treasurer, F. R. Curney; chaplain, Frank H. Whitney.

Dances.

The regular dance of the Cristobal Dancing Club will be held on Saturday, October 11 at the clubhouse. Invitations or membership cards must be presented at the door.

A dance will be held at the Gatun clubhouse on October 11 under the auspices of Lock City Lodge, No. 5, Knights of Pythias, similar to the one held in August. A charge will be made to cover the expenses.

Fund for Providing an Artificial Leg.

The subscribers to the fund raised for the purchase of an artificial leg for one Pablo Abello, employed as switchtender by the Fifth Division at Miraflores, are advised that the amount collected ($80) has been turned over to the superintendent of Ancon Hospital and the leg will be fitted as soon as received from the manufacturers.

In the list of the diplomatic and consular corps accredited to the Republic of Panama, published in THE CANAL RECORD of September 10, the name of Mr. Daniel Rojas P., the Consul for Costa Rica at Colon was inadvertently omitted.

PANAMA RAILROAD COMPANY.

PANAMA-BALBOA LABOR TRAIN SERVICE—IN EFFECT OCTOBER 6, 1913.

Stations.	SOUTHWARD.												
	81	83	85	87	89	91	93	95	97	99	101	103	105
	A. M.	A. M.	A. M.	A. M.	A. M.	A. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.
Leave													
Panama..........	5.30	6.10	6.30	8.20	9.25	10.40	12.10	12.30	1.10	2.50	4.30	5.35	7.30
Big Tree Cabin...	5.35	6.15	6.35	8.25	9.30	10.45	12.15	12.35	1.15	2.55	4.35	5.40	7.35
Balboa Dock.....	5.45	6.25	6.45	8.35	9.40	10.55	12.25	12.45	1.25	3.05	4.45	5.50	7.45
	A. M.	A. M.	A. M.	A. M.	A. M.	A. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.
	81	83	85	87	89	91	93	95	97	99	101	103	105

Stations.	NORTHWARD.													
	80	82	84	86	88	90	92	94	96	98	100	102	104	106
	A. M.	A. M.	A. M.	A.M.	A. M.	A. M.	A. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.
Leave.														
Balboa Dock.....	5.30	6.10	7.00	8.45	10.20	11.05	11.15	12.50	2.30	3.15	5.05	5.15	6.10	8.20
Big Tree Cabin...	5.40	6.20	7.10	8.55	10.30	11.15	11.25	1.00	2.40	3.25	5.15	5.25	6.20	.....
Panama..........	5.45	6.25	7.15	9.00	10.35	11.20	11.30	1.05	2.45	3.30	5.20	5.30	6.25	8.35
	A. M.	A. M.	A. M.	A. M.	A. M.	A. M.	A. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.
	80	82	84	86	88	90	92	94	96	98	100	102	104	106

Southward trains will have preference over northward trains.

Trains stop at all stations, except No. 106.

Baggage for Balboa steamship connections will be handled as far as possible by trains Nos. 87, 91, and 97.

A labor train will leave Panama at 10.50 p. m., arrive Balboa Dock 11.05 p. m., returning, leave Balboa Dock 11.15 p. m., arrive at Panama 11.30 p. m., on nights when there is work at Balboa Dock.

All trains daily, except 83, 90, 93, and 100, which are discontinued Sundays.

OFFICIAL CIRCULARS.

Appointment of Timekeeping Inspector.

CULEBRA, C. Z., October 6, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

Mr. H. T. Bosse has been appointed timekeeping inspector, Fourth Division, and will be charged with the inspection of timekeeping work and the investigation of complaints and errors.

He will be given any necessary cooperation by officials and employes.

By direction of the Chairman.

C. A. MCILVAINE,
Chief Clerk.

Sunday Trips for Masters and Mates Through Culebra Cut.

CRISTOBAL, C. Z., October 6, 1913.

TO ALL MASTERS AND MATES:

The launch *Margaret* will be run through Culebra Cut from Gamboa dike to Cucaracha slide and return every Sunday (commencing October 12, 1913, if possible to put launch in Cut by that date), to afford masters and mates an opportunity to go over the course before dredging operations are started in that locality.

The launch will leave Gamboa dike at 9 a. m., returning in time for those from the Atlantic side to catch the 5.49 train to Colon, and those from the Pacific side the 5.57 train to Panama. Passes for this trip may be procured from W. G. Comber, resident engineer, Balboa, C. Z.

W. G. COMBER,
Resident Engineer.

Sailing of the "Ancon."

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., October 6, 1913.

CIRCULAR NO. 226:

All concerned—The sailing date of the steamer *Ancon* has been set for Monday, October 13, 1913, at 3 p. m., from Pier 11, Cristobal, C. Z.

J. D. PATTERSON,
General Superintendent.

Special Train.

PANAMA RAILROAD COMPANY,
FREIGHT AND PASSENGER DEPARTMENT,
COLON, R. P., October 2, 1913.

To All Concerned—For the benefit of those desiring to witness the performances of the Morton Opera Company, special train will leave Panama 11.55 p. m., Tuesdays and Thursdays, October 7, 9, 14, and 16, taking *first-class* passengers only for stations between Panama and Bas Obispo.

J. C. ANGEL,
Freight and Passenger Agent.

Labor Train Changes.

EMPIRE, C. Z., October 1, 1913.

To All Concerned—Effective on the morning of October 6, the Bas Obispo-Balboa labor train and the Empire-Miraflores labor train will be consolidated; leaving Bas Obispo at 5.20 a. m. running over the Panama railroad main line to Balboa, making the necessary stops for the accommodation of men.

Passes will not be required on this train as are required at present on the Bas Obispo-Balboa labor train.

On the same day, the short labor train which leaves Pedro Miguel at 5.47 a. m. for Balboa over the Panama railroad will be taken off and the labor train which leaves Paraiso at 6 a. m. and runs to Corozal only, will leave Paraiso at 5.45 a. m. and run through to Balboa.

A. SESSIONS,
Superintendent of Transportation.

Painting Retired Steel Dump Cars.

CULEBRA, C. Z., October 1, 1913.

To All Concerned—The Chairman has approved recommendation that good order steel dump cars, retired from service and turned over to the Quartermaster's Department for sale, be cleaned and given a coat of tar-cement paint, same to be applied with the paint-spray machine.

The above in addition to provisions covered by Circular 323-E, as regards other classes of equipment.

H. S. FARISH,
Surveying Officer.

Misdirected Letters.

ANCON, C. Z., October 8, 1913.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressees:

- Allen, Walter (papers)
- Barker, Arthur
- Bartlett, William
- Biddick, Ernest
- Carew, F. J.
- Carrol, J. F.
- Clark, W. C.
- Colemenares, A. S.
- Crowell, P. V.
- Daeggers, D. C.
- Ethrige, Mrs. S. B.
- Fenley, Mrs. M. D.
- Fleming, Jemmee
- Fueras, Adolfina
- Garten, C. A.
- Gough, Mrs. Mattie B.
- Hallin, F. W.
- Kerchner, W. G.
- Kulp, William D.
- Mayle, Charles E. H.
- McGowan, David
- Melhope, G. E.
- Messenger, C. P.
- Nelson, Wm.
- Nock, Ivan F.
- Pelekane, Aki
- Phillips, John E.
- Rawson, Frank
- Stevens, Mrs. Wm.
- Stewart, Mrs. Gilbert
- Taylor, Roscoe C.
- Thiele, R. (2)

Supplies for the Canal.

The following steamers, with supplies for the Isthmian Canal Commission and the Panama Railroad Company, arrived at the ports of Balboa, Colon, and Cristobal, during the week ending September 27:

Prinz August Wilhelm, September 21, from New York, with 287 pieces pipe, 238 kegs bolts and nuts, one case lamps, for stock.

Tivives, September 21, from New York, with 30 boxes washers, for stock; 404 "I" beams, 32 cases machinery, 598 pieces structural steel, 18 reels cable, for First Division.

Cartago, September 22, from New Orleans, with 727 pieces lumber, for stock; 2,518 bundles lumber, for Fifth Division; 131 barrels fire clay, for stock; 1,832 sacks creosoted blocks, 862 barrels brick, for Second Division.

Panama, September 23, from New York, with 27 cases stationery supplies, for stock; 13 cases castings, for First Division; 10 bundles derails, for Panama Railroad Company; 10 coils wire, for stock; five boxes transformers, for Mechanical Division; 200 bags lime, 100 drums calcium carbide, for stock; 1,034 crates insulators, for First Division; 315 ties, for Second Division; 4,000 bundles tie plates for stock; 19 casks tile, for First Division; 66 cases castings, for emergency dams; 304 steel plates, for permanent coaling plant, Cristobal; 257 bundles steel bars, for First Division; 57 bundles galvanized sheets, for stock; 633 pieces structural steel, for First Division; and a miscellaneous cargo, the whole consisting of 7,607 pieces weighing 656 tons.

Nubian, September 23, from Liverpool, with 155 barrels crude carbolic acid, for stock; 89 pieces dredging machinery, for Sixth Division.

Abangarez, September 25, from New Orleans, with 13,516 pieces lumber, for various divisions; 50 mules, for stock; 1,192 sacks creosoted blocks, for Second Division.

Aztec, September 26, from San Francisco, with 6,844 pieces redwood lumber, 280 bundles redwood lumber, for administration building.

Stages of the Chagres.

Maximum height of the Chagres River for the week ending midnight, Saturday, October 4, 1913. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela	Gamboa.	Frijoles	Gatun Lake*
Sun., Sept. 28...	126.6	93.1	65.6	65.6	65.6
Mon., Sept. 29..	126.6	93.0	65.8	65.7	65.8
Tues., Sept. 30..	128.0	94.0	66.0	65.9	66.0
Wed., Oct. 1....	127.8	94.0	66.1	66.1	66.2
Thurs., Oct. 2...	129.6	95.1	66.3	66.3	66.4
Fri., Oct. 3.....	129.0	95.1	66.7	66.6	66.7
Sat., Oct. 4.....	129.0	93.6	66.9	66.8	66.8
Height of low water to nearest foot	125.0	91.0	44.0		

*Sluice gates in spillway at Gatun were closed on June 27, 1913, with surface of lake at elevation 48.25.

Rainfall, Sept. 1 to Sept. 30, 1913, Inclusive.

STATIONS.	Maximum in one day.	Date	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	2.78	30	11.43
Balboa	1.86	8	9.01
*Miraflores	1.42	23	8.92
Pedro Miguel	1.18	24	8.32
Rio Grande	1.73	19	8.95
Central Section—			
Culebra	1.93	8	10.55
*Camacho	2.24	9	6.75
Empire	1.23	8	9.14
Gamboa	1.27	19	9.48
*Juan Mina	2.15	6	8.22
Alhajuela	1.88	20	8.82
*El Vigia	1.38	19	7.50
*Frijoles	2.22	5	11.61
Trinidad	2.00	19	11.30
*Monte Lirio	3.26	5	14.12
Atlantic Section—			
Gatun	1.76	29	9.95
*Brazos Brook	1.80	30	11.96
Colon	1.73	30	9.90
Porto Bello	3.25	19	11.34

*Standard rain gage—readings at 5 p.m., daily. Automatic rain gage at unstarred stations—values midnight to midnight.

September Rainfall for Three Years.

STATIONS.	1911	1912	1913	Station Av.	Years of record	Rai'y days 1913
Pacific Section–						
Ancon	6.08	8.38	11.43	7.69	17	26
Balboa	8.66	10.01	9.01	6.94	15	23
Miraflores	8.30	14.45	8.92	10.62	5	24
Pedro Miguel	8.31	10.76	8.32	8.81	6	25
Rio Grande	6.63	15.10	8.95	10.93	9	22
Central Section–						
Culebra	5.97	14.12	10.55	11.20	23	26
Camacho	6.97	14.14	6.75	10.56	8	21
Empire	5.46	13.78	9.14	8.39	10	24
Gamboa	5.20	12.75	9.48	10.47	31	24
Juan Mina	8.56	14.27	8.22	10.35	3	22
Alhajuela	9.29	9.12	8.82	11.41	15	21
El Vigia	7.64	10.10	7.50	11.90	6	25
Frijoles	......	11.93	11.61	11.77	2	22
Trinidad	7.03	11.36	11.30	12.05	6	23
Monte Lirio	11.19	9.39	14.12	12.44	6	19
Atlantic Section–						
Gatun	4.33	7.84	9.95	9.73	9	23
Brazos Brook	10.32	9.11	11.96	11.62	8	25
Colon	11.62	12.23	9.90	12.47	43	22
Porto Bello	17.55	15.03	11.34	13.28	6	27

Married.

COOK–HOWELL—At the Union Church, Cristobal, on October 3, Miss Viola Elizabeth Howell of Round Hill, Va., to Mr. George Farnham Cook of Palmyra, Me., the Reverend Carl H. Elliott officiating. Canal Zone residence, Las Cascadas.

WEATHER CONDITIONS, CANAL ZONE, SEPTEMBER, 1913.

The rainfall for the month was deficient at all stations except Ancon, Balboa, Empire, Monte Lirio, Gatun, and Brazos Brook. The monthly totals ranged from 6.75 inches at Camacho to 14.12 inches at Monte Lirio. The maximum precipitation recorded in one day was 3.26 inches at Monte Lirio on the 5th.

Approximately normal conditions of temperature, relative humidity, and atmospheric pressure prevailed during the month, while the cloudiness and wind movement were generally above normal.

The usual conditions of night and early morning fogginess prevailed at the interior staions. The average number of nights with fog was 17. Forty-five per cent of the fogs observed were dissipated by 6.30 a. m., 92 per cent by 7.30 a. m., and 100 per cent by 8.30 a. m.

The following table summarizes the weather conditions for the month:

STATIONS.	Press're (reduc'd to mean of 24 hours.)	Temperature.					Mean relative humidity.	Precipitation.			Wind.				
		Mean.	Maximum.	Date.	Minimum.	Date.		Total inches.	Station average.	Number of rainy days.	Total movement (in miles).	Prevailing direction.	Max. velocity (in miles).	Direction.	Date.
Colon	29.838	80.2	89	Sep. 27	73	Sept. 9	88	9.90	12.47	22	5,555	S. E.	27	W.	Sept. 3
Culebra	29.822	79.1	91	Sep. 23	70	Sept. 9	94	10.55	11.20	26	4,043	N. W.	25	N. E.	Sept. 24
Ancon	29.814	79.6	92	Sept. 1	69	Sept. 9	91	11.43	7.69	26	4,497	N. W.	25	N.	Sept. 28

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The schedule for the regular moving picture exhibitions for the week October 13 to 18 is, as follows: Monday, Corozal; Tuesday, Cristobal; Thursday, Empire; Friday, Culebra and Porto Bello; Saturday, Gatun.

Additional moving picture exhibitions this week and Monday of next, are, as follows: Monday, Gatun; Tuesday, Culebra; Thursday, Corozal; Friday, Cristobal; Monday, Empire. The films to be shown are three reels of the Panama Canal by Edward H. Kemp of San Francisco, who has made several trips to the Isthmus for this purpose; also one reel of the Grand Canyon of Arizona by Mr. Kemp, and a multiple of three reels of "The wreck of the steamer *Aurora*". Regular rates of admission will be charged,

The standing of the various teams in the Isthmian tournaments at the close of the week ending October 4, follows:

BASKETBALL LEAGUE.

	Won	*Lost*	*Total.*
Gatun	2	0	1.000
Empire	2	0	1.000
Culebra	1	0	1.000
Camp Elliott	0	1	.000
Cristobal	0	2	.000
Corozal	0	2	.000

BOWLING TOURNAMENT.

	Won	*Lost*	*Total*
Cristobal	3	0	1.000
Empire	3	0	1.000
Corozal	2	1	.666
Culebra	1	2	.333
Gatun	0	3	.000
Camp Elliott	0	3	.000

CHESS TOURNAMENT.

	Points won.
Cristobal	5
Gatun	3

COROZAL.

The first basketball game of the Isthmian league was played with the Culebra team Wednesday night, October 1, with the following results:

First half, Culebra 17, Corozal 11; second half, Culebra 0, Corozal 6; extra period, Culebra 2, Corozal 0; final score, Culebra 19, Corozal 17.

Culebra's team was composed of the following players: R. Purchase, forward and guard; Porter, forward; F. Purchase, center; Helper, guard and center; Koperski, guard; Cushing, forward. Corozal's team was, as follows: Sperber, forward; Carr, forward and center; Sonnenberg, center; Bessy, center and forward; Schaeffer, guard; Kenny, guard. Referee, Edwards. The games this week are with Camp Elliott on Wednesday night, October 8, and with Empire on Saturday, October 11.

Corozal won two out of three games of tenpins in their first game of the Isthmian bowling league on Saturday, October 4, by the following scores:

Culebra	823	831	866
Corozal	811	866	970

The 200, or over, scores last week were made by Ziller, 222; King, 245 and 204; Davis, 243; Parkis, 216.

The Corozal bowlers go to Cristobal on Saturday, October 11.

The Corozal chess club has completed the tournament to decide the championship of Corozal. The results were:

	Won	*Lost*	*P. C.*
Sherrard	12	2	.857
Morehead	10	4	.714
Shehan	9½	4½	.672
Fields	8½	5½	.607
Mills	7	7	.500
Kingsbury	6	8	.428
Kyte	3	11	.214
Whitehead	0	14	.000

CULEBRA.

The winners of the local tenpin bowling tournament recently closed were: First place, J. Guy DeCora and E. Paul Case; total pinfall for two games, 758. The high average and high score medals were won by F. F. Dougherty; high score, 267.

The Empire bowling team will bowl the local team at Culebra on Saturday, October 11.

The Culebra basketball team will play the Gatun team at Empire on Saturday night, October 11.

Twenty-seven new books have been received and added to the library.

The following high scores in duckpins were made recently: Silver, 103; R. Koperski, 136; Kiernan, 100, 117, 101, 107, 106; Regan, 103, 106, 103; Palmer, 101, 109; Case, 109; Cornthwaite, 113; Herrington, F. E., 119; Fitzpatrick, 103, 110.

EMPIRE.

At the meeting of the Empire debating club held Friday, October 3, the subject was: "Resolved, that the United States should use military force to pacify Mexico" The speakers for the affirmative were Messrs. Morrison and Swanson; for the negative, Messrs. Beckmeyer and Dougherty. The judges decided in favor of the negative, after which the subject was open for discussion. The next meeting will be held on Friday, October 17, subject to be announced later.

The opening game of tenpins between Empire and Camp Elliott was won by Empire. Scores:

Empire	862	779	907
Camp Elliott	744	679	736

The basketball game played between Empire and Camp Elliott on Wednesday, October 1, was won by Empire by a score of 48 to 20. On Saturday, October 11, Gatun will play Culebra basketball at Empire.

Prizes have been offered for the one making high score in tenpins and duckpins during the month of October.

GATUN.

The "Saturday night open house" held at Gatun clubhouse on October 4, was a success. Punch and cakes were served from a table in the center of the lobby and Meneeley, the pianist, entertained during the evening. The chief feature was the basketball game between Corozal and Gatun, which resulted in a victory for the home team; score, 20 to 15.

The line-ups were, as follows: *Gatun*—Huber, forward; Whiston, forward; Fitzpatrick and Wright, centers; Mitchell and Fitzpatrick, guards; Conley, guard. *Corozal*—Sperber, forward; Bessey, forward; Carr, center; Shafer, guard; Kenney, guard. Fouls: Gatun, 6; Corozal, 3. Referee, Swanson of Empire. Timer, Ben Jenkins. Scorers, Foman, Gatun; Dwelle, Corozal.

The result of the chess match, follows:

Gatun		*Cristobal*	
Brown	1	Hurt	1
Byrne	0	Taylor	1
Logan	1	Tuttle	2
Marquard	1	Wilson	1
Total	3		5

Gatun lost all three games of bowling with Cristobal. The feature of the evening was C. V. Omeara's game of 253 pins:

Gatun.				*Cristobal.*			
Omeara	208	164	253	Barrett	151	167	213
Wall	162	182	153	Barnum	174	150	171
Hodges	144	148	127	Collins	123	154	187
McCauley	165	166	179	Barte	193	190	182
Humphrey	159	172	166	Bullard	198	214	170
Totals	838	832	878		839	875	923

A special motion picture entertainment was held on Monday, October 6, when three reels showing the work on the Panama Canal were featured.

Mrs. Wm. Trickey now holds high score in duckpins, with 147 points.

A medal will be given to H. E. Dewey for having won the pool match for the championship of the Isthmus.

The Gatun basketball team has elected John J. Fitzpatrick captain for the season of 1913.

C. V. Omeara will be given a silver medal for having won the largest number of 200, or over, games of tenpins during the month of September.

Gatun's basketball team will play with Culebra at Empire on Saturday, October 11.

More new library books were ordered during the past week.

CRISTOBAL.

Mr. T. A. Wehmeier, representing Cristobal, was defeated by Mr. Dewey of Gatun in a pool match, on Tuesday, September 30, by the score of 247 to 300.

The opening game of the all-Isthmian basketball tournament on Wednesday, October 1, resulted in a victory for Gatun by the score of 28 to 8. Gatun was represented by Messrs. Huber, Whiston, Fitzgerald, Connely, and L. Mitchell; Cristobal, by Messrs. Barcroft, Weller, Fraser, Simons, and Luce.

Dr. J. B. Ruffo, chief surgeon of the Mexican Army under President Madero gave a talk on the present conditions in Mexico at the discussion club meeting on Thursday, October 2.

The Empire basketball team defeated Cristobal by the score of 46 to 8 om Saturday night, October 4. The line-up was, as follows: *Empire*—Messrs. Sawyer, Johnson, Holdquist, Miller, Plank, Bartholomew, and Stevens; *Cristobal*—Messrs. Moons, Simons, Anderson, Winters, Barcroft, W. Fraser and D. Raymond.

By bowling 237 pins, Mr. H. A. Collins received as prize, a box of cigars for the higest score at tenpins on the Cristobal alleys for the month of September.

A married folks duckpin tournament was held on Tuesday, October 7, in honor of Mrs. J. W. Landers, who sails for the United States shortly.

Corozal bowls at Cristobal on Saturday, October 11.

The Culebra Y. M. C. A. chess team will play the Cristobal team in the All-Isthmian chess tournament at Cristobal on Saturday evening, October 11. All interested in chess are invited to attend and witness the game.

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line.

NEW YORK TO CRISTOBAL.*

Advance	P. R. R.	Saturday	Oct.	4
Panama	P. R. R.	Friday	Oct.	10
Allianca	P. R. R.	Thursday	Oct.	16
Colon	P. R. R.	Wednesday	Oct.	22
Advance	P. R. R.	Tuesday	Oct.	28
Panama	P. R. R.	Monday	Nov.	3
Allianca	P. R. R.	Monday	Nov.	10
Colon	P. R. R.	Monday	Nov.	17
Advance	P. R. R.	Saturday	Nov.	22
Panama	P. R. R.	Saturday	Nov.	29
Allianca	P. R. R.	Friday	Dec.	5

CRISTOBAL TO NEW YORK.*

Colon	P. R. R.	Thursday	Oct.	9
Advance	P. R. R.	Thursday	Oct.	16
Panama	P. R. R.	Wednesday	Oct.	22
Allianca	P. R. R.	Tuesday	Oct.	28
Colon	P. R. R.	Tuesday	Nov.	4
Advance	P. R. R.	Sunday	Nov.	9
Panama	P. R. R.	Sunday	Nov.	16
Allianca	P. R. R.	Saturday	Nov.	22
Colon	P. R. R.	Saturday	Nov.	29
Advance	P. R. R.	Friday	Dec.	5

NEW YORK TO COLON.

Santa Marta	U. F. C.	Wednesday	Oct.	1
Carl Schurz	H.-A.	Saturday	Oct.	4
Pastores	U. F. C.	Saturday	Oct.	4
Metapan	U. F. C.	Wednesday	Oct.	8
Prinz August Wilhelm	H.-A.	Saturday	Oct.	11
Tivives	U. F. C.	Saturday	Oct.	11
Danube	R. M.	Saturday	Oct.	11
Zacapa	U. F. C.	Wednesday	Oct.	15
Emil L. Boas	H.-A.	Saturday	Oct.	18
Tenadores	U. F. C.	Saturday	Oct.	18
Almirante	U. F. C.	Wednesday	Oct.	22
Tagus	R. M.	Saturday	Oct.	25
Carrillo	U. F. C.	Saturday	Oct.	25
Prinz Joachim	H.-A.	Saturday	Oct.	25
Santa Marta	U. F. C.	Wednesday	Oct.	29
Pastores	U. F. C.	Saturday	Nov.	1
Carl Schurz	H.-A.	Saturday	Nov.	1

COLON TO NEW YORK.

Almirante	U. F. C.	Thursday	Oct.	9
Prinz Joachim	H.-A.	Tuesday	Oct.	14
Carrillo	U. F. C.	Tuesday	Oct.	14
Tagus	R. M.	Tuesday	Oct.	14
Santa Marta	U. F. C.	Thursday	Oct.	16
Pastores	U. F. C.	Tuesday	Oct.	21
Carl Schurz	H.-A.	Tuesday	Oct.	21
Metapan	U. F. C.	Thursday	Oct.	23
Oruba	R. M.	Tuesday	Oct.	28
Tivives	U. F. C.	Tuesday	Oct.	28
Prinz August Wilhelm	H.-A.	Tuesday	Oct.	28
Zacapa	U. F. C.	Thursday	Oct.	30
Emil L. Boas	H.-A.	Tuesday	Nov.	4
Tenadores	U. F. C.	Tuesday	Nov.	4
Almirante	U. F. C.	Thursday	Nov.	6
Trent	R. M.	Tuesday	Nov.	11

NEW ORLEANS TO COLON.

Turrialba	U. F. C.	Saturday	Oct.	4
Heredia	U. F. C.	Wednesday	Oct.	8
Abangarez	U. F. C.	Saturday	Oct.	11
Parismina	U. F. C.	Wednesday	Oct.	15
Sixaola	U. F. C.	Saturday	Oct.	18
Cartago	U. F. C.	Wednesday	Oct.	22

COLON TO NEW ORLEANS.

Atenas	U. F. C.	Thursday	Oct.	9
Sixaola	U. F. C.	Saturday	Oct.	11
Turrialba	U. F. C.	Thursday	Oct.	16
Heredia	U. F. C.	Saturday	Oct.	18
Abangarez	U. F. C.	Thursday	Oct.	23

*Amended schedule, resulting from temporary withdrawal of the *Allianca* for repairs.

The Panamanian Steamship Company's *Panama* will sail from Panama for Aguadulce and Pedregal on October 16 and 26.

Tide Table.

The following table shows the time of high and low tide at Panama for week ending October 18, 1913:

DATE.	High	Low	High	Low	High
	A.M.	A.M.	P.M.	P.M.	P.M.
Oct. 12	2.05	8 13	2 32	8.26	......
Oct. 13	2.41	8 50	3 05	9 02	......
Oct. 14	3.13	9.23	3 35	9 35	......
Oct. 15	3.40	9 5[illegible]	4 02	10 05	......
Oct. 16	4 08	10 25	4.30	10 35	......
Oct. 17	4 35	10 57	4 58	11.07	......
Oct. 18	5 05	11.30	5 23	11.40	......

75th meridian time.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, OCTOBER 15, 1913. No. 8.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

First Lockage at Pacific End.

The first lockage at the Pacific end of the Canal was effected on Tuesday, October 14, when clapet *No. 6*, the tug *Miraflores* with three barges, and the steam launch *Birdena*, were raised together through the west flight of Miraflores Locks, from the Pacific entrance channel to the surface of Miraflores Lake, which was at elevation plus 36.82 feet at 8 a. m., on that date.

The lockage was made without hitch of any kind, the gates, valves, controlling machines, and motors operating with the precision that has been obtained in the operations at Gatun Locks. The passage of the vessels was begun at 11.11 a. m.; they entered the lower level at 11.15 a. m., were raised to the elevation of the upper level at 12.15 p. m., and passed beyond the upper guard gates at 12.41 p. m. The entire operation consumed one hour and 30 minutes.

The gates and machinery of the east flight at Pedro Miguel Locks were in readiness to effect the lift to Culebra Cut on the same day, though it was impracticable to do so, because of insufficient depth of water in the Cut south of Cucaracha slide. The tug, clapet, and launch returned to Balboa, the return lockage occupying 45 minutes in time. When the water in the south end of the Cut is sufficiently deep to allow the passage of the vessels to Cucaracha slide, pipeline suction dredge *No. 85* will be brought from its work at the Balboa terminal through Miraflores Locks and be passed through the single lift at Pedro Miguel Locks to Culebra Cut. The barges now in the lake are loaded with trusses and other materials to be used in the removal of the portable span recently installed in bridge No. 57½ of the Panama railroad, across the Cut at Paraiso, when it is desired to pass vessels through the bridge.

Transfer of Atlantic Division Electrical Work.

Effective October 15, the Gatun power plant, all electrical work heretofore under the supervision of the division engineer of the Atlantic Division, and the installation, maintenance, and operation of sump pumps, in Gatun Locks, spillway, and hydroelectric station, were transferred to the Mechanical Division, together with the necessary number of operatives and workmen. The power plants at Gatun and Miraflores will be consolidated, and the records at both stations will hereafter be kept in the office of Mr. Hartley Rowe, electrical superintendent of the Mechanical Division, at Empire. The account "Operation of Gatun power plant," will be continued as a separate account.

Thirteen Vessels Raised Together Through Gatun Locks.

The west flight of Gatun Locks was used for the second time on October 9, when three groups of dredging vessels and a floating piledriver, in tow of tugs, a total of 13 vessels, were lifted together from the Atlantic entrance channel to the surface of Gatun Lake. This performance, using the entire 1,000-foot length of each chamber, more nearly tested the capacity of the locks in commercial and naval use than the passage of the lone tug *Gatun* on September 26, Because of the care required in handling the groups, which filled the chambers with relatively slight clearance at the gates, the time of passage exceeded that of the *Gatun*, which was one hour and 51 minutes. The first group of dredging vessels entered the lower level at 9.50 a. m., and the rear group passed beyond the upper guard gate at 12.40 p. m.

The first group was composed of the tug *Bohio*, with a 600-ton barge loaded with piles and 500 tons of coal, and two old cement barges loaded with 250 tons of coal each. The second group was the *Gatun*, with pipeline suction dredge *No. 86*, several pontoons, and a fuel oil barge. The third group was the tug *Empire*, with the French ladder dredge *No. 5*, two dump scows, and a floating piledriver. A motor launch and several pangas were towed in the rear. Upon reaching the lake level, the groups were towed beyond the end of the upper approach wall, then across to the edge of the lake, several hundred feet east of the Gatun station of the Panama railroad, to allow disembarking the passengers who had taken the opportunity to go through the locks. Shortly afterward, the tugs *Gatun* and *Empire* returned to the west approach, and were passed down the flight to the ocean in one hour and 35 minutes. The *Bohio* then took the three barges containing 1,000 tons of coal in tow to Gamboa, returning the next day for the dredges, and will remain there as auxiliary in the dredging operations in the vicinity, and in Culebra Cut.

DESTRUCTION OF LAST DIKE.

Water in Gatun Lake and Culebra Cut at Gamboa Equalized on October 10.

A section of Gamboa dike was dynamited at 2.02 p. m., on Friday, October 10, making practically a clear opening 125 feet wide, through which water from Gatun Lake flowed in sufficient volume to complete the filling of Culebra Cut from the dike to Cucaracha slide in about two hours' time. Water was first admitted to this section of the Cut on October 1, and by the 10th, it had risen to elevation 61.7 feet, or about six feet below the level of the lake. The shot was not a large one, as compared with some of the previous blasts in connection with the Canal work, but it did perfect execution.

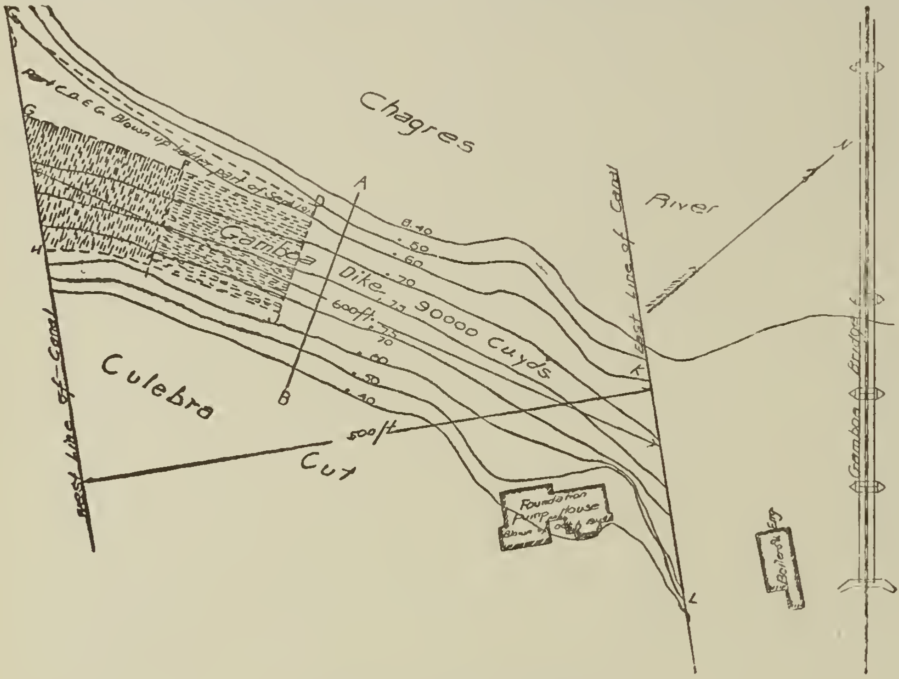
In accordance with an arrangement made two or three days beforehand, the blast was fired by President Woodrow Wilson at Washington. This was effected by using the land telegraph to Galveston, Texas, and connecting it there with the Central and South American Cable Company's submarine cable, and land lines which, by employing the company's transisthmian cable, furnished a connection to a local circuit in the vicinity of the dike. When the President depressed the lever, the current was relayed from point to point along the route, and was eventually transmitted to the local circuit, closing it and tripping a weight attached to the handle of a switch. The weight threw the switch setting off the blast.

The event was witnessed by a large number of spectators, who lined the banks of the Canal, or occupied advantageous positions on nearby hills. The zone of danger was marked by stakes, and the people were kept back of this line. A special train was run from Panama, and some extra coaches were attached to the regular passenger train out of Colon. Half an hour or more after the dike was broken, a cayuco, or native canoe, made the passage through, followed shortly by three launches.

The accompanying plan and cross section of the dike shows its general characteristics, and its position relative to the east and west lines of the Canal. The dike was originally about 600 feet long, 78.2 feet above sealevel at its highest part, 150 feet wide at the base, and contained about 90,000 cubic yards of material. In the section that was destroyed, 400 holes had been drilled from 20 to 35 feet in depth. The total number of holes in the dike was 1,277; 200 of these were made with tripod drills, and the remainder by churn drills. The length of all the holes if placed end to end would equal 41,166 lineal feet, or 7.79 miles. In charging the well drill holes, 25,700 feet of 4-inch galvanized iron pipe were used.

The remainder of the dike, east of the opening, will probably be dynamited about October 17. It includes a hard rock section where the end of the dike abuts on the east side of the Canal. What is left of the west end of the dike is composed of relatively soft material, and will be removed by dredge without any more blasting.

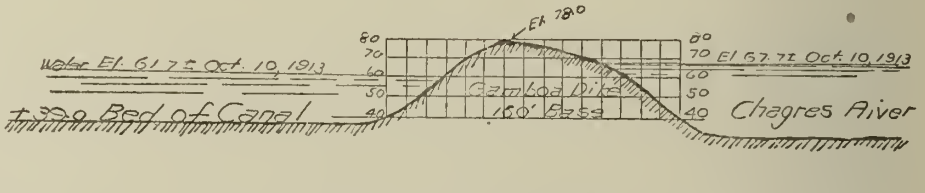
Dredges *No. 86* and *No. 5*, which were passed through Gatun Locks on October 9, have begun operations near the dike. *No. 86* is assisting *No. 82* in the work of cleaning the channel north of the dike of material silted in, and *No. 5* is excavating at the west end of the dike. The material excavated by ladder dredge *No. 5* is being towed by the tug *Bohio* and dumped into an arm of the lake, north of the old site of Mamei.



General Plan of Gamboa Dike.
(Hatched section blown up October 10.)

CUTTING THROUGH CUCARACHA SLIDE.

After the blowing up of Gamboa dike, the southern end of the Canal, beyond Gold Hill, was separated from the waters of the lake by the foot of Cucaracha slide. Beginning October 6, forces of the Central Division had been engaged in digging a trench through the top of this barrier to allow the passage of the water from the north side. Successive downward movements of the slide, however, kept closing the trench, and it was decided to blow a gap in the barrier in the hope that the water would rush through it. A ton and a half of dynamite was placed in the toe, just opposite Contractor's Hill and exploded at 4.15 p. m., October 10. The explosion threw a great mass of earth and rock high into the air, and stones were hurled as far as 1,500 feet on either side, but the clay of the slide slumped back into place and closed the break before any considerable amount of water had passed through. Later blasts produced similar results, and the effort to clear the barrier in this manner was abandoned on Saturday, October 11. Trenching with pick and shovel was resumed that morning, and water began to pass through to the south side of the slide at 3.43 in the afternoon. During Saturday night, a movement of the slide closed the trench. It was opened again by 11 a. m., Sunday, October 12, and has remained open since. A force of 200 men with shovels has been engaged in keeping the trench clear, and, with the assistance of the flowing water, making it deeper and wider. By 4 p. m., Sunday, pipe connections had been made with a water tank on the south side of Contractor's Hill and the work of the men with shovels was augmented by sluicing with a 3-inch hose along the lower side of the barrier. During the forenoon of Monday, October 13, a 2-cylinder air-driven pump and connecting pipe and 4-inch hose were brought from Empire and installed on the north side of the slide. At 2.50 p. m., this outfit began supplying water at 150 pounds pressure for sluicing the northern, or upper, part of the trench. This so facilitated the work that by 4 p. m., the water was flowing over the slide at the rate of about 40 cubic feet a second, in a stream from six to eight feet wide and approximately a foot deep, moving about six feet a second. It is believed that this method will so increase the flow as to fill the south end of the Cut within a convenient period, though all calculations may be upset by further movements of the slide. The material of the slide is a dense, adhesive clay, intermixed with stones up to two feet in diameter, and does not yield easily to the flow of water.



Cross Section of Gamboa Dike.

The trench through the slide is parallel to the axis of the Canal and about 20 feet from the west bank. Its intake is at elevation 66.5 feet above sealevel, and its discharge at the level of water in the southern part of the Cut, which was at elevation plus 43.4 early in the evening of October 15. The trench is in two sections, with a total length of 600 feet, separated by a small lagoon, about 300 feet across, enclosed between elevations of the toe of the slide. The material now in the Cut from the slide amounts to about 600,000 cubic yards.

The trench through Cucaracha slide has been deepened about a foot and a half, and widened slightly, since beginning of sluicing at the upper end, on Monday afternoon, but the flow of water has increased only slightly. The surface of the water in the south end of the Cut was at 43.1 feet above sealevel at 8 o'clock in the morning of October 15, giving about a 4-foot depth in that part of the Canal. On October 14, it stood at +42.85. On the north side of the slide the surface of the water was at 68.96 feet above sealevel on October 15, at 10.30 a. m.

By evening of October 15 the flow had increased to 60 cubic feet per second, and it is believed that by Tuesday, October 21, the water south of slide will be of sufficient depth to float a dredge.

The last Culebra slide, immediately north of Gold Hill, made a movement across the channel on Saturday and Sunday, but sufficient clearance remains to allow passage of dredging vessels. The material at the foot of this slide is mostly rock, and it is possible that ladder and dipper dredges will be brought from the Atlantic entrance to work on it.

Surveyors from the Sixth Division are engaged in placing water-gage rods and range markers, showing center line of Canal channel and liners 150 feet each side of center, in preparation for beginning of dredging. Final adjustments are being made at the twin pump relay station south of Contractor's Hill, and at the electric transformer station, for supplying it with power, diagonally across from it, on the 95-foot berm along the east bank. Discharge pipe and pontoons for supporting it on the water, have been distributed along the west side for a distance of about 1,000 feet, between the relay station and the foot of Cucaracha slide.

◆

Donation of Books for Zone Penitentiary.

Messrs. Hurst and Company, publishers, of New York City, have donated to the Commission for use at the Canal Zone penitentiary 533 bound volumes of miscellaneous literature. The books have been received at the penitentiary and are now being classified and listed in the catalogue of the library. The volumes donated consist of a large assortment of fiction, some historical and scientific works, poems and poetical works, and dictionaries—French and English, German and English, and Spanish and English. The chief of police in reporting the receipt of the books states, as follows:

> "The books are new, and except for flaws in binding, or damages resulting from handling, etc., (which do not affect their value to the penitentiary at all) they are in splendid condition, and form a very important and much appreciated addition to the prison library."

EXECUTIVE ORDER.

To Punish Deported Persons Who Return to the Canal Zone.

By virtue of the authority vested in me I hereby establish the following Order for the Canal Zone:

SECTION 1. Any person who, after having served a sentence of imprisonment in the Canal Zone and after being deported therefrom, returns to the Canal Zone shall be deemed guilty of felony and punished by imprisonment in the penitentiary for a term of not less than six months nor more than two years, and upon the completion of his sentence he shall be removed from the Canal Zone in accordance with the laws and orders relating to deportation. An entry into the Canal Zone, for any purpose, shall be sufficient to constitute a return to the Zone within the meaning of this Order; provided, however, that in case of necessity the Chief Executive of the Canal Zone, in his discretion, may grant a permit to any such person to return to the Canal Zone temporarily, but should he remain in the Canal Zone after the time specified in the permit he shall be deemed guilty of a violation of this Order and punished as therein provided.

SECTION 2. The Executive Order of May 2, 1911, providing a punishment for deported persons who return to the Canal Zone is hereby repealed.

SECTION 3. This Order shall take effect thirty days from and after its publication in THE CANAL RECORD.

WOODROW WILSON.

THE WHITE HOUSE,
September 25, 1913.
[No. 1832.]

Canal Excavation in September.

The grand total of Canal excavation to October 1 was 211,048,198 cubic yards, leaving to be excavated under the revised estimate of July 1, 1913, 21,304,802 cubic yards.

The total excavation for the month of September was 1,922,713 cubic yards. The wet excavation for the month was 1,425,964 cubic yards, and the dry excavation 496,749 cubic yards.

In the Atlantic section, the total excavation for September was 516,118 cubic yards. Of this amount, all but 1,091 cubic yards was wet excavation and consisted of material dredged from the Atlantic entrance to the Canal, and the Cristobal terminal, by forces of the Sixth Division.

The total excavation in the Central Division was 519,800 cubic yards, 150,400 cubic yards of which consisted of material removed in sluicing back of Gold Hill, by forces of the Fifth Division. Central Division steamshovels working in the Cut were permanently suspended on September 10, and up to an including that date, a total of 297,800 cubic yards had been removed, not including 71,600 cubic yards taken out from the banks of the Canal to relieve pressure in the zone of slides.

In the Pacific and Central sections, operations by the Sixth Division resulted in the removal by dredges of 760,537 cubic yards, 581,958 cubic yards from the Pacific entrance, and 178,579 cubic yards from the terminal basin. Dry excavation amounted to 126,258 cubic yards, 85,188 cubic yards from the terminal site, and 41,070 cubic yards from the Canal prism. Of the dry excavation, 20,945 cubic yards were charged to "Plant."

A detailed statement of excavation, and a summary of the work on the locks and dams, follow:

ATLANTIC DIVISION.

LOCALITY.	"Work" Excavation.	"Plant" Excavation.	Total Excavation.
Dry excavation—	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
Locks, dam, and spillway	1,091	....	1,091
Mindi	....	....	....
Terminal	....	....	....
Total	1,091	....	1,091
Wet excavation—			
Atlantic entrance	478,689	....	478,689
Locks, dam, and spillway	....	....	....
Terminal	36,338	....	36,338
Total	515,027	....	515,027
Total wet and dry excavation	516,118	....	516,118

CENTRAL DIVISION.

Dry excavation—			
Culebra Cut	297,800	71,600	369,400
Hydraulic excavation			
Culebra Cut	150,400	....	150,400
Total	448,200	71,600	519,800

PACIFIC DIVISION.

Dry excavation—			
Locks, dams, and spillway	....	....	....
Terminals	69,432	15,756	85,188
Prism	35,881	....	41,070
Total	105,313	20,945	126,258
Wet excavation—			
Pacific entrance	581,958	....	581,958
Miraflores Locks	....	....	....
Diversions	....	....	....
Terminals	178,579	....	178,579
Total	760,537	20,945	760,537
Total wet and dry excavation	865,850	20,945	886,795

TOTAL CANAL EXCAVATION.

Dry excavation	404,204	92,545	496,749
Wet excavation	1,425,964	....	1,425,964
Total	1,830,168	92,545	1,922,713

LOCKS AND DAMS.

MATERIAL.	Atlantic.	Pacific.	Total.
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*
Concrete placed in locks	442	3,051	3,493
Concrete placed in dams and spillways	2,173	44	2,217
Fill placed in dams	24,531	23,690	48,221

Mean rainfall along Canal (nine stations), 9.66 inches.

By "Work" excavation is meant excavation actually made for one of the constituent parts of the Canal, such as prism, diversions, or locks, etc., that is, it represents material taken from the area to be occupied by the Canal and constitutes excavation useful for the completed Canal.

By "Plant" excavation is meant excavation outside any of the constituent parts of the Canal, such as prism, diversions, or locks, etc. It includes material necessary to be excavated for construction purposes only, and is chargeable against the particular plant item for which it is performed, such as prism, diversions, locks, etc.

PERSONAL.

Lieut-Col. William L. Sibert sailed for New York on the *Ancon* on Monday, October 13, on his annual leave of absence.

Col. William C. Gorgas, accompanied by Mrs. Gorgas, sailed for New York on the *Ancon*, on Monday, October 13, instead of on the *Carrillo*, on October 14, as first planned, Maj. Robert E. Noble and Dr. S. T. Darling, who are to go to South Africa with Colonel Gorgas, will sail for the United States on Thursday, October 16. They expect to arrive in Johannesburg about the middle of December.

Mr. John D. Patterson sailed for New Orleans on the United Fruit Company's steamer *Sixaola* on Monday, October 13, on special leave of absence.

M. Philippe Bunau-Varilla, accompanied by his daughter, Vicomtesse de Rancougne, and son-in-law, the Vicomte de Rancougne, arrived on the Isthmus on the *Turrialba* from New Orleans, on Thursday, October 9. They visited every part of the Canal work, saw the operation of Gatun Locks and the destruction of Gamboa dike, and sailed for Costa Rica on Tuesday, October 14.

Examination by Board of Local Inspectors.

The Board of Local Inspectors will conduct examinations at the Administration Building, Ancon, on Wednesday, October 22, 1913, beginning promptly at 2 p. m., for persons desiring to procure the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for licenses must procure from the Executive Office, Ancon, forms of application and information respecting the filling out of same, at least one day before the examination. Applicants for chauffeurs' licenses must also bring automobiles.

Concrete Work in Locks and Spillways.

Concrete work in the Canal locks is nearly completed, the aggregate amount in place at the close of work on October 11, being 4,480,773 cubic yards.

A statement of the concrete laid in the three sets of locks for the Canal, and in Gatun and Miraflores spillways, as of October 11, follows:

GATUN LOCKS.

The last concrete for the locks proper, as distinguished from that necessary to finishing work by the First Division, was mixed and placed on August 16, 1913. At the close of work on that day the total amount of concrete placed by the Atlantic Division amounted to 2,045,485 cubic yards.

PEDRO MIGUEL LOCK.

	Concrete laid. Cubic yards.
Oct. 6	..
Oct. 7	6
Oct. 8	2
Oct. 9	..
Oct. 10	32
Oct. 11	..
Total	40
Previously reported	924,185
Grand total	924,225

MIRAFLORES LOCKS.

Oct. 6	..
Oct. 7	2
Oct. 8	..
Oct. 9	..
Oct. 10	3
Oct. 11	..
Total	5
Previously reported	1,511,058
Grand total	1,511,063

GATUN SPILLWAY.*

Oct. 6	50
Oct. 7	92
Oct. 8	50
Oct. 9	46
Oct. 10	50
Oct. 11	68
Total	356
Previously reported	236,732
Grand total	237,088

MIRAFLORES SPILLWAY.

Oct. 6	148
Oct. 7	190
Oct. 8	50
Oct. 9	..
Oct. 10	..
Oct. 11	..
Total	388
Previously reported	75,958
Grand total	76,346

*Includes hydroelectric station.

RECORD OF CANAL WORK SINCE AMERICAN OCCUPATION.

TOTALS BY CUBIC YARDS OF EXCAVATION AND LOCK AND DAM CONSTRUCTION.

[All figures are of work useful for the completed Canal.]

DRY EXCAVATION.

CENTRAL DIVISION.

M'THS.	Culebra Section.*								Chagres Section.**				
	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1909.	1910.	1911.	1912.	1913.
Jan.	120,990	566,750	1,227,022	1,150,249	1,323,693	1,356,394	1,416,035	1,135,580	389,399	175,802	255,385	28,357	....
Feb	168,410	639,112	1,248,265	1,194,454	1,259,173	1,409,338	1,349,569	996,800	450,182	286,309	219,550	66,145	....
March	239,178	815,270	1,290,885	1,434,597	1,509,728	1,728,748	1,539,618	1,183,900	619,491	484,846	297,339	172,607	....
April	213,177	879,527	1,242,574	1,272,746	1,288,845	1,414,336	1,455,216	1,178,000	510,020	428,777	102,103	171,731	....
May	196,209	690,365	960,840	1,126,963	1,099,279	1,299,100	1,405,760	921,000	386,170	248,974	29,783	12,524	....
June	212,623	624,586	1,134,032	1,242,134	1,305,141	1,401,016	1,348,780	865,283	275,900	164,389	32,288	8,424	....
July	159,789	770,570	1,121,325	1,200,828	1,153,810	1,337,833	1,335,590	1,037,700	233,897	166,106	22,284	776	....
August	244,823	786,866	1,171,927	1,173,370	1,377,714	1,442,402	1,094,132	893,300	231,543	234,404	21,892	....	....
Sept	291,452	753,468	1,122,860	1,235,978	1,339,948	1,340,173	922,712	448,200	235,818	234,290	21,272	....	....
Oct	327,009	834,499	1,160,101	1,302,901	1,320,314	1,306,971	1,113,420	....	221,409	271,409	12,216	....	....
Nov	221,642	790,632	1,022,576	1,070,792	1,209,554	1,209,498	973,071	....	93,619	260,882	12,248	....	....
Dec	307,689	1,025,485	1,210,046	1,152,022	1,211,400	1,351,082	1,074,510	....	105,044	197,481	10,809	....	....
Totals	2,702,991	9,177,130	13,912,453	14,557,034	15,398,599	16,596,891	15,028,413	8,659,763	3,752,492	3,153,669	1,037,169	460,564	....

ATLANTIC DIVISION.† — PACIFIC DIVISION.¶

MOS	Gatun Locks, Dam and Spillway.††					Pedro Miguel Locks and Dams.‡					Miraflores Locks, Dams and Spillway.‡‡					Balboa T'm'n'ls §
	1909.	1910.	1911.	1912.	1913.	1909.	1910.	1911.	1912.	1913.	1909.	1910.	1911.	1912.	1913.	1913.
Jan	102,690	125,011	65,889	1,330	46,773	83,726	27,320	15,690	24,969	1,147	61,202	31,479	48,744	95,609	26,483	54,114
Feb	95,031	123,738	50,511	1,228	11,241	58,242	9,486	6,809	18,480	448	53,689	15,300	12,936	47,426	12,532	32,743
Mar	90,051	132,007	51,431	254	35,705	95,624	6,784	674	1,777	800	51,417	18,184	72,739	28,352	28,700	51,387
Apl	70,009	103,243	12,548	27,134	29,649	101,365	9,129	255	13,269	620	60,060	12,148	79,751	29,094	23,255	68,296
May	52,786	82,958	17,677	24,280	1,829	57,523	10,405	5,905	26,018	127	47,588	20,250	57,975	13,096	3,778	53,215
June	36,556	88,088	4,840	19,605	388	70,971	8,420	7,454	7,794	936	55,653	21,994	38,023	7,906	....	100,991
July	39,058	95,503	6,897	1,974	17,756	77,503	4,410	6,273	4,412	....	50,999	11,990	97,884	4,532	....	87,230
Aug	40,346	99,737	22,558	....	2,161	58,025	12,789	220	4,866	....	35,446	17,548	102,249	7,120	....	90,131
Sept	49,945	103,040	3,489	1,025	1,091	48,825	10,405	3,472	1,613	....	31,803	8,590	96,112	5,192	....	69,432
Oct	57,321	118,327	112	1,700	....	39,002	7,433	5,365	1,257	....	25,349	9,850	107,790	14,107	....	....
Nov	63,452	94,552	....	2,203	....	20,207	10,636	12,962	2,408	....	18,644	9,400	84,894	27,728	....	....
Dec	96,590	72,030	....	16,677	....	28,342	11,195	17,320	3,176	....	20,083	17,906	79,480	30,319	....	....
Tot'ls	793,835	1,238,234	235,952	97,410	146,593	739,355	128,412	82,399	110,039	4,078	511,933	194,639	878,577	310,481	94,748	607,542

*Total to Oct. 1, 1913. 97,191,000 cubic yards. Excavated 1904, 243,472 cubic yards; 1905, 403,774; by sluicing, 103,774 cu. yds.

**Total to Oct. 1, 1913, 12,384 655 cu, yds. 1907, 192,769 cu, yds.; 1908, 4,819,797 cu yds,; by sluicing, 188,239 cu. yds.

†Dry excavation Mindi Hills 1907-1912, 2,196,198 cubic yards.

¶Excavated various points in prism to Oct, 1, 1913, 4,819 797 cu. yds.; Balboa Locks and Dams, 1907, 78,233 cu yds,; Outside prism 1908, 172 cu, yds.

††Total to Oct. 1, 1913, 6,653,392 cubic yards; including 26,628 cu. yds in 1906; 1,340,179 cu. yds. in 1907; 2,774,561 cu. yds, in 1908.

‡Total to Oct. 1 1913, 1,321,063 cubic yards; including 256,780 cu. yds, in 1908.

‡‡Total to Oct. 1, 1913, 2,837,298 cubic yards; including 846,920 cu, yds. in 1908.

§Total to Oct. 1, 1913, 926,273 cubic yards; including 318,731 cu. yds. in 1912.

WET EXCAVATION.

ATLANTIC DIVISION.† — PACIFIC DIVISION.††

Mos.	Atlantic Entrance.§						A'L'tic T'nals *	Pacific Entrance.§§						Balboa Terminals**	
	1908.	1909.	1910.	1911.	1912.	1913.		1908.	1909.	1910.	1911.	1912.	1913.	1912.	1913
Jan	490,701	521,050	510,055	520,181	520,228	508,338	....	460,250	469,529	518,936	379,810	334,735	215,025	77,383	216,540
Feb.	427,722	444,910	493,448	455,318	581,399	303,949	....	663,519	671,477	285,791	386,866	432,796	239,032	....	175,225
Mar.	546,886	461,208	412,325	391,736	103,373	380,243	....	783,281	865,696	462,588	639,761	404,939	379,845	....	166,800
Apl.	496,366	470,635	190,574	492,579	134,261	436,605	....	676,539	731,767	534,322	439,622	383,995	356,942	....	182,125
May.	564,386	315,370	447,578	514,178	229,626	685,163	....	530,466	720,753	484,509	548,047	388,310	369,703	....	194,510
June.	572,749	182,575	458,021	452,098	343,804	814,592	....	656,621	844,685	475,486	576,100	338,006	604,080	28,668	31,179
July	625,497	348,451	423,092	425,195	495,398	921,948	....	696,170	733,181	515,782	520,692	392,511	755,930	89,618	231,105
Aug.	638,217	422,846	508,829	367,456	429,415	512,089	....	737,774	623,263	506,969	630,241	441,644	726,256	131,111	286,127
Sept.	624,776	410,574	451,873	420,434	372,302	478,689	36,338	750,080	662,976	473,585	534,667	455,059	581,958	14,257	178,579
Oct.	505,260	314,778	549,788	470,400	572,783	....	....	762,276	720,920	467,873	329,224	435,726	....	....	....
Nov.	570,832	457,889	600,708	742,242	670,247	....	....	609,089	627,791	425,870	346,089	534,273	....	13,809	....
Dec.	679,604	489,121	482,370	533,409	814,373	....	....	729,960	727,460	387,034	141,189	349,747	....	191,968	....
Tot'ls	6,742,996	4,839,407	5,528,661	5,785,226	5,267,209	5,041,616	36,338	8,056,025	8,399,498	5,538,745	5,472,308	4,891,741	4,229,771	546,814	1,662,190

†Dredging, Gatun Dam, 1907, 38,425 cu. yds.; Gatun Locks, 1908-13, 1,776,791 cubic yards.

††Miraflores Locks and Dam, 1909-12. 652,246 cu. yds.; total to Oct. 1, 1913, 652,246 cu. yds.

§Total to Oct. 1, 1913, 37,254,494 cu, yds.; including 4,049,379 cu. yds, in 1905-07.

§§Total to Oct. 1, 1913 40,403,263 cu. yds.; including 3,820,175 cu, yds. in 1905-07.

**Total to Oct. 1, 1913. 2,473,560 cu. yds.

*Total to Oct. 1, 1913, 36,338 cu. yds.

CONCRETE IN LOCKS AND DAMS.*

Months.	Gatun Locks.†			Pedro Miguel Locks.††			Miraflores Locks.‡		
	1911.	1912.	1913.	1911.	1912.	1913.	1911.	1912.	1913.
Jan	72,919	34,983	28,085	38,513	15,003	4,652	24,018	48,416	50,456
Feb.	72,103	26,664	30,780	37,011	12,639	4,294	20,896	63,893	34,979
March	86,884	27,532	48,180	44,716	9,331	13,412	31,173	83,706	21,030
April	67,361	11,600	22,732	28,635	9,460	2,145	38,758	97,735	13,266
May	67,844	7,746	13,046	19,135	10,736	1,144	36,154	92,095	6,956
June	55,305	6,095	5,509	18,243	10,061	773	26,536	68,398	3,836
July	71,046	8,093	3,431	19,906	11,480	1,829	32,840	66,026	3,810
Aug.	66,928	6,855	6,258	20,736	5,995	1,884	57,003	75,388	3,643
Sept.	57,298	3,162	442	15,379	3,039	1,144	56,083	46,322	1,907
Oct.	53,636	3,252	....	25,637	6,587	....	60,873	54,790	....
Nov.	43,907	6,029	....	19,622	7,972	....	41,726	39,674	....
Dec.	43,590	5,697	....	14,360	6,958	....	48,772	46,746	....
Total	758,821	147,708	158,463	301,893	109,261	31,277	474,832	783,189	139,883

*Concrete in dams to Oct 1, 1913—Gatun spillway, 230,840 cu. yds; Miraflores dam and spillway, 78,250 cu. yds.; Pedro Miguel dam, 1,289 cu. yds.

†1,002,523 cu. yds. in 1909 and 1910. ††478,803 cu. yds. in 1909 and 1910. ‡97,603 cu, yds. in 1909 and 1910.

FILL PLACED IN DAMS—1906-1913.

Year.	Gatun.		Pedro Miguel	Miraflores.	
	Wet	Dry	Dry	Wet	Dry
	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.
To January 1, 1911	5,833,076	6,128,105	260,852	294,712	609,863
1911	3,493,388	2,613,066	57,669	366,336	460,514
1912	1,402,501	2,499,092	352,159	....	418,042
1913	....	824,483	25,258	....	220,220
Totals	10,728,965	12,064,746	695,938	661,048	1,708,639

CANAL EXCAVATION TO DATE.

By French Companies		78,146,960
French excavation useful to present Canal		29,908,000
By Americans—		
Dry excavation	127,816,063	
Dredges	83,232,130	
Total		211,048,198
May 4 to December 31, 1904	243,472	
January 1 to December 31, 1905	1,799,227	
January 1 to December 31, 1906	4,948,497	
January 1 to December 31, 1907	15,765,290	
January 1 to December 31, 1908	37,116,735	
January 1 to December 31, 1909	35,096,166	
January 1 to December 31, 1910	31,437,677	
January 1 to December 31, 1911	31,603,899	
January 1 to December 31, 1912	30,269,349	
January 1 to October 1, 1913	22,767,886	

Totals by Divisions and Amount to be Excavated.

Divisions.	Amount excavated.		Remaining to be excavated.	
Atlantic—				
Dry excavation	8,849,590	47,955,638	5,410	5,211,362
Wet	39,106,048		5,205,952	
Central—				
Culebra Cut	97,191,000	109,575,655	7,821,000	8,121,345
All other points	12,384,655		300,345	
Pacific—				
Dry excavation	9,982,836	53,516,905	805,164	7,972,095
Wet	43,534,069		7,166,931	
Grand total		211,048,198		21,304,802

JOINT LAND COMMISSION.

Awards.

(*Continued from last week.*)

Murray, Thomas, docket No. 1410, for all rights, claims and other interests in growing crops, fruit trees, houses, tax Nos. 1030 and 1033, and any other buildings and any other improvements which the said Murray may possess or may have possessed upon the lands of Caimito Mulato, the sum $375 U. S. currency.

Palencia, Fidelino, docket No. 776, for all rights, claims and other interests in growing crops, fruit trees, house, tax No. 915, and any other buildings, and any other improvements which the said Palencia may possess or may have possessed on the lands of Juan Grande (Waterloo), the sum of $40 U. S. currency.

Park, David, docket Nos. 352 and 1,323, for all rights, claims and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Park may possess or may have possessed on lands lying above the 87-foot level near the Frijol Grande River on the lands of Tabernilla, not including claim for house formerly occupied by William Thomas, which is hereby dismissed, and not including further the property on La Loma de Tabernilla, which was purchased from Park by the United States in January, 1912 by Voucher 18510 for house, tax No. 1,163 and other improvements near Tabernilla, the sum of $90 U. S. currency.

Ramos, Gregorio, docket No. 374, for all rights, claims and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Ramos may have possessed near the Frijoles River on the lands of Tabernilla, before this was flooded by back water from the Frijoles River when the dump at Tabernilla partially closed the outlet for the water, the sum of $100 U. S. currency.

Ramos, María Raimundo, docket No. 1,606, for all rights, claims and other interests in growing crops, fruit trees, buildings, and any other improvements which the said María Raimundo Ramos may possess or may have possessed near Cerro Viejo at the headwaters of the River Bailamonos, the sum of $75 U. S. currency.

Ramos, Pedro, docket No. 965, for all rights, claims and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Ramos may possess or may have possessed in the region known as Agua Salud *above* the 87-foot contour line (this property being distinct from that *below* the 87-foot contour line purchased by the United States in July, 1911, by Voucher 15925 for house, tax No. 1435 and improvements near Buenavista), the sum of $90 U. S. currency.

Rivas, Miguel, docket No. 347, for all rights, claims and other interests in growing crops, fruit trees, buildings, and any other inprovements which the said Rivas may possess or may have possessed on the lands designated as Baldo Espino, and in land now covered by the Tabernilla dump, but excluding any claim for property located at Loma Frijoles, which the said Rivas may have held as a tenant of Margaret Rose Smith, the sum of $75 U. S. currency.

Rodriguez, Timoteo, docket No. 1,449, for all rights, claims and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Rodriguez may possess or may have possessed on the lands of Caño Quebrado *above* the 87-foot contour line (this property being distinct from that lying *below* the 87-foot contour line, which was purchased from Rodriguez by the United States in 1911), the sum of $70 U. S. currency.

Salazar, Manuel, Estate of, docket No. 432, for all rights, claims and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Salazar may have possessed in the region denominated Agua Salud and all improvements which were claimed by the said Salazar in the Canal Zone, the sum of $250 U. S. currency, and it is directed that this award be paid into the Circuit Court of the Second Judicial Circuit of the Canal Zone for payment to the proper representatives of Manuel Salazar, deceased.

Salvador de Leon, Manuel, docket No. 1,017, for all rights, claims and other interests in growing crops, fruit trees, buildings, and other improvements which the said Salvador de Leon may possess or may have possessed near the River Caño Quebrado on the lands of Caño Quebrado the sum of $200 U. S. currency.

Spalding, Edward, docket No. 845, for all rights, claims and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Spalding may possess on the lands designated as Cansaloma and Waterloo (the said property being distinct from that located on the estate of Juan Grande on the west bank of the Chagres River, for which an award was made to Spalding under date of June 24, 1913 by the Joint Land Commission), the sum of $60 U. S. currency.

Teran, Catalino, docket No. 1,102, for all rights, claims and other interests in growing crops, fruit trees, house, tax No. 885, and any other buildings, and any other improvements which the said Teran may possess or may have possessed at various points on the lands of Juan Grande (Waterloo), the sum of $250 U. S. currency.

Teran, David, docket No. 494, for all rights, claims and other interests in growing crops, fruit trees, house, tax No. 892, and any other buildings, and any other improvements which the said Teran may possess or may have possessed on the lands of Juan Grande (Waterloo), but not including claim of said Teran (docket No. 1,414) for property said to be covered by Dump 4, the sum of $100 U. S. currency.

Vassal, William, docket No. 1,342, for all rights, claims and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Vassal may possess or may have possessed on the lands of Caimito Mulato, exclusive of the value of Houses 1036 and 1039 and improvements upon one hectare of land surrounding House 1039, the excluded properties having been held by Vassal under leases from the I. C. C., and for which consequently no award can be made, in the sum of $225 U. S. currency.

Williams, David, for all rights, claims and other interests in growing crops, fruit trees, house, tax No. 1034, and any other buildings, and any other improvements which the said Williams may possess or may have possessed on the lands of Caimito, the sum of $70 U. S. currency. Total, $6,785.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners.*

September 20, 1913.

Award No 35—In the matter of the estate of Cuatro Calles, docket No. 382. A claim was submitted to the Joint Commission for the estate of Cuatro Calles, in which Arturo, Carlos W. and Josefina Muller are stated to have a two-thirds interest, and the firm of Pinel Hermanos a one-third interest.

The evidence shows that the Muller family acquired their interest in these lands by a purchase on February 27, 1904 from Julio Poylo, and that the firm of Pinel Hermanos acquired their interest by a purchase from the said Julio Poylo on December 3, 1904.

The history of the land shows that Poylo acquired his interest in the same by purchase on February 24, 1904 from Narciso Barsallo. As evidence of the title of the Barsallo family in this land there were submitted certain declarations taken before the municipal judge of Gorgona in 1904 to the effect that in 1864 Segundo Rodriguez sold the land by deed, which has since been lost, to Evaristo Barsallo, who bought the same for his children, Narciso and others. These declarations further stated that the Barsallo family had been in peaceable possession of the land after the sale, and that occupiers of the land recognized the Barsallo family as owners. The accuracy of these declarations was drawn in question by Counsel for the United States, but in the opinion of the Commission, the evidence was not of a character to justify the Commission in repudiating the sale in 1864. Accepting the fact of a sale to Evaristo Barsallo in 1864 and taking into consideration the fact that the possession of these lands by the Barsallo family, after that date, was not questioned, it is not necessary for the Commission to trace the steps whereby Rodriguez acquired title to the property. In making a purchase from the claimants in 1909 the United States impliedly recognized title, and the Commission has reached the conclusion that the validity of such title as may be held by the present claimants ought not to be disputed by the Commission.

It appeared in the evidence before the Commission, and by the ocular inspection of the property that a large portion of the property was heavily wooded, and it appeared to the satisfaction of the Commission that the contention of the claimants that the property contained valuable timber was in some degree sustained. In appraising the value of the said property this element was taken into consideration by the Commission.

On the basis of the evidence presented an award is hereby made against the United States of America for the entire estate of Cuatro Calles, said award to include all right, title and interest of any persons to the entire estate, not heretofore acquired by the United States, together with all claims for improvements of whatsoever nature on the part of the owners of said estate, and of all rights claimed by them, in the sum of $3,000 U. S. currency.

The conditions of this award are:

First.—This award shall be paid to the respective claimants hereinafter named in the amounts hereinafter specified on or before the 20th day of October, 1913, and if payment or tender of payment of any of the items of this award is not made on or before that date such items shall thereafter bear interest at the rate of six per centum per annum until paid.

Second.—The above award shall be distributed to the claimants hereinafter named, and the amount to be received by each is, as follows: Arturo, Carlos W., and Josefina Muller, $2,000. Pinel Hermanos $1,000.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners.*

September 20, 1913.

Award No. 38—In the matter of sundry claims in the valley of the Trinidad River, Docket 1244-A, etc.—An award is hereby made against the United States of America, in favor of the claimants hereinafter named, in the sum of $2,575 U. S. currency.

This award shall be paid to the respective claimants hereinafter named, in the amounts hereinafter specified, on or before the 20th day of October, 1913, and if payment or tender of payment of any of the items of this award is not made on or before that date, such items shall thereafter bear interest at the rate of six per centum per annum until paid:

Benitez, Felipe, docket No. 191, for all rights, claims and other interests in growing crops, fruit trees, buildings, and any other improvements which the said Benitez may possess or may have possessed in the valley of the Rio Trinidad below the 100-foot contour line beyond the limits of the Canal Zone, but subject to the jurisdiction of the Canal Zone at Siricito, the sum of $300 U. S. currency.

Castillo, Desideria, docket No. 177, for all rights, claims and other interests in growing crops, fruit trees, buildings or any other improvements which the said Desideria Castillo may possess or may have possessed in the valley of the Rio Trinidad below the 100-foot contour line beyond the limits of the Canal Zone, but subject to the jurisdiction of the Canal Zone at Siri Grande, the sum of $600 U. S. currency.

Diaz, Feliciano, docket No. 182, for all rights, claims and other interests in growing crops, fruit trees, buildings or any other improvements which the said Diaz may possess or may have possessed in the valley of the Rio Trinidad below the 100-foot contour line beyond the limits of the Canal Zone, but subject to the jurisdiction of the Canal Zone at Las Cruces, the sum of $25 U. S. currency.

Labarca, Ascención, docket No. 196, for all rights, claims and other interests in growing crops, fruit trees, buildings or any other improvements which the said Labarca may possess or may have possessed in the valley of the Rio Trinidad below the 100-foot contour line beyond the limits of the Canal Zone, but subject to the jurisdiction of the Canal Zone at Siri Grande, the sum of $300 U. S. currency.

Labarca, Hilario, docket No. 190, for all rights, claims and other interests in growing crops, fruit trees, buildings or any other improvements which the said Labarca may possess or may have possessed in the valley of the Rio Trinidad below the 100-foot contour line beyond the limits of the Canal Zone, but subject to the jurisdiction of the Canal Zone at Siricito, the sum of $150 U. S. currency.

Rivera, Reyes, docket No. 203, for all rights, claims and other interests in growing crops, fruit trees, buildings or any other improvements which the said Rivera may possess or may have possessed in the valley of the Rio Trinidad below the 100-foot contour line beyond the limits of the Canal Zone, but subject to the jurisdiction of the Canal Zone at Siri Grande, the said improvements being above the 87-foot contour line, and being distinct from the property lying below the 87-foot contour line which was purchased from the claimant by the United States in May, 1911, by Voucher 15190, the sum of $400 U. S. currency.

Rodriguez, Domingo, docket No. 192, for all rights, claims and other interests in growing crops, fruit trees, buildings or any other improvements which the said Rodriguez may possess or may have possessed in the valley of the Rio Trinidad below the 100-foot contour line beyond the limits of the Canal Zone, but subject to the jurisdiction of the Canal Zone at Siricito, the sum of $40 U. S. currency.

Rodriguez, Juan, docket No. 199, for all rights, claims and other interests in growing crops, fruit trees, buildings, or any other improvements which the said Rodriguez may possess or may have possessed in the valley of the Rio Trinidad below the 100-foot contour line beyond the limits of the Canal Zone, but subject to the jurisdiction of the Canal Zone at Siri, the said improvements being above the 87-foot contour line, and being distinct from the property lying below the 87-foot contour line which was purchased from the claimant by the United States, the sum of $90 U. S. currency.

Sanchez, Nicolas, docket No. 187, for all rights, claims and other interests in growing crops, fruit trees, buildings or any other improvements which the said Sanchez may possess or may have possessed in the valley of the Rio Trinidad below the 100-foot contour line beyond the limits of the Canal Zone, but subject to the jurisdiction of the Canal Zone at Las Cruces, the sum of $50 U. S. currency.

Soto, Pedro, docket No. 189, for all rights, claims and other interests in growing crops, fruit trees, buildings or any other improvements which the said Soto may possess or may have possessed in the valley of the Rio Trinidad below the 100-foot contour line beyond the limits of the Canal Zone, but subject to the jurisdiction of the Canal Zone at Siricito, the sum of $180 U. S. currency.

Troyer, Luciana, docket No. 178, for all rights, claims, and other interests in growing crops, fruit trees, buildings, or any other improvements which the said Luciana Troyer may possess or may have possessed in the valley of the Rio Trinidad below the 100-foot contour line beyond the limits of the Canal Zone, but subject to the jurisdiction of the Canal Zone at Siricito, the sum of $130 U. S. currency.

Valdez, Demetrio, docket No. 205, for all rights, claims and other interests in growing crops, fruit trees, buildings, or any other improvements which the said Valdez may possess or may have possessed in the valley of the Rio Trinidad below the 100-foot contour line beyond the limits of the Canal Zone, but subject to the jurisdiction of the Canal Zone at Siri Grande, the said improvements being above the 87-foot contour line, and being distinct from the property lying below the 87-foot contour line which was purchased from the claimant by the United States, the sum of $35 U. S. currency.

Valasquez, Gregorio, docket No. 183, for all rights, claims, and other interests in growing crops, fruit trees, buildings, or any other improvements which the said Valasquez may possess or may have possessed in the valley of the Rio Trinidad below the 100-foot contour line beyond the limits of the Canal Zone, but subject to the jurisdiction of the Canal Zone at Siri Grande, the said improvements being above the 87-foot contour line, and being distinct from the property lying below the 87-foot contour line which was purchased from claimant by the United States in April, 1911 by Voucher 14790, the sum of $275 U. S. currency. Total, $2,575 U. S. currency.

(Signed) Federico Boyd, Roland P. Falkner, Samuel Lewis, L. S. Rowe, *Commissioners*.
September 20, 1913.

Award No. 39—In the matter of sundry claims at Matachin, Docket 618–A, etc.—An award is hereby made against the United States of America in favor of the persons hereinafter named, who are occupiers of that portion of the original estate of Matachin, which was purchased by the French Canal Company and subsequently became the property of the United States of America, in the sum of $670 U. S. currency.

This award shall be paid to the respective claimants hereinafter named in the amounts hereinafter specified on or before the 20th day of October, 1913, and if payment or tender of payment of any of the items of this award is not made on or before that date, such items shall thereafter bear interest at the rate of six per centum per annum until paid:

Alexander, Joseph, for all rights, claims and other interests in growing crops, fruit trees, house, tax No. 352, and any other buildings and any other improvements which the said Alexander may possess on the lands of Matachin, the sum of $50 U. S. currency.

Briset, Samuel, docket No. 137, for all rights, claims and other interests in growing crops, fruit trees, house, tax No. 117, and any other buildings and any other improvements which the said Briset may possess on the lands of Matachin, the sum of $65 U. S. currency.

Cesaire, Bouda, in docket No. 930, for all rights, claims and other interests in growing crops, fruit trees, house, tax No. 650, and any other improvements which the said Cesaire may possess on the lands of Matachin, the sum of $65 U. S. currency.

Cleron, Felix, in docket No. 931, for all rights, claims and other interests in growing crops, fruit trees, house, tax No. 593, and any other buildings and any other improvements which the said Cleron may possess on the lands of Matachin, the sum of $200 U. S. currency.

Graham, Edward, docket No. 1,076, for all rights, claims and other interests in growing crops, fruit trees, houses, tax Nos. 354 and 355, and any other buildings and any other improvements which the said Graham may possess on the lands of Matachin, the sum of $70 U. S. currency.

Johnson, J. R., docket No. 1,068, for all rights claims and other interests in growing crops, fruit trees, house, tax No. 651, and any other buildings and any other improvements which the said Johnson may possess on the lands of Matachin, the sum of $150 U. S. currency.

Jolly, James, for all rights, claims and other interests in growing crops, fruit trees, house, tax No. 395, and any other buildings and any other improvements which the said Jolly may possess on the lands of Matachin, the sum of $70 U. S. currency. Total, $670 U. S. currency.

(Signed) Federico Boyd, Roland P. Falkner, Samuel Lewis, L. S. Rowe, *Commissioners*.
September 20, 1913.

Award No. 40—In the matter of the claim of Gabriel Jolly for houses in the town of Gorgona, docket No. 1,250–A, and 870.—With respect to the houses in the town of Gorgona claimed by Gabriel Jolly, the evidence before the Commission shows that he was the owner of the property hereinafter referred to before he accepted any leases from the Isthmian Canal Commission. In his hearing before the Commission the claimant stated that he was the owner of the land upon which some of the houses were erected. The evidence submitted to the Commission does not sustain this contention, and in making its award to Gabriel Jolly it is to be understood that the Commission dismisses without award any claims presented by him for ownership in the land.

In conformity with the principles formulated in the opinion of July 25, 1913 on the demurrer of Counsel for the United States to the jurisdiction of the Commission in the matter of the claim of Juan Sotillo, and in accordance with the evidence submitted to the Commission:

An award is hereby made against the United States of America in favor of Gabriel Jolly for certain buildings hereinafter identified by their respective tax numbers, the said award to include all rights, claims and interests of any persons in the said building, together with all claims for improvements of whatsoever nature on the part of the said Gabriel Jolly and all rights claimed by him, in the sum of $2,205 U. S. currency.

The foregoing award is made up of awards for individual houses, as follows:

Tax No.	*Award*	*Tax No.*	*Award.*
704	$360	759	$220
705	625	814	110
720	265	825	130
748	365	856	130

(Tax No. 856 was destroyed by the Canal Zone Government in 1911.)

This award shall be paid to the said Gabriel Jolly on or before the 20th day of October, 1913, and if payment or tender of payment of any of the items of this award is not made on or before that date, such items shall thereafter bear interest at the rate of six per centum per annum until paid.

(Signed) Federico Boyd, Roland P. Falkner, Samuel Lewis, L. S. Rowe, *Commissioners*.
September 20, 1913.

Award No. 41—In the matter of certain claims for houses in the town of Gorgona, docket No. 1,250–A, etc.—The evidence before the Commission shows that the persons hereinafter named were the owners of the properties hereinafter referred to before they accepted any leases from the Isthmian Canal Commission. In no case did the persons hereinafter named make any claim to the ownership of the land.

In conformity with the principles formulated in the opinion of July 25, 1913, on the demurrer of Counsel of the United States to the jurisdiction of the Commission in the matter of the claim of Juan Sotillo, and in accordance with the evidence submitted to the Commission, an award is hereby made against the United States of America for certain buildings hereinafter identified by the respective tax numbers, the said award to include all rights, claims and interests of any persons in the said buildings, together with all claims for improvements of whatsoever nature on the part of any persons hereinafter named, and all rights claimed by them in the sum of $3,585 U. S. currency.

This award shall be paid to the respective persons named hereinafter, in the amounts hereinafter specified, on or before the 20th day of October, 1913, and if payment or tender of payment of any of the items of this award is not made on or before that date such items shall thereafter bear interest at the rate of six per centum per annum until paid.

To the owners of buildings, for the settlement of all rights, claims or other interests which they may have in the same, together with any other improvements located on the lots with houses designated by their tax numbers, as follows:

Amos George, in docket Nos. 588 and 1,620, tax No. 844, $100. (The property above described, is distinct from that of Juan Grande, for which an award was made by the Joint Land Commission under date of June 24, 1913.) *Deslavel, Emile*, tax No. 860, $160. *Jolly, Edward*, tax No. 869, $40. *Serlan (Corlan), Theramene*, tax No. 781, $40. *Tillman, Marie*, a total of $1,520, for individual houses, as follows: Tax No. 707, $850; tax No. 756, $340; tax. No. 757, $330. *Wier, Alfred, Estate of, docket No. 1,320*, a total of $525, for individual houses, as follows: Tax No. 810, $200; tax No. 818, $145; tax No. 845, $180; and it is directed that the foregoing award in favor of the estate of Alfred Wier be paid into the Circuit Court of the Second Judicial Circuit of the Canal Zone for payment to the duly qualified representative of said estate. The owners of house, tax No. 704, docket No. 497, a total of $1,200, to be divided among the owners for their respective interests, as follows: Barsallo, Saturnina, $300; Posada, Carmen, $450; Posada, Elvira, $450. Grand total $3,585 U. S. currency.

(Signed) Federico Boyd, Roland P. Falkner, Samuel Lewis, L. S. Rowe, *Commissioners*.
September 20, 1913.

Award No. 42—In the matter of the claim of B. Moncherie, for house, tax No. 864 at Gorgona, docket No. 1,250–A.—Claim was entered by B. Moncherie for the value of house No. 864 located at New Town, Gorgona. The evidence in this case showed that the claimant purchased the house from G. Francis, and that at no time was any lease issued by the Isthmian Canal Commission for the land occupied by this house. The claimant, therefore, has the status of an occupier of public lands, and in accordance with the principles formulated by the Commission with respect to such occupiers, and the evidence in the case:

An award is hereby made against the United States in favor of B. Moncherie for all rights, claims or other interests which he may have in house No. 864 in the town of Gorgona, together with any other improvements on the lot occupied by this house, in the sum of $25 U. S. currency.

This award shall be paid to the claimant in the amount specified on or before the 20th day of October, 1913, and if payment or tender of payment of this award is not made on or before that date it shall thereafter bear interest at the rate of six per centum per annum until paid.

(Signed) Federico Boyd, Roland P. Falkner, Samuel Lewis, L. S. Rowe, *Commissioners*.
September 20, 1913.

Award No. 43—In the matter of the estate of Matachin, docket Nos. 618 and 722—The evidence before the Commission shows that portions of the original estate of Matachin were purchased from the owners by the French Canal Company, and subsequently became the property of the United States of America.

In 1909, some of the members of the Bosque family sold to the United States the land lying below the 87-foot level. The property sold included two houses in the town of Matachin which belonged to the Bosque family. One of the members of the family, Angelica Bosque, refused to join in this sale. Her interest was shown by the evidence to be a one-tenth undivided interest in the entire estate. Angelica Bosque died after this conveyance was made, and her estate is now represented by her husband, Hilario V. Seixas, who claims as administrator of the estate of Angelica María Bosque de Seixas, deceased, the amount of her interest in the lands included in this conveyance. In the award hereafter made to Hilario V. Seixas, as administrator of the estate of Angelica María Bosque de Seixas, deceased, the amount of this interest is included.

For the remainder of the estate claim is entered as the owners thereof by María E. J. de Bosque, Domitila Carmen Bosque de Paredes, and Hilario V. Seixas as administrator of the estate of Angelica María Bosque de Seixas, deceased. These persons were also claimants for damages alleged to have been suffered by the actions of the Isthmian Canal Commission.

The history of the case shows that at one time the estate was divided into two equal parts, one of which belonged to the present claimants, and certain others now deceased, as heirs of Cruz Bosque, and the other to General Buenaventura Correoso. Subsequently, one of the claimants, Domitila Carmen Bosque de Paredes, purchased the interest of General Buenaventura Correoso, and became entitled to one-half interest in the estate, in addition to that which she possessed as one of the heirs of Cruz Bosque.

A further claim was made for the loss of passes on the Panama railroad, but the Commission made no allowance for such claims for the reasons set forth in a separate opinion. No allowance was made by the Commission for the cost of a survey and maps used by the claimants in presenting their case before the Commission, and for which claim was made.

Further claims for damages alleged to have been caused by the clearing of the Carabali watershed, and consequent loss of rentals, by the issue by the Isthmian Canal Commission of leases to certain lands which were not the property of the United States, but were the property of the claimants, and the consequent loss of rentals, and by the construction of a road by the Isthmian Canal Commission through the property claimed by the Bosque family, and a claim for the value of two houses in the village of Matachin on lands conveyed to the United States by deed of May 3, 1909, were considered by the Commission, and in so far as such claims were deemed to be justified an allowance therefor was made and was included in the award of the Commission.

It is further in evidence that two of the claimants, María E. Jaramillo de Bosque, and Domitila Carmen Bosque de Paredes have each of them executed mortgages against their interest in the lands of Matachin, which mortgages are still in existence.

On the basis of the evidence submitted to the

Commission, an award is hereby made against the United States of America in favor of the persons hereinafter named for the entire estate of Matachin, not heretofore acquired by the United States, the said award to include all right, title and interest of any of the persons hereinafter named to the said estate of Matachin, including any improvements thereon which may be claimed by them, and including the right, title and interest as any of them may possess in the lands conveyed to the United States in 1909, together with all claims for damages which any of the persons hereinafter named have presented or may present against the Isthmian Canal Commission, by reason of any action of the said Isthmian Canal Commission or its agents, in the sum of $20,260 U. S. currency.

This award shall be paid as hereinafter specified on or before the 22d day of October, 1913, and if payment or tender of payment of any of the items of this award be not made on or before the said date, such items shall thereafter bear interest at six per centum per annum until paid.

This award shall be distributed, as follows:

María E. Jaramillo de Bosque, $6,000. This award is subject to such equities, if any, as may exist in favor of third parties, and it is directed that the said award be paid into the Circuit Court of the Second Judicial Circuit of the Canal Zone for distribution according to the terms of this award.

Domitila Carmen Bosque de Paredes, $12,000. This award is subject to such equities, if any, as may exist in favor of third parties, and it is directed that the said award be paid into the Circuit Court of the Second Judicial Circuit of the Canal Zone for distribution according to the terms of this award.

Hilario V. Seixas, administrator of the estate of Angelica María Bosque de Seixas, deceased, $2,260. Total, $20,260 U. S. currency.

(Signed) Federico Boyd, Roland P. Falkner, Samuel Lewis, L. S. Rowe, *Commissioners.*

September 22, 1913.

Award No. 44—In the matter of sundry claims for improvements on the lands of Matachin, docket No. 618–A, etc.—In the cases of the claims of the persons hereinafter named for the properties herein referred to, the evidence before the Commission showed that the properties in question were located above the 87-foot contour line upon the property claimed by the Bosque family, and that for the greater number, if not all, of these properties, rent was paid to the Bosque family.

In conformity with the principles formulated by the Commission in the opinion of September 20, 1913, on the right to compensation of tenants of the Bosque family above the 87-foot contour line, and the evidence in each case:

An award is hereby made against the United States of America in favor of the persons hereinafter named, for their interest in improvements on the lands above the 87-foot contour line which are claimed by the Bosque family, the said award to include all rights, claims, and other interests of the persons hereinafter named in growing crops, fruit trees, the houses designated by their respective tax numbers and any other improvements claimed by them on lands above the 87-foot contour line claimed by the Bosque family in the sum of $3,255 U. S. currency.

The conditions of this award are:

First.—This award shall be paid to the respective claimants hereinafter named in the amounts hereinafter specified, on or before the 22d day of October, 1913, and if payment or tender of payment of any of the items of this award is not made on or before that date, such items shall thereafter bear interest at the rate of six per centum per annum until paid.

Second.—This award shall be distributed among the persons hereinafter named whose properties are identified by the tax numbers of the houses, if any, which are included in their claims, in the amounts hereinafter specified, as follows:

Name.	*Docket No.*	*House No.*	*Amount.*
Becerra, José Domingo..	....	Not given	$30
Beckford, Elizabeth....	565 & 1,367	556	65
Blake, Thomas.........	....	Not given	80
Blanche, Evadnie.......	632	375	75
Cabarca, Aristide.......	....	364	40
Castello, Natalie Jeannette.................	138	1,750	70
Chambers, Herbert......	70	543 & 545	150
Clough, James..........	1,378	Farm only	25
Cordero, Fernando......	385	47	350
Desir, Edward..........	In 1,637	648	45
Drayton, James Est. of..	....	370	35
García, José, including claim for one thatched house and other improvements on the lands of Juan Grande	264	....	200
Hernandez, Juliana......	....	381	20
Jiron, José.............	1,534	Farm only	250
Johnson, Joseph........	....	472	125
Jurado, Hortencia.......	669	475	45
Jurado, Nicolas.........	670 & 671	479	700
Lewis, Jacob...........	674	1,682	25
McCall, William........	680	474	125
Maldonado, Manuel.....	In 515	382	35
Montebeliard, George...	1,552	616	60
Narvaez, Francisco......	690	Farm only	20
Nelson, John...........	....	Farm only	15
Padilla, Felipe..........	1,093	438	25
Perez, Narcisa..........	1,055	379	85
Quadra, Miguel.........	905	367	40
Ray, James............	699	371	30
Rosales, Juan..........	1,559	Not given	20
Samuels, William.......	507	374	30
Slater, Jacob...........	....	Farm only	10
Urango, Cirilo..........	558	378	30
Valdelamar, Dolores.....	715	1,331	80
Volberg, Ludger........	....	Not given	20
Walker, David (Alfred).	403	Farm only	300
Total,................................			$3,255

(Signed) Federico Boyd, Roland P. Falkner. Samuel Lewis, L. S. Rowe, *Commissioners.*

September 22, 1913.

Award No. 45—In the matter of sundry clains for improvements on the lands of Matachin, docket No. 618–A, etc.—In the cases of the claims of the persons hereinafter named for the properties herein referred to, the evidence before the Commission showed that the properties were located on that portion of the lands of Matachin below the 87-foot contour line, which was conveyed to the United States by deed of May 3, 1909, and that for these properties rent was paid to the Bosque family.

In conformity with the principles formulated by the Commission in its opinion of September 16, 1913, on the right to compensation of tenants below the 87-foot contour line on the lands of Matachin conveyed to the United States by deed of May 3, 1909, and the evidence in each case:

An award is hereby made against the United States of America in favor of the persons hereinafter named for their interest in improvements on the lands of Matachin below the 87-foot contour line which were conveyed to the United States by deed of May 3, 1909, the said award to include all rights, claims, and other interests of the persons hereinafter named in growing crops, fruit trees, the houses designated by their respective tax numbers and any other improvements claimed by them, on the said portion of the lands of Matachin, in the sum of $9,910 U. S. currency.

The conditions of this award are:

First—This award shall be paid to the respective claimants hereinafter named, in the amounts hereinafter specified, on or before the 22d day of October, 1913, and if payment or tender of payment of any of the items of this award is not made on or before that date, such items shall thereafter bear interest at the rate of six per centum per annum until paid.

Second.—This award shall be distributed among the persons hereinafter named, whose properties are designated by the tax numbers of the houses which are included in their claims, in the amounts hereinafter specified, as follows:

Name.	*Docket No.*	*House No.*	*Am't.*
Balderrama, Salome.....	......	525	$50
Barsallo, Martin........	......	598	80
Berguido, Alejandro.....	902	518	230
Bryan, Ellen Matilda...	568	385	150
Byfield, Catherine.....	638	515	170
Cabeza, Zoraida........	In 539	426	255
Caldwell, D. W.........	......	158	35
Canavaggio, Pascal.....	In 519	492	210
Carrera, Manuel........	561	488 & 513	200
Centeño, Joaquin.......	907	506 & 524	570
Ceribo, Manuel.........	......	442	25
Chong, (Achong) José....	566	487	710
Daza, Rosario..........	1,052	412	95
Dominguez, Natividad..	650	397	45
Douglas, Patigan.......	......	451	170
Douglas, Sarah.........	900	519	20
Esper, Elias............	......	400	220
García, Ignacio.........	......	159 & 160	50
Gavarras, Antonio......	555	428 & 429	65
Gomez, Ezequiel........	659	436	60
Gracias, María.........	......	511	150
Howell, William........	665	387	30
Jimenez, Domingo......	......	417	130
Jiron, Angelica.........	......	514	160
Jiron, Evangelista.......	668	413	160
Jiron, Josefina..........	510	516	95
Jurado, María..........	562	512	60
LeClaire (Leclerk), Philip (Felipe)...........	1,429	441	20
Lowe, Caroline.........	675	443	100
Maldonado, Manuel.....	In 515	416	210
Martin, William........	......	388	35
Martìnez, Juan.........	......	420	125
Matos, Alberto.........	In 734	405	60
Matos, Alberto.........	In 734	482	370
Morilla, Anastasia......	687	402 & 403	145
Mudarra, María........	732	408	85
Murgas, Marcelino......	......	441	85
Murphy, Richard.......	688	470	55
Nesler, Carmen S. Guardian.....................	963	486	710
Niño, Agapita..........	518	520	60
Orville, Boniface........	691	497 & 1,705	380
Ospino, Teresa.........	903	409	45
Palma, José............	692 & 693	401 & 418	580
Pardo, Victor..........	694	432	30
Pastor, Julio...........	695	485 & 508	570
Puella, Emilio..........	.....	444	25
Quesada, Isabel.........	696	491	180
Quesada, José P........	697	396 & 399	315
Reales, Petra...........	891	449	55
Reinoso, Juana.........	521	415	60
Rodriguez, Clara.......	512	430	20
Ruiz, Candelaria........	1,210	407	50
Salazar, Estebana.......	705	435	25
Saravia, Manuel........	707 & 1,054	452	210
Sarmiento, Aureliana....	......	384	45
Silva, José de la Mercedes	968	434	15
Smith, Dorothy.........	....	456 & 457	10
Smith, Susan...........	......	455	60
Villanueva, Anastasia...	..	522 & 333	55
Williams, Thomas.......	719	465, 509 & 510	255
Woo, Yet..............	495	488	235
Yong, Ah.	504	490	335
Young, Moses..........		463	100
Grand total................	....	....	$9,910

(Signed) Federico Boyd, Roland P. Falkner, Samuel Lewis, L. S. Rowe, *Commissioners.*

September 22, 1913.

Award No. 46—In the matter of sundry claims for improvements located near the Mandingo River, docket No. 618–A, etc.—An award is hereby made against the United States in favor of the persons hereinafter named, in the sum of $4,400 U. S. currency.

This award shall be paid to the respective claimants hereinafter named in the amounts hereinafter specified, on or before the 22d day of October, 1913, and if payment or tender of payment of any of the items of this award is not made on or before that date, such items shall thereafter bear interest at the rate of six per centum per annum until paid.

Miranda, Victor, docket No. 1,592. for all rights, claims and other interests in growing crops, fruit trees, house, tax No. 1,565, and any other buildings and any other improvements which the said Miranda may possess on lands located near the Mandingo River, about three miles west of Bas Obispo. the sum of $800 U. S. currency.

To the owners of house No. 1,564, etc., docket No. 1,593, for all rights, claims and other interests in growing crops, fruit trees, house tax, No. 1,564, and any other buildings and any other improvements which these persons may possess on lands located near the Mandingo River about two and one-half miles west of Bas Obispo, the sum of $3,600 U. S. currency.

The foregoing award shall be paid to the owners of the property in equal shares, as follows: Catalino Miranda, $900: Juan Miranda, $900; María Miranda, $900; Telefora Miranda, $900. Total, $4,400 U. S. currency.

(Signed) Federico Boyd, Roland P. Falkner, Samuel Lewis, L. S. Rowe, *Commissioners.*

September 22, 1913.

Award No. 47—In the matter of the claim of Benjamin Forbes, for improvements at Matachin, docket No. 618–A and 731.—An award is hereby made against the United States of America in favor of Benjamin Forbes for all rights, claims, and other interests in growing crops, fruit trees, houses, Nos. 526, 527, and 528, and any other buildings or other improvements claimed by the said Forbes on the lands of Matachin in the sum of $230 U. S. currency.

The foregoing award is made for two distinct properties, as follows:

First.—For crops and thatched houses situated near the road leading from Gorgona to Empire on land above the 87-foot level, claimed by the Bosque family, in the amount of $125 U. S. currency.

Second.—For houses, tax numbers 526, 527, and 528 in the village of Matachin on lands lying below the 87-foot level, which were conveyed to the United States by deed of May 3, 1909; the sum of $105 U. S. currency.

This award shall be paid on or before the 22d day of October, 1913, and if payment or tender of payment of any of the items of this award be not made on or before that date, it shall thereafter bear interest at the rate of six per centum per annum until paid.

(Signed) Federico Boyd, Roland P. Falkner, Samuel Lewis, L. S. Rowe, *Commissioners.*

September 22, 1913.

Award No. 48—In the matter of the claim of Dan Cameron for improvements on lands of Juan Grande docket Nos. 532–A and 139.—The evidence in the case of Dan Cameron showed that he occupied a piece of ground in the lands of Juan Grande in that portion of the estate which was purchased by the French Canal Company and subsequently became the property of the United States. For the occupancy of these lands he had a permit from the Colombian municipality of Gorgona. It is in evidence that such permits were granted somewhat indiscriminately by the old municipality and were frequently issued for lands in private ownership. Such permits conveyed no title to the land.

Later, the United States sought to place Cameron under a lease, but such lease Cameron refused to sign, because of the clauses therein which provided that in case the property were taken for public use no compensation would be made to him for his improvements. The United States did not dispossess Cameron, but suffered him to remain on the land. The refusal to sign the lease, involved a refusal or neglect to pay to the United States rent for the land occupied, and the Commission finds that Cameron is indebted to the United States for the arrears of rent upon the property. In making its award, due allowance has been made for the fact of such indebtedness.

Certain parts of the improvements of Cameron were destroyed by the operations of the Isthmian Canal Commission and for this he was paid.

In conformity with the principles formulated by the Commission with respect to the right of occupiers on the public land to receive compensation for their improvements and the evidence in the case:

An award is hereby made against the United States of America in favor of Dan Cameron for improvements near Gorgona, the said award to include all rights, claims or other interests in growing crops, fruit trees, buildings or any other improvements claimed by the said Cameron on any land near the Carabali River, or on any part of the original estate of Juan Grande, together with all claims of whatsoever nature on account of damages alleged to have been suffered by the operations of the Isthmian Canal Commission or the Panama Railroad Company, this property being distinct from that purchased from the claimant by the United States in October, 1909, by voucher No. 8007, in the sum of $300. U. S. currency.

This award shall be paid on or before the 22d day of October, 1913, and if payment or tender of payment is not made on or before that date, it shall bear interest at the rate of six per centum per annum until paid.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners.*

September 22, 1913.

Rules of Dismissal.

In the matter of sundry claims located as below designated docket 1,240–A, etc.—A number of claims have been presented to the Commission for property included between Gatun and Gamboa, for improvements below the 87-foot level, some of which are already submerged or partly submerged. In preparing for the creation of Lake Gatun, many persons were removed from time to time from their holdings and with many of them settlements were made. Other settlements have been made within this area at a more recent date.

A careful examination has been made of all cases in which a payment has been reported, and where there was any uncertainty in regard to the property covered by the previous payment, the claimant has been given the benefit of every reasonable doubt. In the following cases, the Commission has reached the conclusion that the claimants have no property for which an award could be sought from this Commission which is not covered by the previous payments hereinafter noted:

Bell, James William, Docket 1,441—The property included in this claim was covered by the payment in February, 1912, by Voucher 18695, in favor of William Bell, for the purchase of house, tax No. 8 and all other improvements of every kind in or near Bohio, Canal Zone.

Campbell, Joseph, Docket 1,438—The property included in this claim was covered by the payment in December, 1911, by Voucher 17754, for the purchase of all growing crops, fruit trees and farm house with thatch roof, tax No. 108, and all other improvements, situated in the valley of the Chagres River.

In view of the payments herein noted, no claim against the United States of American can be recognized by the Joint Commission, and these claims are hereby dismissed.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners.*

August 30, 1913.

In the matter of sundry claims, docket 1,240–A, etc.—With respect to the persons hereinafter named, whose claims have been before the Joint Land Commission for consideration, the evidence shows that they have signed contracts with the Isthmian Canal Commission for the sale of the properties claimed by them. The names of such persons, the docket numbers of their claims, and a description of the property included in such claims, follow:

Campbell, Albert—Docket 1,066, claim for house, tax No. 274 and other improvements at Gamboa Hill.

Cortes, Emilio—Docket 362, claim for house, tax No. 266 and other improvements at Santa Cruz.

Jederon, Ambroise (also known as *Ambrosio, Gideon*, and *Ambrose, Gideon*)—Docket 745, claim for house, tax No. 1,836 and other improvements at Caimito

Sandiford, Hubert—Claim for house, tax No. 1,835 and other improvements at Caimito.

In view of the agreements before noted, these claims call for no further action by the Joint Commission, and they are accordingly dismissed.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners.*

September 10, 1913.

In the matter of sundry claims in the lands of Matachin docket No. 618–A, etc.—With respect to the occupiers on the lands of Matachin hereinafter named, who for the greater part have their improvements on that portion of the original estate of Matachin which was purchased by the French canal company, and subsequently became the property of the United States, the evidence before the Commission is that they have signed contracts with the Isthmian Canal Commission for the sale of the houses herein designated by their tax numbers, together with all their other improvements situated on the said lands. The names of such persons, the docket numbers of their claims, and the tax numbers of their houses, follow:

Name.	*Docket No.*	*Tax No.*
Actie, Mrs. Ferdinand	....	638
Alexander, John	1,553	1,749
Anderson, William	....	26
Angelo, Victor	553	345
Baker, William	....	130
Bennett, Alexander	....	....
Boyd, Joseph	....	171
Brown, Alexander	....	170
Cabot, Lucile	12	644
Cabot, Berthe	75	646
Carrington, Alexander	....	347
Chambers, Edward	1,368	128
Clark, William	....	129
Craig, Reginald	....	19
Creary, Martha	728	343
Dorman, James	1,062	167
Duncan, Samuel	725	535
Ebson, Isaac	932	600
Falkner, Richard	....	28
Fargeot, Felix	795	1,715
Finley, Alexander	....	33–34
Forbes, Sarah Ann	....	25
Foster, James L	....	5
Francis, Charles	....	27
Francis, Joseph	....	8
Gilmore, Wm	....	391 –549
Gordon, Charles	....	7
Gregoire, Sylvan	516	114
Henry, Joshua	....	169
Hines, Samuel	....	176
Iglesia, Modeste	1,078	145
Jackson, Theophilus	....	1,725
Jacob, Antonio	....	20
Johnson, Amelia	....	168
Johnson, Charles F	....	1,747
Jones, Edward	....	6
Laval, Charles	729	389
Lucile, Dolore	775	595 –596
Mahoney, Thomas	1,209	175
Mathison, Alexander	....	13
Miller, Alfred	....	339
Nedrez, Pedro	....	29
Otway, Louisa	....	17
Porter (Potter), Samuel	....	390
Reid, Foster A	....	1,706
Rivals, Stephen	....	126
Roberts, Samuel	....	1,700
Robinson, Edward	....	348 –349
Scott, Henry	706	572
Slee, Charles	....	1,728
Small, Matilda	....	30
Smith, Adolphus	....	1,705
Spence, Jacob	....	24–31
Stewart, William	1,064	534
Surprise, Elise	....	124
Taylor, Joseph	....	1,713
Thomas, Uriah	....	342
Thompson, Dorothy	1,049	338
Virgil, Victoria	1,139	598 –607 –608
Waith, Alfred	....	1,714
Walker, George	....	353
Webb, Susan	....	18
Webley, Leopold	....	23
White, Samuel	....	15

In view of the agreements herein referred to, these claims call for no further action by the Commission and they are accordingly dismissed.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners.*

September 11, 1913.

In the matter of sundry claims, within the lake area, docket No. 1,240–A—A number of claims have been presented for property in the lake area between Gatun and Gamboa for properties below the 87-foot level, some of which are already submerged or partially submerged.

In preparing for the creation of Gatun Lake, many persons were removed from time to time from their holdings and with many of them settlements were made. In February and March, 1912, the Government made an examination of this region and an inspection of all occupiers. Subsequently, settlements were made with a large number of such persons, who executed releases and received payments for their houses and all improvements in the lake area.

A careful examination has been made of all cases in which payment has been reported, and the claimant given the benefit of every reasonable doubt. In the following cases we have reached the conclusion that the claimants have no property which is not covered by the previous payment or payments hereinafter noted:

Aimable, Isidore, docket No. 1,431, the property now claimed is covered by the payment in January, 1912, by Voucher 18478, for houses, tax Nos. 1,151, 1,159, 1,171 and 1,890, and all other improvements in or near the town of Tabernilla.

Busto, Juan, docket No. 1,351, the property now claimed is covered by the payment in April, 1912, by Voucher 19563, for two houses and other improvements near Limon, Gatun River.

Curbelo, Josefa, docket No. 171, the property now claimed is covered by the payments in November, 1910, by the Panama Railroad Company, for improvements on Lot 3 belonging to the Panama Railroad Company, and in February, 1912, by the Isthmian Canal Commission for improvements at Palo Horqueta y Matias.

McKenzie, Charles, docket No. 1,440, the property now claimed is covered by the payment in December, 1911, by Voucher 17748 to Charles McKenzie and Manuela Echeverria, for house, tax No. 98 and other improvements in the valley of the Chagres.

Medina, Juana Josefa, the property now claimed is covered by the payment in January, 1912, by Voucher 18207, for houses, tax Nos. 145 and 149 and other improvements near Bohio.

Muñoz, Manuel, docket No. 1,329, the property now claimed is covered by the payment in November, 1911, by the Panama Railroad Company, for all improvements in the area below the 87-foot contour line.

Pasero, Matea, docket No. 857, the property now claimed is covered by the payment in December, 1911, to James McKenzie, husband of the claimant, for houses and other improvements on the lands of Caño Quebrado.

Racine (Racini), Damian, docket No. 525, the property now claimed is covered by the purchase by the United States of certain improvements in the Canal prism, near Tabernilla, in December, 1909.

Rosemont, Touissant, docket No. 1,457, the property now claimed is covered by the payment in January, 1912, by Voucher 18289, for houses, tax Nos. 61, 75, 141, 142, and 160, and other improvements in or near the town of Bohio.

In view of the payments herein noted, no claim against the United States can be recognized by the Joint Land Commission, and these claims are hereby dismissed.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners.*

September 22, 1913.

In the matter of sundry claims, in the valley of the Trinidad River, docket No. 1,244-A, etc.,—A number of claims have been presented to the Commission for properties below the 87-foot level, some of which are already submerged or partly submerged. In preparing for the creation of Gatun Lake, many persons were removed from time to time from their holdings, and with many of them settlements were made. Other settlements have been made within this area at a more recent date.

A careful examination has been made of all cases in which a payment has been reported, and where there was any uncertainty in regard to the property covered by the previous payment, the claimant has been given the benefit of every reasonable doubt. In the following cases the Commission has reached the conclusion that the claimant has no property for which an award could be sought from this Commission, which is not covered by the previous payments hereinafter noted:

Chansing, Ramón, docket No. 164, the property included in this claim was covered by payment in November, 1910, by the Panama Railroad Company for his improvements in the valley of the Trinidad River.

Esperadeau, Julio, docket No. 1,115, the property included in this claim was covered by the payment in April, 1911, by the Panama Railroad Company for house and other improvements in the valley of the Trinidad River.

Rodriguez, José de los Santos, docket No. 176, the property included in this claim is below the 87-foot level and is covered by a purchase made by the United States in making settlement for improvements in the valley of the Trinidad River.

Torres, Pedro, docket No. 180, the property included in this claim was covered by the payment in October, 1911, by Voucher 16972 for fruit trees and other improvements in the valley of the Trinidad River.

In view of the payments herein noted, no claim against the United States can be recognized by the Joint Land Commission, and these claims are hereby dismissed.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners.*

September 16, 1913.

PASSING OF HISTORIC TOWN.

Cruces, One of the Oldest Settlements on the Isthmus, Abandoned

The village of Cruces, situated on the south bank of the Chagres River, a little above Gamboa, will be abandoned, and the Division of Police and Prisons has been instructed to destroy the buildings, when the town has been depopulated. Most of the buildings, which are built after the native style, bamboo walls, with roofs of thatch, are below the 87-foot contour. The number of houses in the village, according to the tax records of 1910 was 60, not including the church and schoolhouse, but some of these were burned in the fire of 1912. The Canal Zone census of 1912 showed 169 people living there, consisting of 132 colored persons, 36 of mixed blood, and one white.

Cruces is one of the oldest settlements on the Isthmus, and in earlier times was known as Venta Cruz. One of the contemporary books on the Canal and the Isthmus describes its origin, as follows:

> "The first transit route across the Isthmus, for the transportation of gold, silver, and merchandise from the various Spanish colonies on the Pacific to Spain, ran from the city of Panama to Nombre de Dios, on the shores of the Caribbean. It was cut through the forest and jungle, over mountain tops and across mountain streams, and was roughly paved with stones. It ran from Panama in a northeasterly direction for about 20 miles to a point on the Chagres River, which was given the name of Venta Cruz, afterward changed to Cruces. Thence it extended northward to Nombre de Dios. A line of posts was established along the route. It was put in use in 1519, and was the sole route between the two oceans until about 1535, when the Chagres between Venta Cruz and the Atlantic, a distance of about 36 miles, was made navigable for boats of light draft, and a water route was established between Venta Cruz and Nombre de Dios. The land route between these points was not abandoned, however, but continued to be used in connection with the water route. So well was the paving laid that parts of it remain in position today, and the entire trail from Panama City to Cruces is open, and is used by the natives as a highway for pack mules and ponies."

Dr. E. L. Auchenrieth in his book entitled *The Topography of the Isthmus*, published in 1851, speaks of the paved trail, as follows:

> "It is stated that Francisco Pizarro, the conqueror of Peru, was the one that ordered the paving of the road, which was done with large, round stones sometimes a foot and a half in diameter."

A toll gate is said to have been set up at Cruces in the latter half of the eighteenth century, and all traffic between the two oceans passed the place. According to the report made by Bancroft on the fiscal regulations and commercial decline of the Spanish colonies, goods to the amount of 1,466,346 *pesos de oro* were registered as passing through the Casa at Cruces, while more than seven and one-half millions were smuggled across.

In their march from Fort San Lorenzo, at the mouth of the Chagres River, to attack Old Panama, Henry Morgan and his men ascended the river to Cruces. Esquemeling speaks of it, as follows:

> " * * * Thus they proceeded on their journey till noon, at which time they arrived at a village called Cruz. * * * This village is seated in the latitude of nine degrees and two minutes nortb, being distant from the Fort of Chagre 26 Spanish leagues, and eight from Panama. Moreover, it is the last place to which boats or canoes can come, for which reason they built here storehouses, wherein to keep all kinds of merchandise, which hence to and from Panama are transported upon the backs of mules."

Messrs. Sosa and Arce, local historians, note that the Chagres River was first explored from its mouth to the interior, probably to about where Cruces now is, by Capt. Hernando de la Serna, and the pilot Pablo Corzo, between April 3 and 10, 1527.

Following the construction of the Panama railroad, Cruces entered upon a period of decadence, which has existed until this day. The Canal Commission has never instituted any changes there beyond including it within the Canal Zone school system. In May, 1906, arrangements were made to open a school in the old church, and the municipality of Gorgona was authorized to expend $500 in improving the building. The church was 25 feet wide by 63 feet long, and it was estimated that it afforded sufficient accommodations for 100 children. School was opened in 1906, and has been continued ever since. On February 16, 1909, the citizens of the village addressed a memorial to the governor of the Canal Zone, asking him to cause the school to be removed to some other point in the village as the church was needed for religious purposes. This request was not acceded to, but the people were allowed to use the building on Sundays and feast days. In 1910, the church became unsafe, and on November 22 of that year a request was approved for a new schoolhouse, with a living room for the teacher. It was built on the highest knoll in the village, at elevation 101 feet, on land originally deeded to the French Canal Company. In the school year 1909-10, the highest enrollment was 20, and the average daily attendance 15.5. During the last school year the enrollment was 37, and the average daily attendance 13.9. The instruction has been in Spanish, although if the school had been continued another year, English would have been substituted.

Prior to 1911, the village had a historic curiosity in the shape of two wrought iron anchors. According to tradition, these anchors were brought up the Chagres River in boats for transport overland to Panama, but the plan was abandoned at Cruces. One of these anchors stood in the village about 300 yards from the river, and the other alongside the trail about 400 yards from the river. Each anchor has a 14-foot shank. The idea was conceived by Lieut. Walter D. Smith, formerly Constructing Quartermaster of the Canal Commission, to send these anchors to West Point. The anchors were placed on a raft, which subsequently broke loose from its moorings, and after floating down the river a short distance, collided with a log, breaking in two, and allowing the anchors to go to the bottom of the stream. They were recovered later, but before they could be placed on board a vessel, a cable message was received by the Chairman from the Secretary of War disapproving of the plan. The anchors are now in the yards of the general storehouse at Mount Hope.

Cruces also possesses another relic in three ancient church bells. These bells are of varying size, and from one of them a piece has been broken. The dates are indistinguishable, but they are known to be very old. After the transfer of the anchors, the inhabitants, becoming apprehensive that the bells also would be taken, had them removed and hidden. Later, when these fears were dispelled, they were returned to their old place.

Mr. Wolfred Nelson, the author of *Five Years at Panama*, published in 1889, records that the stone church at Cruces was destroyed in the earthquake of September 7, 1882.

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Obituary.

Mary Jane, the five-year old daughter of Mr. and Mrs. Joseph Lenzen, residing at Ancon, died at Ancon Hospital on Thursday, October 9.

RULES AND REGULATIONS

Prohibiting the Passage or Presence of Floating Craft, except those belonging to the United States or the Panama Railroad, in that section of the Panama Canal known as Culebra Cut between Gamboa and Pedro Miguel Lock.

By authority of the President of the United States, as expressed in Executive Order of July 25, 1910, the following rules and regulations are adopted by the Isthmian Canal Commission for the purpose of facilitating work of excavation and Canal construction, and the same shall have the force and effect of law when approved by the Secretary of War.

SECTION 1. Without special permission in writing, signed by the Chairman of the Isthmian Canal Commission, no owner, master, or operator of any floating craft of any kind or character whatsoever, except such as may belong to or be chartered by the United States or the Panama Railroad Company, shall cause or permit such craft to enter, navigate, or be present within that portion of the Panama Canal known as the Culebra Cut, which lies between Gamboa and Pedro Miguel Lock.

SECTION 2. For the better enforcement of these rules and regulations the officers and agents of the United States and the assistant engineers, superintendents, and supervisors employed under them by the authority of the Isthmian Canal Commission, shall have power and authority to arrest and take into custody, with or without process, any person or persons who may commit any of the acts or offenses prohibited by Section 1 of these rules and regulations, or who may violate any of the provisions of the same.

SECTION 3. As ordered by the President of the United States, any person violating the provisions of these rules and regulations shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine not to exceed five hundred dollars ($500) or by imprisonment in the district jail for not more than six months, or by both such fine and imprisonment, in the discretion of the Court.

Approved:

LINDLEY M. GARRISON,
Secretary of War.

October 3, 1913.

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More Tremors Recorded.

Up to Monday, October 13, there had been 32 movements recorded on the seismograph at the Ancon station in the present series of seismic disturbances. During the past week there has been only one pronounced shock, that which began at 7.46 p. m., on Saturday, October 11, the duration of which according to the average individual perceptibility was from five to seven seconds. The instrument registered a maximum amplitude of 45 millimeters, and the location, as indicated by the instruments, was the same as most of the others, namely, a point about 115 miles to the southwest.

The Central and South American Cable Company's cable repair ship *Guardian*, Captain Taylor, arrived off Panama on Sunday, October 12, having succeeded in repairing the cable which broke a few hours after the shock of Wednesday night, October 1. The trouble was located in the vicinity of the small islands known as Frailes del Norte and Frailes del Sur, about 15 miles off the coast of Los Santos province, and not far from the village of Tonosí. The cable at this point was down about 800 fathoms. It is believed that the break was caused by the earthquake shock, as the company's records show that the cable has broken twice before in the same place, once during the severe shock of September 7, 1882. The splice that was made at that time was broken on this occasion. The recent shocks apparently disturbed the ocean bed in the vicinity of the break, for a section of the cable about half a mile long was found deeply imbedded in a mass of hard clay, and was extricated with considerable difficulty.

The Secretary of Public Works of the Republic of Panama has received the following telegram from Mr. D. F. McDonald, the Commission geologist, and Mr. W. C. Johnston, assistant chief engineer of the government, dated Tonosí, October 11:

> "The greater part of the houses in Tonosí have been damaged, and many roofs have fallen in. Two distilleries have been destroyed, as well as the ovens in the bakeries. Fragile articles, such as crockery, glassware, etc., in stores and houses have been broken. There have been numerous slides in the neighboring mountains, and cracks have opened in the ground in all the valley of Tonosí. None of the hills, however, have sunk, and the area inundated by the rise in the rivers is not extensive. The inhabitants are alarmed, and are living in tents. Small shocks are experienced daily, accompanied by a rumbling like thunder. The present disturbances will probably result in a loss of crops, and an increase in sickness, on account of exposure and fright."

Another telegram sent by Messrs. McDonald and Johnston from Las Tablas on October 13 stated that on the 12th inst., at 5.30 in the afternoon three shocks were experienced in the same number of minutes. The people in that village have also resorted to the use of tents.

SOCIAL LIFE OF THE ZONE.

Church Notes.

The quarterly convention of the Isthmian Sunday School Association will be held at the Commission clubhouse in Corozal on Sunday afternoon, October 19, at 2.30 o'clock. The Reverend Carl H. Elliott, pastor of the Cristobal Union Church, will speak on the subject, "What is a good Sunday school?" There will also be addresses by Mrs. Harry Compton, head of the Methodist mission school in Panama, and Mr. H. S Higgins of Culebra. The superintendent of each of the federated Sunday schools will speak five minutes on "How to keep a good Sunday school on the Isthmus." There will be special music. This is the first convention to be held under the new officers who are, as follows: President, J. M. Weaver; vice-president, J. F. Warner; secretary, W. F. Kromer; treasurer, W. E. Hoffman.

The American Woman's Altar Society of St. Ferdinand's Church, Empire, will hold a euchre party in the parish hall on Saturday evening, October 18. Prizes will be given. Tickets for admission are on sale at 50 cents gold.

Society of the Chagres.

In accordance with Article 16 of the constitution of the Society of the Chagres, nominations for officers to serve from the third Saturday in January, 1914, to the third Saturday in January, 1915, are now in order.

The attention of the members is directed to Article 5, which provides that no officer who has served one full term shall be eligible for reelection for the next ensuing term, with the exception of the secretary-treasurer. The present officers of the society are: President, Col. W. C. Gorgas; vice president, Mr. R. H. Wardlaw; secretary-treasurer, Mr. W. F. Shipley; members of executive committee, Messrs. Dan E. Wright, H. S. Farish, Gerald D. Bliss, and Charles L. Parker.

ARTICLE 5. The officers of the society shall be a president, a vice-president, a secretary-treasurer, and an executive committee, consisting of the foregoing; and four other members. No salaries shall be paid to the officers, and, excepting the secretary-treasurer, no officer who has served one full term shall be eligible for reelection for the next ensuing term.

ARTICLE 16. Any ten members may nominate a fellow member for election to any of the offices of the society, but all such nominations must be submitted to the secretary-treasurer in writing not later than October 31. As soon as possible, but in any event not later than November 15, the secretary-treasurer shall prepare and mail to each member of the society a ballot containing the names of all candidates nominated for each office. At the annual meeting of the society, the vote cast by letter ballot shall be canvassed, and those candidates receiving a plurality of the votes shall be declared elected.

WILLIAM F. SHIPLEY,
Secretary-Treasurer.

CRISTOBAL, C. Z., October 13, 1913.

The New American Minister.

Mr. William Jennings Price, the new American minister, was officially received by President Porras in the yellow room at the Presidencia at 10 a. m., on Saturday, October 11, in the presence of the entire government cabinet. Mr. Price studied for the bar and was graduated from Centre College, Danville, Ky. In 1900, he was a Democratic presidential elector from that state, and was alternate delegate at large to the Denver convention in 1906. He was twice elected prosecuting attorney, and altogether has been elected to public office five different times. He was a member of the faculty of the College of Law of Central University, Danville, for several years, is a member of the bar of the United States Supreme Court, and is one of the proprietors of the Kentucky *Daily Advocate.* The appointment to his present post was unsolicited.

National Revolver and Pistol Match.

An open revolver and pistol championship match was held under the auspices of the Culebra Pistol Club at the range in Culebra, September 27 to October 5, both dates inclusive. The match was shot under the rules of the United States Revolver Association, and was held simultaneously with matches at different ranges in the United States. The standard American target with 8-inch bullseye was used. There were four events, all at 50 yards. The winners of the matches and scores were, as follows:

MATCH A.

(Fifty shots with any revolver; possible score 500)

First—Jacob Bernson, 435, gold and silver medal.
Second—M. W. Fox, 400, silver medal.
Third—M. E. Woodward, 386, bronze medal.

MATCH B.

(Fifty shots with any pistol; possible score 500)

First—Jacob Bernson, 439, gold and silver medal.
Second—M. W. Fox, 436, silver medal.
Third—M. E. Woodward, 408, bronze medal.

MATCH C.

(Rapid fire military revolver, 75 shots each, five shots in 15 seconds; possible score 750)

First—Jacob Bernson, 500, gold and silver medal.
Second—C. B. Larzelere, 448, silver medal.
Third—M. E. Woodward, 409, bronze medal.

MATCH F.

(Time fire, pocket revolver, 25 shots each, five shots in 30 seconds; possible score 250)

First—M. W. Fox, 179, gold and silver medal.
Second—Jacob Bernson, 173, silver medal.
Third—C. B. Larzelere, 170, bronze medal.

Missing Men.

Any one having information of the following named men, who are supposed to be on the Isthmus, are requested to communicate with the American Legation, Panama: Mr. William Stevenson, or W. L. Stevenson; Mr. Simon Weinfeld, and Mr. Lee Gordon.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The moving picture schedule for the week October 20 to 25 is, as follows: Tuesday, Gatun; Wednesday, Cristobal; Thursday, Empire; Friday, Culebra and Porto Bello; Saturday, Corozal.

The standing of the ten high men in the bowling tournament for the first three games rolled October 4 is, as follows: O'Meara, King, Davis, Bullard, Cushing, Dougherty, Barte, Parkis, Peterson, Gustavson.

The standing of the teams in the chess tournament, October 11, was, as follows: Culebra, won 6 points; Cristobal, won 5 points; Gatun, won 3 points.

The standing of the teams in the basketball league, October 11, was, as follows:

Team.	*Won.*	*Lost.*	*P. C.*
Gatun	3	0	1.000
Empire	3	0	1.000
Camp Elliott	2	1	.666
Culebra	1	2	.333
Cristobal	0	3	.000
Corozal	0	3	.000

The standing of the teams in the bowling tournament was, as follows:

Team.	*Won.*	*Lost.*	*P. C.*
Cristobal	5	1	.833
Empire	4	2	.667
Culebra	3	3	.500
Corozal	3	3	.500
Camp Elliott	0	3	.000
Gatun	0	3	.000

COROZAL.

The following high scores were made on the local alleys: *Tenpins*—Taylor, 205, 204; Edwards, 235; Parkis, 233. *Duckpins*—Davis, 104, 101; Sammetinger, 116; Beall, 105, 102.

The Camp Elliott basketball team defeated the local team on Wednesday, October 8, by a score of 20 to 15.

Corozal lost to Empire Saturday night, October 11, in basketball, by the score of 58 to 14. Sperber, Corozal's forward was unable to play either of the above games, and Carr was unable to play in the game with Empire.

CULEBRA.

In the recent local bowling tournament the order of the high averages was, as follows: Dougherty, Anderson, Case, DeCora, Hobbs, Tragsdorf, Cornthwaite, Hill, Herrington, Schmeck.

Recent high scores in tenpins were, as follows: Case, 205, 222, 201, 201, 207; Chadbourne, 202; 201; Ferguson, 200; Cornthwaite, 226; Tragsdorf, 207; Mengel 223.

In the league game with Emplre on Friday night, in tenpins, the local team won two out of three games:

Empire.				*Culebra.*			
Gustavson	189	204	138	Case	138	158	166
Potter	176	165	209	Cushing	187	166	191
Peterson	148	151	193	Mengel	166	223	133
Boeson	132	193	188	DeCora	170	125	139
Huson	177	137	...	Dougherty	183	180	188
Sims	...	...	177				
Totals	822	850	905		844	852	817

Gatun defeated the Culebra basketball team on the Empire floor on Saturday night, October 11, by the score of 34 to 17. The line-ups were:

Culebra—Hepler, Cushing, forwards; Chadbourne, center; Rose, Gassmann, guards.

Gatun—Huber, Wright, forwards; Fltz, center; Connolly, Mitchell, guards.

An "old-timer" after an absence of three years, gave a talk at the Sunday night service on "The men and religion" movement that has been in progress in the United States for the last two years.

Moving pictures will be shown on Saturday night, October 18.

Arrangements are being made for a "Smoker" to be held in the schoolhouse on Monday night, October 20. A wrestling match has been arranged, and an interesting program is promised. Refreshments will be served. All men are invited.

EMPIRE.

The Cristobal bowling team will bowl the local team on Saturday, October 18. On Wednesday, October 8, the Empire basketball team defeated the Culebra team by the score of 53 to 19 on the Empire floor. The Empire team will play at Gatun on Saturday, October 18.

The Empire debating club will meet on Tuesday evening, October 17. The subject is "Resolved that the unwritten law be not recognized by the courts." The speakers for the affirmative will be Messrs. Peterson and DeBarrows; for the negative, Messrs Swanson and Morrison. The public is invited.

A special moving picture show was given on Monday October 13, for the benefit of the night men employed at Empire shops.

On the evening of Tuesday, October 21 a "Smoker" will be held at the Empire clubhouse. In addition to a vaudeville program, Mr. W. W. Warwick, assistant comptroller of the United States Treasury, will make an address. The men of Empire are invited.

GATUN.

A pair of bowling shoes will be given as prize to the person obtaining the highest average in 15 consecutive games of tenpins between October 11 and November 1. The same prize will be offered the person obtaining the highest average in 15 consecutive games of duckpins.

A ladies' bowling contest will be held on Wednesday, October 15. There will be two contests—"Open" and "Married."

Considerable interest is being taken in the local chess tournament.

The handicap pool tournament was brought to a close on Saturday evening, October 11. H. E. Dewey was awarded first prize, John Pettit, second prize, and L. Townsley third prize.

Moving pictures will be shown at Gatun on Friday night, October 17.

Gatun meets the strong Empire team in basketball on the home floor on Saturday evening. October 18. Both teams have percentages of 1.000 in the league standing, and a closely contested game is expected. Members and their lady friends are invited.

CRISTOBAL.

Much interest in basketball is being manifested. A 6-team local league has been organized, captained by Messrs. Whitver, Wechsler, Ward, Barcroft, Luce, and Purvis. The first game was played on Monday, October 13.

Sixty-four books have been added to the library this month.

The results in the local chess tournament for the month of September are, as follows:

Player.	*Games played.*	*Won.*	*Lost.*	*P. C.*
Ogden	17	13½	3½	.794
Taylor	19	14	5	.737
Wilson	20	12	8	.600
Hurt	12	7	5	.583
McQueen	10	5	5	.500
Salzburg	20	9	11	.450
Verner	18	8	10	.444
Tuttle	14	6	8	.429
Rattiner	10	3½	6½	.350
Wechsler	13	4	9	.308
Martin	14	4	10	.286
Gill	2	0	2	.000

Cristobal took two out of three games from the Corozal tenpin team on Saturday, October 11. The scores follow:

Cristobal.				*Corozal.*			
Barrett	199	169	166	Davis	146	157	...
Barnum	180	158	131	Bordt	144	...	...
Collins	160	149	...	Parkis	204	145	187
Barte	201	165	211	Edwards	146	175	155
Bullard	166	180	178	King	149	169	161
Russell	...	...	145	Louch	...	155	182
				Ziller	...	...	185
Totals	906	821	831		789	801	870

Culebra took all games in the chess tournament on Saturday, October 11, as follows:

Cristobal.	*Lost.*	*Culebra.*	*Won.*
Hurt	2	Dubois	2
Taylor	2	McClure	1
Wilson	2	A. W. Warner	1
		J. F. Warner	2
Totals	6		6

Mr. and Mrs. Raymond Bell proved victors in the "Married folks" tournament in duckpins held on Monday, October 7, by the close margin of two pins. The totals were, as follows: Mr. and Mrs. R. Bell, 506; Mr. and Mrs. J. W. Landers, 504; Mr. and Mrs. Samuel Sloan, 478; Mr. and Mrs. G. C. Lucas, 467; Mr. and Mrs. C. Cotton, 438.

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Tide Table.

The following table shows the time of high and low tide at Panama for week ending October 25, 1913:

DATE.	Low	High	Low	High
	A.M.	A.M.	P.M.	P.M.
Oct. 19	......	5.37	12.04	6.04
Oct. 20	12.17	6.14	12.45	6.44
Oct. 21	12.59	6.57	1.30	7.32
Oct. 22	1.50	7.47	2 23	8.28
Oct. 23	2.53	8.49	3.28	9.40
Oct. 24	4 12	10.07	4.43	10.59
Oct. 25	5 28	11.30	5.56	......

75th meridian time.

◆

Married.

HEARNE-SHRADER—On Friday, October 10, at the home of Dr. Matthew Hoey on Culebra Island, Panama Bay, Miss Ora E. Shrader of North Yakima, Wash., to Dr. Charles A. Hearne of Cristobal, Rev. C. W. Ports of the seawall Methodist Church, Panama, officiating. Canal Zone residence, Cristobal, C. Z.

OFFICIAL CIRCULARS.

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Toro Point, to be a Military Reservation.

CULEBRA, C. Z., October 8, 1913.

CIRCULAR No. 435-A.

Effective October 20. 1913, the entire district of Toro Point is designated a military reservation.

No persons except employes of the Atlantic Division, the Fortification Division and their families now quartered at Toro Point, will be permitted to land there, except under the provisions of Circular No. 435, dated March 19, 1912.

Passes will be issued from the fortification office at Culebra, which will include transportation on the tugs, and will be signed only by the Chairman and Chief Engineer or by the assistant engineer in charge of fortifications. The issuing of passes by the Atlantic Division or by the Sixth Division for tug transportation will be discontinued.

Time inspectors, machinists, and other Commission employes who are obliged to visit Toro Point during working hours on official business will obtain transportation passes from the fortification office at Cristobal.

The chief of police will take such steps as may be required to enforce the above.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

CULEBRA, C. Z., March 19, 1912.

CIRCULAR No. 435:

With a view of preventing, as far as practicable, visitors from obtaining information relative to the military defenses under construction on the Canal Zone, which might be communicated to a foreign power, the following regulations governing visitors to such defense reservations are hereby published, in accordance with Paragraph 358, Army Regulations:

1. Persons who are not employed in connection with fortification work will not be permitted to visit military defense reservations on which active construction operations have begun, except as provided in Paragraphs 2 and 3 hereof.

2. Officers of the U. S. Army, Navy and Marine Corps, who can conclusively prove their identity as such, will be permitted to visit such reservations.

3. Other American citizens will be permitted to visit such reservations only when provided with passes, which will, under exceptional circumstances be issued by the Chairman and Chief Engineer of the Isthmian Canal Commission, or by the assistant engineer in charge of the construction of fortifications.

4. Superintendents, assistant engineers, supervisors, foremen, and all other employes in charge of the several units and batteries under construction, are hereby directed to prevent the visits of all unauthorized persons and to treat such persons as trespassers.

H. F. HODGES,
Acting Chairman and Chief Engineer.

◆

Transfer of Lock Work.

CULEBRA, C. Z., October 11, 1913.

CIRCULAR No. 504:

Effective October 15, 1913, the Gatun Locks, exclusive of the backfill, will be transferred from the Atlantic Division to the First Division, Chief Engineer's Office. On the same date the Pedro Miguel and Miraflores Locks, exclusive of the backfill, will be transferred from the Fifth Division to the First Division, Chief Engineer's Office.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

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Changes in Transportation Department.

CULEBRA, C. Z., October 7, 1913.

To All Concerned—Effective October 11, 1913, Mr. W. J. Holmes is appointed superintendent of transportation, as provided for by Circular 183-Z-1 of September 27, and Mr. W. T. Snyder is appointed assistant superintendent of transportation.

H. H. ROUSSEAU,
Assistant to the Chief Engineer.

Approved:
GEO. W. GOETHALS,
Chairman and Chief Engineer.

◆

Acting Division Engineer, Atlantic Division.

CULEBRA, C. Z., October 11, 1913.

CIRCULAR No. 502:

Effective October 13, 1913, and during the absence of Lieutenant-Colonel William L. Sibert on leave, Lieutenant-Colonel William V. Judson will act as division engineer of the Atlantic Division.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

◆

Acting General Superintendent, P. R. R.

CULEBRA, C. Z., October 13, 1913.

CIRCULAR No. 506:

Effective this date, Lieutenant F. Mears will act as general superintendent during the absence of Mr. John D. Patterson on leave.

GEO. W. GOETHALS, *President.*

◆

Acting Chief Sanitary Officer.

CULEBRA, C. Z., October 13, 1913.

CIRCULAR No. 508:

Effective this date, and during the absence of Colonel W. C. Gorgas on leave, Colonel John L. Phillips is designated as acting chief sanitary officer.

GEO. W. GOETHALS, *Chairman.*

◆

Amendment to Timekeeping Rules.

EMPIRE, C. Z., September 29, 1913.

CIRCULAR No. 49:

Section 112-A—Effective October 1, 1913, time vouchers for silver employes prepared and signed by bonded timekeepers and approved by proper officers will be paid upon presentation direct to the Disbursing Officer at Empire, or at either of the two pay offices. The bonded timekeeper issuing a time voucher to a silver employe will complete it by filling in the receipt portion, and before delivery to the employe, it will be checked by another bonded employe if one is available, who will indicate that he has checked it by his signature under the work "Checked." Time vouchers presented for payment must not show alterations or erasures of any kind.

Section 112-B—A list in duplicate of silver time vouchers issued will be prepared daily and one copy forwarded to the Examiner of Accounts and the other to the Disbursing Officer immediately.

H. A. A. SMITH,
Examiner of Accounts.

Approved:
GEO. W. GOETHALS,
Chairman and Chief Engineer.

◆

Supplies for the Canal.

The following steamers with supplies for the Isthmian Canal Commission and Panama Railroad Company, arrived at the ports of Balboa, Colon, and Cristobal, during the week ending October 4:

Allianca, September 28, from New York, with 844 pieces pipe, for Sixth Division; 13 cases fire brick, 40 pieces castings, 17 pieces castings, for Mechanical Division; 116 cases signal material, for Panama Railroad Company; 27 cases castings, 257 bundles steel, for First Division; 4,406 pieces lumber, 337 bundles lumber, 37 boxes harness, 350 drums lubricating oil, 30 kegs bolts, 57 bundles galvanized iron, for stock; and a miscellaneous cargo, consisting of 2,980 pieces, weighing 179 tons.

Emil L. Boas, September 28, from New York, with 158 crates fire brick, for Mechanical Division; 154 pieces pipe, 10 barrels salt, for stock.

Pleiades, September 29, from San Francisco, with six pieces spud timbers, 30 bales rubber hose, for Sixth Divison; 2,100 cases dynamite, for stock.

Tenadores, September 28, from Nw York, with 283 pieces and two cases structural steel, for Panama Railroad Company; 274 steel plates, for Second Division; 207 steel plates, for Empire shops; 53 pieces, 10 bundles, three kegs steel, 165 I-beams, 10 crates electrical machinery, 5,400 pieces conduit, 104 pieces, and 285 bundles structural steel, for First Division; 12 cases copper nails, for Fifth Division.

Parismina, September 29, from New Orleans, with 98 pieces lumber, for Sixth Division; 3,463 sacks creosoted blocks, 1,132 barrels paving brick, for Second Division; 30 rolls fence wire, for Sanitary Department; 841 pieces lumber, 928 bales hay, for stock.

Auchencrag, October 1, from New York, with 10 cases ether, for Sanitary Department; 32,312 barrels cement, 189 drums gasoline, 10 cases benzine, for stock.

Ancon, October 2, from New York, with 500 bags white cement, for administration building; 10 boxes mining machinery for Empire shops; 809 pieces structural steel, 10 reels copper wire, 44 steel plates, 23 cases machinery, for First Division; 192 pieces steel piling, for Second Division; 74 pieces castings, etc, 241 bundles bar steel, for fortifications; 34 pieces pipe, for Fifth Division; 114 barrels leadite, 483 bundles bar steel, for Division of Municipal Engineering; 208 kegs rivets, for Mechanical Division; 20,999 barrels cement, 342 pieces pipe, 569 bundles galvanized sheets, 900 kegs wire nails, 62 kegs bolts, for stock; and a miscellaneous cargo, the whole consisting of 5,154 pieces, weighing 700 tons.

Colon, October 3, from New York, with 68 boxes lamps, 30 boxes forgings, for Mechanical Division; 37 boxes lamps, 1,145 pieces structural material, for First Division; 27 cases water meters, for Division of Municipal Engineering; 9,286 pieces hollow tile, for Second Division; 143 pieces signal material for Panama Railroad Company; 10 boxes varnish, 146 cases plumbing material, 40 cases paint, 50 cases varnish, for stock; and a miscellaneous cargo, the whole consisting of 11,259 pieces, weighing 283 tons.

Almirante, October 1, from New York with 124 pieces bridge iron, for First Division; 1,482 pieces steel plates, for Second Division; 20 bales hose, 12 cases pads, 14 cases paint, for stock.

Atenas, October 2, from New Orleans, with 2,376 sacks creosoted blocks, for Second Division; 390 sacks feed, 902 pieces lumber, for stock.

Sosua, October 2, from Port Bolivar, Texas, with 19,525 pieces lumber for stock.

COMMISSARY DEPARTMENT.

The commissary stores are open during the following hours:

Cristobal, 8 a. m., to 12.30 p. m., and 2 to 7 p. m.
Balboa, 8 a. m. to 12.30 p. m., and 2.30 to 7 p. m.
Ancon, 8 a. m. to 1 p. m., and 3 to 6 p.m.
All others, 8 a. m. to 1 p. m., and 3 to 7 p. m.

Retail prices of cold storage provisions effective October 11, 1913:

FRESH MEATS.	*Price.*
Mutton—Stewing, per pound	6
Shoulder, neck trimmed off (4 pounds and over), per pound	9
Entire, forequarter (not trimmed, 10 pounds and over), per pound	8
Legs (8 to 10 pounds), per pound	17
Cutlets, per pound	18
Short cut chops, per pound	20
Lamb—Stewing, per pound	6
Entire forequarter, neck trimmed off, per pound	9
Legs (5 to 8 pounds), per pound	20
Chops, per pound	24
Cutlets, per pound	24
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	12½
Chops, shoulder, per pound	17
Chops, per pound	26
Loin, for roasting per pound	26
Cutlets, per pound	30
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	8
Plate, per pound	9
Corned, No. 1, per pound	14
Corned, No. 2, per pound	12
Chuck roast, 3 lbs., and over, per pound	12
Rib roast, second cut (not under 3½ pounds), per pound	16
Rib roast, first cut (not under 3 pounds), per pound	18
Pot roast, per pound	19
Rump roast, per pound	19
Porterhouse roast, per pound	20
Steak, Chuck, per pound	12½
Round, per pound	13
Rib, per pound	18
Sirloin, per pound	19
Rump, per pound	19
Porterhouse (not less than 1½ pounds), per pound	20
Tenderloin (Western), per pound	30
Pork—Loin chops or roast, per pound	17
Hams, fresh, per pound	§20
Shoulders, fresh, per pound	§17
Spare ribs, per pound	15
Backbones, per pound	15
Pigs' feet, each	7
Pigs' head, ½-head	60
Sausage, home made, per pound	20

MISCELLANEOUS.	
Livers—Beef, per pound	11
Calf, each	60
Half, each	30
Steak, Hamburger, package	13
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Devonshire Farm, per pound	20
Sweetbread, beef, per pound	34
Eggs, fresh, per dozen	†36
per ½-dozen	†18
Bluefish, per pound	12
Halibut, fresh, per pound	15
Salmon, per pound	15
Roe shad, each	75
Shad roes, pair	40

POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, large, each	1.40
Fancy roasting, mild fed, med., each	1.10
Fancy roasting, corn fed, about 5½ pounds, each	1.25
Fancy roasting, corn fed, about 4½ pounds, each	1.00
Fowls, each ††60, 70, 80, 90, and	1.00
Ducks, Western (about 4½ pounds), each	1.25
Capons, each	2.00
Broilers, milk fed, each	70
Broilers, corn fed, each	60
Turkeys, per pound	28
Squabs, each	50
Rabbits, skinned, each	30
Partridges, pair	1.30
Grouse, per pair	1.30
Pheasants	1.30

CURED AND PICKLED MEATS.	
Ham—Genuine Westphalia, per pound	40
Ham—Sugar cured, per pound	20
Sliced, per pound	22
Half, for boiling, per pound	21
Boiled, per pound	28
Hocks, per pound	‡8
Beef, salt, family, per pound	12
Bacon—Breakfast, whole piece, per pound	25
Sliced, per pound	26
Ham, lunch, per pound	32
Pork, salt, family, per pound	14
Ox tongues, each	1.00
Pigs' feet, per pound	*7
Tongues, per pound	18

DAIRY PRODUCTS.	*Price.*
Butter—Creamery, special, per pound	†36
Sheffield Farms, extra fancy, per lb.	46
Cheese—Philadelphia cream, cake	10
Cheese—Roquefort, per pound	35
Young America, per pound	22
Swiss, per pound	28
Edam, each	1.00
Edam, tin	25
Parmesan, per pound	35
Gouda, per pound	30
Snappy, per cake	10
Milk (certified), per quart	**.20
Fer-mil-lac, bottle	**.20
Ice cream, quart	‡25
½-gallon	‡50

VEGETABLES AND FRUITS.	
Beets, per pound	3
Celery, per head	6
Cabbage, per pound	3½
Cucumbers, per pound	4
Carrots, per pound	*3
Egg plant, per pound	4
Lettuce, per pound	14
Onions, per pound	3
Potatoes, white, per pound	3
sweet, per pound	2
Parsley, bunch	5
Peppers, green, per pound	4
Romaine, per pound	14
Squash, per pound	3
Turnips, per pound	*3
Tomatoes, per pound	5
Yams, per pound	3
Canteloupes, each	7
Grapes, Malaga and Tokay, per pound	*12
Niagara and Delaware, per pound	8
Grape fruit, each	4
Lemons, per dozen	24
Limes, per hundred	80
Pears, per pound	*7
Oranges, Jamaican, per dozen	18

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

††Fowls weigh each, about as follows: 3, 3½, 4, 4½, and 5 pounds. Prices are based accordingly; when size ordered is not in stock, next lightest weight is supplied and refund note sent for difference.

‡Sold only from commissaries; no orders taken for delivery.

§Not less than half of a fresh ham or shoulder will be sold.

◆

Stages of the Chagres River and Gatun Lake.

Maximum height of the Chagres River for the week ending midnight, Saturday, October 11, 1913. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela	Gamboa.	Frijoles	Gatun Lake*
Sun., Oct. 5	127.9	94.0	67.0	67.0	67.0
Mon., Oct. 6	127.5	93.8	67.2	67.1	67.2
Tues., Oct. 7	127.6	93.6	67.3	67.3	67.4
Wed., Oct. 8	127.4	93.6	67.5	67.4	67.5
Thurs., Oct. 9	127.4	93.5	67.6	67.6	67.6
Fri., Oct. 10	126.5	93.0	67.9	67.7	67.8
Sat., Oct. 11	130.8	95.8	68.1	68.1	68.1
Height of low water to nearest foot	125.0	91.0	44.0		

*Sluice gates in spillway at Gatun were closed on June 27, 1913, with surface of lake at elevation 48.25.

◆

Rainfall, Oct. 1 to Oct. 11, 1913, Inclusive.

STATIONS.	Maximum in one day.	Date	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	.88	5	2.53
Balboa	1.32	2	4.95
*Miraflores	1.37	11	5.25
Pedro Miguel	1.88	11	6 04
Rio Grande	1.11	3	3.12
Central Section—			
Culebra	.90	5	2.78
*Camacho	1.20	3	3.96
Empire	.95	5	3.05
Gamboa	.74	5	3.43
*Juan Mina	.80	9	3.17
Alhajuela	1.38	9	2.48
*El Vigia	1.85	9	4.04
*Frijoles	2.01	11	3.39
*Monte Lirio	1.90	11	4.24
Atlantic Section—			
Gatun	1.47	5	3.58
*Brazos Brook	2.26	5	6 31
Colon	2.97	5	8 80
†Porto Bello	1.18	5	3.70

*Standard rain gage—readings at 5 p.m., daily. Automatic rain gage at unstarred stations—values midnight to midnight. †To 5 p. m., October 10.

◆

A letter addressed to Mr. and Mrs. F. D. Rice can be procured by the addressees on application to the general agent of the Royal Mail Steam Packet Company, Colon, R. P.

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line.

NEW YORK TO CRISTOBAL.*

Advance	P. R. R.	Saturday	Oct.	4
Panama	P. R. R.	Friday	Oct.	10
Allianca	P. R. R.	Thursday	Oct.	16
Colon	P. R. R.	Wednesday	Oct.	22
Advance	P. R. R.	Tuesday	Oct.	28
Panama	P. R. R.	Monday	Nov.	3
Allianca	P. R. R.	Monday	Nov.	10
Colon	P. R. R.	Monday	Nov.	17
Advance	P. R. R.	Saturday	Nov.	22
Panama	P. R. R.	Saturday	Nov.	29
Allianca	P. R. R.	Friday	Dec.	5

CRISTOBAL TO NEW YORK.*

Advance	P. R. R.	Thursday	Oct.	16
Panama	P. R. R.	Wednesday	Oct.	22
Allianca	P. R. R.	Tuesday	Oct.	28
Colon	P. R. R.	Tuesday	Nov.	4
Advance	P. R. R.	Sunday	Nov.	9
Panama	P. R. R.	Sunday	Nov.	16
Allianca	P. R. R.	Saturday	Nov.	22
Colon	P. R. R.	Saturday	Nov.	29
Advance	P. R. R.	Friday	Dec.	5

NEW YORK TO COLON.

Metapan	U. F. C.	Wednesday	Oct.	8
Prinz August Wilhelm	H.-A.	Saturday	Oct.	11
Tivives	U. F. C.	Saturday	Oct.	11
Danube	R. M.	Saturday	Oct.	11
Zacapa	U. F. C.	Wednesday	Oct.	15
Emil L. Boas	H.-A.	Saturday	Oct.	18
Tenadores	U. F. C.	Saturday	Oct.	18
Almirante	U. F. C.	Wednesday	Oct.	22
Tagus	R. M.	Saturday	Oct.	25
Carrillo	U. F. C.	Saturday	Oct.	25
Prinz Joachim	H.-A.	Saturday	Oct.	25
Santa Marta	U. F. C.	Wednesday	Oct.	29
Pastores	U. F. C.	Saturday	Nov.	1
Carl Schurz	H.-A.	Saturday	Nov.	1
Metapan	U. F. C.	Wednesday	Nov.	5
Prinz August Wilhelm	H.-A.	Saturday	Nov.	8

COLON TO NEW YORK.

Santa Marta	U. F. C.	Thursday	Oct.	16
Pastores	U. F. C.	Tuesday	Oct.	21
Carl Schurz	H.-A.	Tuesday	Oct.	21
Metapan	U. F. C.	Thursday	Oct.	23
Oruba	R. M.	Tuesday	Oct.	28
Tivives	U. F. C.	Tuesday	Oct.	28
Prinz August Wilhelm	H.-A.	Tuesday	Oct.	28
Zacapa	U. F. C.	Thursday	Oct.	30
Emil L. Boas	H.-A.	Tuesday	Nov.	4
Tenadores	U. F. C.	Tuesday	Nov.	4
Almirante	U. F. C.	Thursday	Nov.	6
Trent	R. M.	Tuesday	Nov.	11
Carrillo	U. F. C.	Tuesday	Nov.	11

NEW ORLEANS TO COLON.

Abangarez	U. F. C.	Saturday	Oct.	11
Parismina	U. F. C.	Wednesday	Oct.	15
Sixaola	U. F. C.	Saturday	Oct.	18
Cartago	U. F. C.	Wednesday	Oct.	22
Turrialba	U. F. C.	Saturday	Oct.	25

COLON TO NEW ORLEANS.

Turrialba	U. F. C.	Thursday	Oct.	16
Heredia	U. F. C.	Saturday	Oct.	18
Abangarez	U. F. C.	Thursday	Oct.	23
Parismina	U. F. C.	Saturday	Oct.	25

*Amended schedule, resulting from temporary withdrawal of the *Allianca* for repairs.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 1 p. m.; for Southampton on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays and Saturdays at 3 p. m.; ships for New York via Kingston, on Tuesdays at 1.30 p. m. and Thursdays at 1.30 p. m.; for Bocas del Toro on Mondays at 5 p. m.; for Limon, via Bocas del Toro, on Tuesdays at 5 p. m.; and for Limon direct, Tuesdays at 3 p. m.

Hamburg-American steamers sail for New York, via Kingston and Santiago de Cuba, on Tuesdays; the *Prinz Joachim* and *Prinz August Wilhelm* at 10 a. m., and the *Emil L. Boas* and *Carl Schurz* at 2 p. m.

The Panamanian Steamship Company's *Panama* will sail from Panama for Aguadulce and Pedregal on October 16 and 26.

◆

Sailing of the "Tivives."

OFFICE OF UNITED FRUIT COMPANY,
COLON, R. P., October 13, 1913.

To All Concerned—This is to advise that the steamship *Tivives*, scheduled to sail from Colon to New York, via Kingston, on October 28, will sail on October 27, at 1.30 p. m.

H. R. WILFORD,
General Agent.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, OCTOBER 22, 1913. No. 9.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

More Dredging Equipment Passed Through Gatun Locks.

Another division of the Atlantic dredging fleet was passed through the locks at Gatun from the sea channel to the surface of Gatun Lake on Wednesday, October 22. It consisted of the dipper dredges *Chagres* and *Mindi*, and three mud scows, in tow of the tug *Empire*; French ladder dredge *No. 1*, and four other mud scows in tow of the tug *Gatun*; and a coal hoist, fuel oil lighter, and loaded coal barge, in tow of the tug *DeLesseps*. The fleet began to enter the lower lock at about 9.27 a. m., and passed out into the lake at 1.30 p. m. All of the floating equipment passed through in this lockage will be held in the lake for use in dredging operations in Culebra Cut. This leaves only the seagoing suction dredge *Caribbean*, and the two pipeline suction dredges *Sandpiper* and *No. 83*, for work in the Atlantic entrance.

◆

Submarine Cables for Lighthouse Transmission Line Across Culebra Cut.

Provision for electrical connection with the west side of the Canal has been made by the Lighthouse Subdivision, through ducts laid below the bottom of Culebra Cut near its north end, opposite Tower R on the main line of the Panama railroad. Four rectangular ducts of vitreous material, each four inches in interior diameter, have been laid with their bases at elevation 34.9 feet above sealevel, and all four encased together in an armor of concrete eight inches thick on all sides. The top of the armor is at elevation approximately 36 feet, or four feet below the bottom of the Canal channel. Where the duct line crosses the former drainage channel it was supported on a steel truss formed from a piece of scrap, which was once a part of an old French unloading crane at Balboa. The drainage channel was filled with rock to the level of the bottom of the Canal for 25 feet in either direction, to protect the duct line from dredges operating in the Cut. The duct line is 520 feet in length, and at both ends, outside the Canal prism, are vertical shafts, built of reinforced concrete, reaching to elevation 95 feet, containing manholes, two feet by three feet six inches in plan, to allow access to the ends of the horizontal ducts. The manshafts are surmounted by 4-inch concrete slab covers, with ring bolts.

Through one of the four ducts has been drawn a cable, one inch and a half in diameter, for the use of the Lighthouse Subdivision in insuring continuous illumination of the 32 beacons to be installed along the 95-foot berm of Culebra Cut. Another duct is devoted to a cable containing 50 pairs of telephone and telegraph wires for the Panama railroad, while the two remaining ducts provide for future requirements.

The two ends of the cable wire will be connected with aerial transmission lines of 2,200 volts terminating at Pedro Miguel Locks, from which point all the fixed aids to navigation in Culebra Cut, and in the Pacific section, will be controlled.

◆

Rafting Logs to Gamboa.

The Chilibre Land and Timber Company has entered into an arrangement with the Panama Railroad Company, whereby the former has been quoted a rate per hundred pounds on logs from Gamboa to New York. The timber company control a large tract of land on the Chilibre River, a small tributary of the Chagres which joins the main river near the village of Juan Mina. From this tract the company is engaged in cutting mahogany, cocobolo, and other hardwoods, hauling the logs to the Chilibre, and from there floating them down stream to Gamboa. A small house will be erected near the gravel pit, where the loading is done, for the accommodation of the company's employes during the period of loading on cars.

◆

Tablet in Memory of John T. Morgan.

The Southern Commercial Congress has made formal application to the Secretary of War for permission to place at some prominent place in the Canal Zone a bronze tablet, about four by six feet in size, carrying a medallion life size bust of Senator John T. Morgan of Alabama, who died in 1907. It is also desired to have a legend inscribed on the tablet setting forth his relation to the Canal project. A number of delegates to the Congress are planning a cruise in Central American waters, and expect to arrive at Colon on November 4, on which date it is desired to dedicate the tablet. If the idea receives the approval of the Secretary of War, the tablet may be placed near Tower R, at Gamboa, at the northern entrance to Culebra Cut.

PASSING CUCARACHA SLIDE.

Efforts to Fill South End of Cut and Bring Dredges to Clear Channel.

The task of opening a way through Cucaracha slide to allow the filling of the two miles of the Cut between it and Pedro Miguel Lock, and thus make possible the bringing of dredges from the Pacific entrance to clean a navigable channel, has been carried on as rush work since the blowing up of the Gamboa dike.

On Wednesday morning, October 22, there were about 13 feet of water in the Cut south of the slide. A depth of 28 feet will be required for the passage of dredge *No. 85*, on account of the lifting barge being designed for elevation 68 feet, or plus 68 feet, in connection with the operation of removing the girder span in Bridge $57\frac{1}{2}$, at Paraiso.

Following the failure of a ton and one-half of dynamite, exploded in the afternoon of October 10, and of successive smaller blasts at the upper end of the trench, which had been dug across the slide for the passage of Gatun Lake water, to enlarge the opening satisfactorily, blasting was temporarily abandoned, and efforts were made to increase the flow through the trench by means of shovels. This was augmented, beginning in the afternoon of October 11, by sluicing with hose. Two pipeline connections from tanks, and two from pumps installed on the lake side of the slide, were made by October 7, for the use of four lines of hose. Since the evening of October 14, the work has been carried on continuously by three shifts of men, working eight hours each in rotation.

The material has yielded slowly to sluicing. Beginning in the afternoon of October 15, further blasting was begun at the lower end of the trench, and advanced upward along the stream. Relatively light "dobie" charges were used at first, to loosen the bottom of the trench and assist the sluicing. Later, drill holes were sunk at advantageous points and heavy blasts exploded in the attempt to remove large masses of material. The heaviest of these, exploded at 11.45 p. m., on October 17, was of such violence that houses along the Canal, from Pedro Miguel to Empire, rocked on their foundations as in an earthquake, and articles were thrown from shelves.

The use of dynamite was scarcely more satisfactory than in the previous efforts. The nature of the material is such that it merely slumps back into place, or more of it is pushed forward by the slide to fill the hole made by an explosion. On the morning of October 19, it was decided to abandon blasting and remove the sluicing arrangements, and to bring a pipeline suction dredge from Gamboa to pump water over the barrier, in augmenting the flow. Accordingly, dredge *No. 86* was towed in during the morning of October 20. In the meantime, a freshet in the Chagres was causing a sharp rise of Gatun Lake; during the 48 hours ending at 7 a. m., October 21, the lake had risen 1.04 feet, or to elevation 70.74 above sealevel. This so increased the head of water at the slide that the flow during the morning of October 20 was estimated to be at the rate of 7,000,000 cubic feet per day. In the 24 hours following, the surface of water in the south end of the Cut rose two feet, registering an elevation of 49.87 feet above sealevel at 8 a. m., October 21. Moored about 300 feet north of the slide the dredge began pumping at 12.45 p. m., on October 21, using about 350 feet of 20-inch discharge pipe. Under the conditions at the slide, it has a pumping capacity of about 1,750,000 cubic feet in 24 hours.

The rate of rise of water in Culebra Cut, north and south of Cucaracha slide, is shown by the following records, taken at 8 a. m. of each date:

	*North side**	*South side†*
Friday, Oct. 10	67.64	41.62
Saturday, Oct. 11	67.76	41.75
Sunday, Oct. 12	68.23	42.02
Monday, Oct. 13	68 55	42.31
Tuesday, Oct. 14	68.71	42.85
Wednesday, Oct. 15	68.96	43.10
Thursday, Oct. 16	69.14	44.03
Friday, Oct. 17	69.30	45.22
Saturday, Oct. 18	69.50	46.00
Sunday, Oct. 19	69.61	46.18
Monday, Oct. 20	70.11	47.55
Tuesday, Oct. 21	70.66	49.87
Wednesday, Oct. 22	70.83	52.81

*Readings of Gamboa gage same as Gatun Lake.
†Gage at north end Pedro Miguel Locks.

◆

The east end of the dike at Gamboa was dynamited on Saturday, October 18.

◆

Ancon Crusher.

Following is a statement of rock crushed at Ancon quarry for the three weeks ending October 18:

DATE.	Hours worked.	Cubic yards.
September 29	7 30	2,221
September 30	3 50	1,154
October 1	8 00	1,729
October 2	6 35	2.002
October 3	7.20	2,242
October 4	5.50	1,225
Total	39.05	10,573
October 6	6.40	1,661
October 7	7.05	1,588
October 8	6.50	1,730
October 9	6.40	1,458
October 10	6.50	1,686
October 11	6.40	2,100
Total	40.45	10,223
October 13	3.20	1,231
October 14	5.30	1,480
October 15	7.35	1,269
October 16	8.35	1,756
October 17	7.45	1,995
October 18	6.40	1,679
Totals	39.25	9,410

◆

Central Division Unloaders.

During the month of September, 1913, the following trains and cars were unloaded by the Central Division:

LOCATION.	No. of unloaders.	No. of trains.	No. of cars.
Balboa	4	549	10,671
Gamboa	2*	182	3,458
Total	5	731	14,129

*One unloader worked three days.

◆

Steamshovel Records in September.

During the month of September, the total amount of material excavated in the Central Division was 519,800 cubic yards, of which 369,400 cubic yards were excavated by Central Division forces, and 150,400 cubic yards were removed by sluicing at Gold Hill, the latter work being in charge of the Fifth Division of the Chief Engineer's Office. Of the amount removed by the Central Division, 144,490 cubic yards were classified as earth and 224,910 cubic yards as rock.

Of the total, 297,800 cubic yards were primary excavation for the Canal, and 71,600 cubic yards were classified as "Plant excavation." Three hundred and sixty-nine thousand four hundred cubic yards were removed by steamshovels.

◆

Concrete Work in Locks and Spillways.

Concrete work in the Canal locks is nearly completed, the aggregate amount in place at the close of work on October 18, being 4,480,876 cubic yards. .

A statement of the concrete laid in the three sets of locks for the Canal, and in Gatun and Miraflores spillways, as of October 18, follows:

GATUN LOCKS.

The last concrete for the locks proper, as distinguished from that necessary to finishing work by the First Division, was mixed and placed on August 16, 1913. At the close of work on that day the total amount of concrete placed by the Atlantic Division amounted to 2,045,485 cubic yards.

GATUN SPILLWAY.*

Oct. 13	34
Oct. 14	40
Oct. 15	56
Oct. 16	54
Oct. 17	22
Oct. 18	24
Total	230
Previously reported	237.088
Grand total	237,318

*Includes hydroelectric station.

PEDRO MIGUEL LOCK.

	Concrete laid. Cubic yards
Oct. 13	19
Oct. 14	16
Oct. 15	14
Oct. 16	14
Oct. 17	14
Oct. 18	14
Total	91
Previously reported	924,225
Grand total	924.316

MIRAFLORES LOCKS.

Oct. 13	3
Oct. 14	..
Oct. 15	3
Oct. 16	..
Oct. 17	..
Oct. 18	6
Total	12
Previously reported	1,511,063
Grand total	1,511,075

MIRAFLORES SPILLWAY.

Concrete work at the Miraflores spillway was completed on October 8. At the close of work on that day, the amount of concrete placed aggregated 76,346 cubic yards.

◆

Missing Man.

Any one having information regarding the whereabouts of Mr. Clarence Mynders, who is supposed to be on the Isthmus of Panama, is requested to communicate with the office of the Chairman and Chief Engineer, Culebra.

◆

Fire at New Gatun.

Fire on Tuesday, October 14, entirely destroyed two frame buildings at New Gatun, the property of Mr. Ricardo Arias of Panama. One of the houses, tax No. 222, contained 72 rooms, and the other, tax No. 225, twelve rooms. The fire broke out at about 6.23 p. m., in the larger of the two buildings, and quickly spread to the one adjoining. The Gatun company was assisted by the automobile fire engine, and a crew from the Cristobal station, the engine pumping for 40 minutes. The fire, which is supposed to have been caused by the overturning of a kerosene lamp, or stove, was completely extinguished at 9.53 p. m. The construction cost of the buildings is estimated at about $23,000. Three West Indians, who volunteered their services, were slightly injured during the progress of the fire.

◆

Removal of Colon Light.

The lighthouse on Manzanillo Point, known as Colon Light, will be removed. It is the property of the Panama railroad, which has maintained a light in the tower, and has made a fixed charge against all ships entering the harbors of Colon and Cristobal for the cost of its maintenance. It has also been used by the railroad company as a signal station to notify ships at which dock they are to berth, or to be notified as to a ship's intention to lie at anchor in the harbor, when the ship enters without a pilot. The lens in the tower is of the fourth order revolving type, and is in fairly good condition. The iron framework is still serviceable, and may be utilized on Bona Island, or San José Rock, at the Pacific approach to the Canal. While the light is no longer required, it will be necessary for the railroad to have a signal tower, and it is proposed to erect one on the roof of the Hotel Washington, where the signals may be given with flags. The Fortifications Division will have charge of removing the light, and the material will be turned over to the Lighthouse Subdivision.

◆

Accidental Drownings.

George L. Martin, a private in the United States Marine Corps at Camp Elliott, was accidentally drowned in the Caribali reservoir, near Gorgona, on Friday, October 17. He was 22 years of age, was unmarried, and had been on the Isthmus 10 months. His former home was at Philadelphia. A brother, Robert Martin, lives at No. 1224 South Nineteenth street in that city.

Guillermo Castro, metal check No. 19810, and Felipe Rojo, metal check No. 19614, Spanish laborers employed in the work of sluicing at Cucaracha slide, were drowned in the lagoon between the two sections of the trench across the slide, at about 10.40 a. m., October 16. Castro fell into deep water and Rojo attempted his rescue. Lawrence B. Steelman, an American powder foreman, sprang into the lagoon to assist them. He was unable to bring them out, and narrowly escaped drowning.

◆

Suicide.

Miss F. Barrera, a passenger on the Pacific Mail Steamship Company's *City of Para* committed suicide at Balboa on the night of Wednesday, October 17, by jumping from the vessel into the water. The body floated to the surface and was discovered by the Balboa police the same night. Miss Barrera was between 35 and 40 years of age, and was on her way from Paris to her home in Salvador. She was a cripple and it is supposed that her deformity led to the commission of the act. The body was given burial in Ancon cemetery.

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The semiweekly informal dance of the Strangers Club will be held on Thursday, October 23. The Guatemalan orchestra will furnish the music.

SOCIAL LIFE OF THE ZONE.

Cristobal Woman's Club.

The Cristobal Woman's Club held a reception at the Commission clubhouse on Wednesday afternoon, October 15, when therewere present about 20 members of the club and a number of invited guests. This was the first general meeting of the club for the year, and the president, Mrs. Thomas Edwin Brown, Jr. delivered an address of welcome in which she gave an outline of the program as arranged by the committee.

The following musical program was carried out: Contralto solo, Mrs. Diers; soprano solo, Mrs. Mears; piano solo, Mrs. Farmer; soprano solo, Mrs. Williamson; vocal duet, Mrs. Mears and Mrs. Diers. Accompanists, Mrs. Ullrich and Miss Leyland.

On the first meeting in each month there will be a formal program, with a speaker or lecturer invited to speak on some special subject. The second meeting in each month will be more informal. The topic suggested by the paper read at the general meeting will be employed, with one of the members of the club as leader, and the short paper read will be followed by a general discussion.

With the exception of the two meetings in November, the names of the speakers cannot be given at this time. The calendar for the year is, as follows:

NOVEMBER.

Wednesday, November 5—Subject, The newspaper of today; its place and influence in moulding public opinion. Speaker, Mr. Richard Lee Metcalfe.

Wednesday, November 19—Subject, What newspapers and periodicals are responsible for. Leader, Mrs. Frederick Mears. General discussion.

DECEMBER.

Wednesday, December 3—Subject, higher education for women.

Wednesday, December 17—Discussion of public schools.

JANUARY.

Wednesday, January 7—Subject, eugenics.

Wednesday, January 21—Subject, the social problem and related topics.

FEBRUARY.

Wednesday, February 4—Subject, the trend of modern literature.

Wednesday, February 18—Subject, book reviews.

MARCH.

Wednesday, March 4—Subject, the Government of the United States.

Wednesday, March 18—Subject, suffrage and political parties.

APRIL.

Wednesday, April 1—Subject, sanitary conditions in South Africa.

Wednesday, April 15—Annual meeting.

Church Notes.

The annual harvest thanksgiving festival was celebrated in Christ Church, Colon Beach, on Sunday, October 12. The chancel was decorated with fruits, vegetables, and other products, the gifts of members of the parish. These articles were afterward sold in the schoolroom, the proceeds being devoted to the expenses of the church. Following the evening service at 7.30 o'clock, the second in the series of monthly organ recitals was given, the program consisting of compositions of Haydn. On Sunday, November 9, a Beethoven evening will be given.

The new Baptist church building in Cristobal was opened on Sunday morning, October 19, when the services were conducted by the superintendent of the mission, the Rev. J. L. Wise. Special preachers for the afternoon were the Rev. E. C. Notman, for 50 years missionary in Bocas del Toro, and Mr. Merwin Ganton, a worker among the Indians in Peru, In the evening, the Rev. S. Moss Loveridge of Culebra preached. The new building has been erected to take the place of the concrete building, destroyed by fire on March 23, 1911, which was formerly situated across the boundary line in Colon.

At the quarterly convention of the Isthmian Sunday School Association, held on October 18, eighty-seven persons were present. Ten Sunday schools were represented by their superintendents, as follows: East Balboa, Mrs. William Tomey; Panama, Mrs. Rebecca Compton; Corozal, Mr. W. E. Lyno; Pedro Miguel, Mr. W. H. Faulkner; Paraiso, Mr. Thomas Kent; Culebra, Mr. J. F. Warner; Empire, Mr. W. H. Hoffman; Las Cascadas, Mrs. H. Jackson; Gatun, the Rev. C. O. Purdy; Cristobal, Mr. W. H. Kromer. The convention voted to arrange for the circulation of the library among the families living at the stations on the Panama railroad. This will be done through the Sunday schools in the towns of Gatun, Cristobal, and Bas Obispo.

Annual Meeting of University Club.

At the annual meeting of the members of the University Club, held in the evening of October 18, the following officers were elected for the ensuing year: President, Edward Schildhauer; vice-president, Robert K. Vibert; secretary, Paul S. Wilson; treasurer, A. Richardson; members of the board of governors, the aforementioned, *ex officio*, and Lieut. Geo. R. Goethals, Messrs. Joshua Piza, Samuel Lewis, James Forsythe, and Dr. A. B. Herrick.

Sale of Flowers at Mount Hope Cemetery.

It has been decided to discontinue the giving away of flowers at the Mount Hope cemetery, and to make sales hereafter at the following rates: Roses, 60 cents U. S. currency, per dozen; other flowers in bouquets at a price of 25 cents U. S. currency, and upward, according to the size of the bouquet, scarcity of flowers, season, etc.

Education of a Blind Boy.

A meeting of the committee on the Elysius James Education was held at the Hotel Tivoli recently. The committee is composed of women who were members of the executive board of the Canal Zone Federation of Women's Clubs at the time of the disbanding of this organization on April 19, 1912. There are seven members, and five were present at the meeting. The object of this meeting was to consider ways and means of raising money to complete the payment of the second year's schooling for the blind boy, Elysius James, who entered the Perkins Institute for the Blind in Boston, Mass., in September, 1912, as the ward of the Federation. The reports of his work and progress for this year were promising beyond the expectations, not only of the women who sent him, but of the teachers who instructed him. At the meeting of the Federation in January, 1913, a popular subscription for the second year's schooling was taken, the amount raised being a little over $100. This money was paid for the first school term when the boy entered the institute in September, 1913. The committee feels that the full year should be given him if it is possible to raise the $200 that remain to be paid. At the close of this year he will be brought back to the Isthmus, where efforts will be made to place him in the way of earning his living by suitable work, such as caning chairs, which he has learned to do. The committee has undertaken various means of raising the remainder of the fund, and, with the generous response thus far accorded, it is thought that the money is assured. Mrs. Thomas E. Brown, Jr., of Cristobal is the chairman of the committee, and Mrs. J. E. Westberg of Empire is the treasurer.

PERSONAL.

Lieut.-Col Charles F. Mason, accompanied by his family, returned from his annual leave of absence on the *Cristobal*, which docked on Saturday, October 1

Lieut.-Col. E. Eveleth Winslow, Corps of Engineers, Maj. William Chamberlaine of the Department of Artillery and Land Defense, and Maj. George Blakely of the Coast Artillery Corps, are spending a few days on the Isthmus.

Maj. F. C. Boggs, General Purchasing Agent of the Isthmian Canal Commission, and chief of the Washington office, was a passenger on the *Cristobal*, arriving October 18.

Mr. H. O. Cole, accompanied by his family, sailed for New York on Thursday, October 16, on the *Santa Marta*, on his annual leave of absence.

Mr. James C. Courts, clerk of the House Committee on Appropriations, accompanied by his son, arrived on the Isthmus on the *Cristobal*, on Saturday, October 18.

Mr. Forrest M. Towl, president of the Southern Pipe Line Company, arrived on the Isthmus on the *Pastores* on Tuesday, October 14. He has been engaged by the Canal Commission to make a study of oil pipe and pumping plant designs in connection with the permanent fuel oil pipe lines and pumping plants to be established at the Canal termini.

Mr. Frank P. Wagg, resigned as superintendent of schools, effective at the close of work, Saturday, October 18, and sailed for the United States on the *Panama* on Wednesday, October 22. He has been connected with the Canal Zone school system for the last four years. Mr. Albert R. Lang, has been appointed to fill the vacancy.

Banquet by First Division Employes.

A banquet was given at the Hotel Tivoli on Tuesday evening, October 21, by the employes of the First Division. Mr. C. P. Fortney acted as toastmaster, and remarks were made by Col. H. F. Hodges, Mr. W. R. Halloway and Mr. J. Donahue.

"Wandering Herd."

There will be a meeting of the "Wandering Herd" at the Hotel Washington on Sunday, October 26, at 1.30 p. m. It is urgently requested that all members attend as business of vital importance will be acted upon, and a report on the financial condition of the organization will be made by the secretary-treasurer.

JOHN H. KEEFE,
President.

Ancon, C. Z., October 20, 1913.

Obituary.

Mrs. Bernsee, wife of F. L. Bernsee, a former American employe, died at her quarters in the Garfield House, Colon, on Saturday, October 11. She was 43 years of age, and had been on the Isthmus two years. Her former home was at Louisville, Ky.

CANAL WORK IN SEPTEMBER.

Monthly Report of the Chairman and Chief Engineer to the Secretary of War.

CULEBRA, C. Z., October 15, 1913.

The Honorable the Secretary of War,
Washington, D. C.

SIR: I have the honor to submit the following report of operations on the Isthmus for the month of September, 1913:

Department of Construction and Engineering.

The following table summarizes the principal items of work accomplished by the construction divisions during the month:

ITEM.	Unit.	Atlantic.	Central.	2d Div.	5th Div.	6th Div.	Total.
Work excavation, dry.	Cubic yds...	1,091	297,800	69,432	35,881	....	404,204
Work excavation, wet.	Cubic yds...	....	*150,400	†214,917	....	1,060,647	1,425,964
Total work excavation	Cubic yds...	1,091	448,200	284,349	35,881	1,060,647	1,830,168
Plant excavation, dry.	Cubic yds...	....	71,600	15,756	5,189	....	92,545
Total Canal excavation..............	Cubic yds...	1,091	519,800	300,105	41,070	1,060,647	1,922,713
Material placed in dams	Cubic yds...	24,531	....	....	23,690	....	48,221
Concrete placed, locks, dams, and spillways.	Cubic yds...	2,615	....	....	3,095	....	5,710
Explosives used......	Tons (Gross)	19.04	56.88	....	6.89	28.00	110.81
Rock drilled..........	Feet.......	9,080	137,218	....	6,702	15,510	168,510
Tracks removed......	Miles......	0.63	27.69	3.09	....	....	31.41
New track laid......	Miles......	1.40	....	4.80	1.10	....	7.30
Rock crushed.........	Cubic yds...	....	....	....	35,209	....	35,209
Cement used.........	Barrels.....	2,785	....	8,197	2,062	25	13,069
New roads built......	Miles......	....	....	....	....	....	....
Water mains laid......	Feet........	2,305	....	....	....	....	2,305
Sewers laid...........	Feet........	....	....	....	....	....	....
Open drains and ditches dug...............	Feet........	....	....	6,550	....	....	6,550
Average daily force...	....	2,851	5,200	3,401	3,378	2,839	17,669
Average rainfall......	Inches......	9.92	9.95	9.01	8.32	9.45	9.66

*Removed by Fifth Division for Central Division.
†Removed by Sixth Division for the Second Division.

First Division—Office of the Chief Engineer.

LOCK GATE AND PROTECTIVE DEVICES.

The status of the work in the several locks may be summarized, as follows:

Gatun—Work was in progress on all the leaves, 40 in number: Erection, 99.9 per cent complete; reaming, 99.9 per cent complete; riveting, 99.9 per cent complete; finishing, 90.9 per cent complete.

Pedro Miguel—Work was in progress on the entire 24 leaves: Erection, 99.5 per cent complete; reaming, 99.9 per cent complete; riveting, 99.5 per cent complete; finishing, 90 per cent complete.

Miraflores—Work was in progress on all of the 28 leaves: Erection, 99 per cent complete; reaming, 99 per cent complete; riveting, 97.3 per cent complete; finishing, 76 per cent complete.

ERECTION.

On October 1st, 99.45 per cent of the total tonnage of lock gate material in all locks had been erected. There were still to be erected 26 tons at Gatun, 45 tons at Pedro Miguel, and 166 tons at Miraflores.

INSPECTION AND ERECTION OF OPERATING MACHINERY AND ELECTRICAL EQUIPMENT.

Valve machines—The present status of the mechanical erection is, as follows: Rising stem valve machines, 96 per cent complete; cylindrical valve machines, 100 per cent complete; auxiliary culvert valve machines, 100 per cent complete. The electrical installation of the above machines is 56 per cent complete for the rising stem valve, 56 per cent complete for the cylindrical valve, and 68 per cent complete for the auxiliary culvert valve machines. The mechanical erection of the 18 guard valve machines is 88 per cent complete, and the electrical installation of these machines is 19 per cent complete.

Miter gate moving machines—Ninety-two per cent of the mechanical, and 35 per cent of the electrical installation is complete.

Miter gate forcing machines—The mechanical erection is 40 per cent, and the electrical installation, 38 per cent complete.

Track—Approximately 89 per cent of all track is complete with concrete; 33 per cent of single, and 66 per cent of double crossovers, have been placed.

Spillway gate machines—The mechanical erection is entirely completed and the electrical installation is 15 per cent complete.

Pumps—Mechanical erection is 75 per cent complete on miter gate sump pumps, 11 per cent complete on chain fender sump pumps, 100 per cent complete on drainage sump pumps, and 66 per cent complete on culvert pumps. Electrical installation is 36 per cent complete on miter gate sump pumps, and 57 per cent complete on drainage sump pumps.

Transformer room equipment—The installation of this equipment is 85 per cent complete at Gatun, 62 per cent complete at Pedro Miguel, and 52 per cent complete at Miraflores. For all the locks, this work is approximately 66 per cent complete.

Hydroelectric station—All foundations have been built. The three turbines and their penstocks, and also the headgates, are set complete.

Cable—Out of a total of 2,429,296 feet of cable on order, 802,250 linear feet have been pulled into the ducts.

Control houses—Seventy per cent of the steel beams for control house floors have been placed in concrete. The roof trusses of the control house at Gatun are placed and riveted.

Illumination—Reflectors for exterior and interior lighting are being manufactured from material on the Isthmus. At Gatun, the erection of the lamp posts, with cross-arms, is 99 per cent complete. At Pedro Miguel, 30 poles and 20 single cross-arms are set. At Miraflores, 30 posts are set.

Control apparatus—Practically all control apparatus for the locks and spillways is on the Isthmus.

Transmission line—Surveys were made from Mile 7 to Mile 18, inclusive, for the location of track-span bridges, and stakes were set for the alignment of concrete forms between Miles 40 and 44½. Eighty-six foundations for track-span bridges were placed to carry the transmission line, making a total of 247 foundations set to the close of the month. Eleven track-span bridges have been placed on permanent foundations.

TESTING THE LOCKS.

Gatun—At 11.20 a. m., on September 26, water was admitted to the upper end of the upper lock from the west culvert, through the upper rising stem valves, and the water brought up to lake level. As a preliminary test of the valves and culverts of the west wall, the upper rising stem valves were then closed and the water passed down the flight of three locks. Water was then locked down, step by step, from the lake to the lower lock, which was also being filled by the two 14-inch sea valves in the lower guard gates. At 4.45 p. m., the lock had filled to sealevel and the lower gates were opened for the tug *Gatun*. The lower operating gates were closed behind the tug and she was lifted, step by step, to the lake. In order to save time on the ascent, the short length of lock was used, and the upward passage was made in approximately one hour and fifty-one minutes. All operating devices were operated from local control, that is, each machine was operated from the panel in the same room with the machine. This made it necessary to move from machine to machine for the various operations, whereas, when the plant is completed, the entire flight will be controlled from a central tower. On its return from the lake, the tug was locked through to sealevel in one hour and thirty-two minutes, all operating valves and gates in the west chamber being used.

Pedro Miguel—Five transformer rooms, necessary for the operation of the east lock chamber, and emergency dams, were put in service, including high and low tension feeders. All rising stem valve machines in the east culvert were tested and adjusted, including electrical work for local control. Four rising stem valves, the upper four on the center and west walls, were put in service, as well as all rising stem valves in the center wall, except Nos. 334 and 335, which were not tested on account of mud in the culvert below. All miter gate moving machines in the east chamber were tested and adjusted without struts. All cylindrical and auxiliary culvert valves have been finally tested and are ready for service.

Miraflores—All cables necessary for operating the west lock chamber have been tested for continuity of circuit, and all oil switches have been inspected and adjusted.

EMERGENCY DAMS.

Gatun, east dam—This dam has been completed, tested, and accepted.

Gatun, west dam—This dam has been completed, tested, and accepted.

Pedro Miguel, west dam—Final tests were made during the month with satisfactory results. The time for the complete operation was practically the same as for the two dams at Gatun. With the exception of painting, this dam is ready for acceptance.

Pedro Miguel, east dam—Pouring of concrete for the operator's house was finished, and the work of placing windows and doors was started. All concrete work for rack and track quadrant was completed, and painting of the dam continued.

Miraflores, west dam—During the month, a total of 204 tons of structural material was assembled and bolted in place. Riveting is about three per cent complete.

Miraflores, east dam—During the month, a total of 204 tons of structural material was assembled and bolted in place. Riveting is about 28 per cent complete.

AIDS TO NAVIGATION.

During the month, work was in progress constructing an electric transmission line across the Cut at Gamboa and pulling cable through the same; installing an electric pole line from the main line of the Panama railroad to beacon No. 3, Atlantic section; completing the erection of range towers Nos. 9 and 10, erecting range tower No. 13, and delivering material to the site of tower No. 14, all in Gatun Lake section; driving pile cluster for the foundation of beacon No. 1, Atlantic section, and constructing slab foundations for beacons Nos. 2 and 3, Atlantic section; casting lamp bracket arms, beacon tops, and gas buoy sinkers at the pile casting platform at Gatun; constructing a permanent water stage register at Gatun, one at the north end of the east wing wall, and one at the south end of the east wing wall at Pedro Miguel; moving beacons, roofs, and sinkers from the old Balboa plant; and making the necessary surveys and reconnoissances, and clearing land in connection with the construction of range towers, targets, beacons, electric pole lines, etc. Forty-nine beacon platforms were manufactured at Empire shops and delivered at Gatun.

Second Division—Office of the Chief Engineer.

BALBOA TERMINALS.

The design of power distribution and interior illumination systems for the shops, and of the illumination for the administration building, was advanced; and other studies and designs for the shops were made. Work of erecting structural steel in various shod buildings, laying cement tile roofing, and erecting core ovens in the foundry, was carried on. Requisitions were submitted for tools and equipment, and some minor awards were made.

At the drydocks, entrance basin, and coaling plant, 85,188 cubic yards of earth and rock were excavated. Filling at the terminus amounted to 98,713 cubic yards. Five thousand nine hundred and eighty cubic yards of concrete, with 1,120,618 pounds of reinforcing steel, were placed in the construction of shops and quay walls. Thirteen thousand eight hundred and forty-nine linear feet of pile, 10,670 feet wood, and 3,179 feet pipe, were driven.

On the quay walls and pier, 362 linear feet of superstructure were completed, 2,630 linear feet of caisson manufactured, 28 piers sunk to rock, and 2,822 linear feet of caisson sunk.

METEOROLOGY AND HYDROGRAPHY.

The rainfall for the month was deficient at all stations, except Ancon, Balboa, Empire, Monte Lirio, Gatun, and Brazos Brook. The monthly totals ranged from 6.75 inches at Camacho to 14.12 inches at Monte Lirio. The maximum precipitation recorded in one day was 3.26 inches, at Monte Lirio on the 5th. Approximately normal conditions of temperature, relative humidity, and atmospheric pressure prevailed during the month, while the cloudiness and wind movement were generally above normal. The average estimated rainfall over the Chagres River basin was about 10 per cent below normal: 10.57 inches, against a 13-year normal of 11.82 inches.

HYDROLOGY.

The total yield of the Gatun Lake watershed for the month was about eight per cent below normal, and that for Alhajuela, about three per cent below. There was one rise of moment, on the 9th during which the elevation at Vigia reached 136.2, a rise of 10 feet. This is the largest freshet since May 22, 1913. The maximum discharge at Alhajuela was 20,000 second-feet. The rise at Gamboa was about seven per cent of the Vigia rise, being one-tenth of the percentage holding (70 per cent) before Gatun Lake was formed. The lake rose from 60.42 to 66.00, or 5.58 feet, representing a storage of 18.90 billion cubic feet.

SURVEYS.

A circuit of precise levels was run around the territory of the Pacific terminus; a careful survey was made for the proper location of the coal dock at the Atlantic entrance; the location of gravel banks in the Chagres River between Alhajuela and Gamboa was made upon a map, 34 banks being located; surveys were made for oil tank location at both termini; surveys of large areas for the Joint Land Commission were completed, and other miscellaneous surveying work was done.

INSPECTOR OF SHOPS.

Pedro Miguel engine house was abolished on September 15, and the temporary hostling of engines at Cocoli was started that night. The hostling of engines at Gold Hill was commenced on September 9. Steel castings were poured for the first time in the Balboa foundry on September 5. The generation of oxygen and acetylene gas was commenced on September 6. The preparation of equipment for storage was started at Las Cascadas on September 29.

GENERAL.

The routine work of the office engineer, and the traveling engineer was carried on; and the landscape architect continued work on plans for Balboa and Pedro Miguel.

Fifth Division—Office of the Chief Engineer.

DISTRICT NO. 1—LOCKS, DAMS, AND DRY EXCAVATION.

Excavation—The total excavation amounted to 41,070 cubic yards, the entire amount being classified as earth.

Filling and embankment—Dry filling in the prism of the west dam at Pedro Miguel was not increased, the total amount of material in place remaining at 699,518 cubic yards. The backfill at Pedro Miguel was increased by 340 cubic yards, the total quantity in place at the close of the month being 1,024,253 cubic yards. At Miraflores, dry filling in the west dam was increased by 23,690 cubic yards, making the total quantities of dry and hydraulic filling in place at the close of the month 1,708,639 cubic yards, and 661,048 cubic yards, respectively. The backfill at Miraflores was increased by 9,511 cubic yards, the total quantity in place on August 31 being 1,910,270 cubic yards.

Pedro Miguel Lock—On the morning of September 17, the drainage from Culebra Cut was diverted to the east wall lock culvert, and the opening through which the drainage water had entered the middle wall culvert since August, 1911, was closed, forms placed, and the opening filled with concrete. The middle wall culvert was cleared of débris. Drainage pumps, temporary dams, tracks, and materials were removed preparatory to the filling of Miraflores Lake. The wooden fender on the end of the south guide wall was completed. The steel roof of the lock control house was assembled and the riveting about 50 per cent completed. A 20-inch pump was installed to keep the west lock chamber dry until the gates are completed.

OPERATION OF THE AUXILIARY CONCRETE CONSTRUCTION PLANT AT PEDRO MIGUEL.

One ½-cubic yard mixer worked four days (30 hours, actual working time), and mixed and placed 170 cubic yards of concrete. There were 508 cubic yards mixed by hand, or a total of 678 cubic yards.

Miraflores Locks—Excavation of the dikes and high ground in the forebay of the locks was completed, the spoil being used for backfilling and grading around the locks. One steamshovel, located in a borrow pit on the north side of Cocoli Hill, supplied material for completing the junction of the west dam with the locks. Concrete work on the control house was continued. Obsolete material was removed and there was a general cleaning up around the locks. One 20-inch pump was installed in the lower east chamber to take care of drainage while work continues on the lock gates and the installation of machinery.

OPERATION OF THE AUXILIARY CONCRETE CONSTRUCTION PLANT AT MIRAFLORES.

One ½-cubic yard mixer worked four days (20½ hours, actual working time), and mixed and placed 200 cubic yards of concrete. Concrete mixed by hand amounted to 1,144 cubic yards, or a total of 1,344 cubic yards.

DISTRICT NO. 4—ANCON QUARRY.

PERFORMANCE OF ROCK CRUSHER PLANT.

Length of working day (hours)	8.00
Average number of hours per day, actual working time	7.09
Average number of cubic yards crushed per hour per working day	156.48
Average number of cubic yards crushed per working hour	196.41
Total output for the month (cubic yards)	35,209.00

DISTRICT NO. 5—GOLD HILL SLUICING PLANT.

Excavation during the month totaled 150,400 cubic yards. The south cut was extended approximately 100 feet into the active slide. The north flume was raised and excavation continued near the face of the Cut. Near the north flume, a hydraulic elevator was installed, which elevated material to a height of 26 feet and discharged it into the flume. A 4-inch nozzle was used in the elevator, and a 4-inch monitor was employed for cutting and sluicing to the elevator. Foundations were completed for the booster pumps which are to be used in connection with sluicing the high ground east and to the rear of Cucaracha slide, and one of the pumping units was received. The pile foundations were driven for the additional 7,500-gallon pumping unit at the central station.

Sixth Division—Office of the Chief Engineer.

PACIFIC END.

Seven dredges were engaged in channel and inner harbor excavation at Balboa, removing 321,246 cubic yards of earth and 260,712 cubic yards of rock from the Canal prism, and 178,579 cubic yards of earth from the inner harbor and terminal basin site, a total of 760,537 cubic yards. At the close of the month, there remained to be removed from the Canal prism, not including fill, 2,291,535 cubic yards. The French ladder dredge *Gopher*, engaged in sand excavation at Punta Chamé during the entire month, removed 18,650 cubic yards.

ATLANTIC END.

Eight dredges were in operation during the month, removing 450,517 cubic yards of earth and 28,172 cubic yards of rock from the Canal prism. On October 1, there remained to be exacvated 710,896 cubic yards. On the same date, 40 feet of water could be carried from zero to zero plus 2,100 feet, and 35 feet to the locks at Gatun. In addition to prism excavation, 116,385 cubic yards of coral sand from Margarita Bay, 4,573 cubic yards of coral and 31,765 cubic yards of coral sand from the coal station, and 21,946 cubic yards of rock from the north side of pier No. 17, were taken out.

Division of Municipal Engineering—Office of the Chief Engineer.

NORTHERN DISTRICT.

The construction of the new Colon waterworks was continued and all concrete work, other than pavement and gutter and certain finishing work, was completed. The pump station was completed, with the exception of the floor within the building and the installation of the low service pumps. All work on the sedimentation basin was completed, except for certain miscellaneous service piping. The main filter building was completed up to and including the eaves, and made ready for the setting of the roof trusses. The main entrance, including the stairways, was 75 per cent completed at the close of the month. The 20-inch pipe line from Brazos Brook to the aeration basin was also completed. Preparation of the special sand for the filter bed was continued, and approximately 350 cubic yards were screened, washed, and separated. All work on the new Colon improvements was completed.

SOUTHERN DISTRICT.

Construction of the storm sewers for the new American townsite at Balboa was continued and 571 linear feet were completed. Construction work on the new townsite known as La Boca was continued, approximately 7,000 cubic yards being excavated and about 5,200 cubic yards being backfilled. At the end of the month, all work in this townsite was approximately 40 per cent completed.

NEW PANAMA WATERWORKS.

Work was continued at the site of the Miraflores pump station, at the purification plant, and at the high service reservoir at Ancon. At the Miraflores pump station, concrete work on the intake house was practically completed, four piers were built to support the concrete walk between intake house and pump station, and the concrete walk was completed. Excavation for the main pump sump was completed; also, all concrete work in distribution culvert and walls of main sump. Floors were started in the auxiliary sumps. The 30-inch pipe line was extended nine feet into the distribution culvert, and the 4-inch section extending into the gatehouse was installed. At the Miraflores filtration plant, steamshovels were engaged throughout the month on the site proper, 12,640 cubic yards of rock being excavated. Fill was continued on the north end of the plant. At the Ancon high service reservoir, work was completed on the sand and rock bins, track was laid up the incline and a car put in operation, and work was continued excavating the site for the foundations, and 5,964 cubic yards of material were removed, most of it solid rock. Work was commenced on the construction of the 300,000-gallon wash water tank for the Miraflores purification plant, 250 cubic yards of earth and rock being removed.

Atlantic Division.

GATUN LOCKS.

Construction of the new Gatun saddle dam was continued, 2,441 cubic yards of earth being taken out of the banks and placed therein. The backfill placed during September amounted to 30,391 cubic yards; at the close of the month, the backfill was 98.4 per cent completed.

Receiving and issuing material—No cement was received at the locks cement shed; the small balance on hand at the beginning of the month was issued and the shed cleaned out. Six hundred and ninety cubic yards of sand were received from Balboa, and 1,219 cubic yards were issued from the storage pile. The small amount of rock on hand at the beginning of the month was issued.

GATUN DAM.

Construction during the month increased the total fill by 24,531 cubic yards, car measurement, making the total amount in in place 21,986,893 cubic yards. On October 1, the dam was 99.98 per cent completed. Additions to the dry fill amounted to 24,531 cubic yards, and this material was placed on the north and south toes of the dam. This makes the total dry fill in place 11,768,481 cubic yards.

GATUN SPILLWAY.

The backfill was extended by 52 cubic yards, making the total 16,769 cubic yards. Concrete laid during the month amounted to 2,124 cubic yards, making the total quantity in place 229,873 cubic yards. Concrete work was 99.87 per cent complete at the close of the month.

Hydroelectric plant—The work of constructing the hydroelectric building was taken over by the Quartermaster's Department on September 8. During the month, plain concrete placed amounted to 492 cubic yards, making a total of 7,167 cubic yards.

WEST BREAKWATER—COLON.

Out of a total of 23,467 cubic yards of Porto Bello rock placed on the breakwater during September, 6,677 cubic yards were unloaded by cranes, and 16,790 cubic yards by derrick barges. The total amount of rock placed upon the breakwater to October 1 was 320,160 cubic yards.

Central Division.

The total amount of material excavated during the month was 369,400 cubic yards, of which 144,490 cubic yards were classified as earth and 224,910 cubic yards as rock. The entire amount was removed by steamshovels, 297,800 cubic yards being classified as primary excavation and 71,600 cubic yards as "Plant" excavation. Of the total primary excavation, 45,000 cubic yards were taken from within the lines of the Canal prism and 242,800 cubic yards from without the prism, the latter amount being excavated from slides and from high levels as a preventive measure against slides.

The daily average number of steamshovels at work was 14.62 and the total number of shovel days was 365½.

The estimated amount of material removed and to be removed, according to the revision of July 1, 1913, is 115,696,455 cubic yards. Up to October 1, 1913, 109,229,155 cubic yards had been removed, leaving 6,467,300 cubic yards to be removed, in order to complete all excavation in the Central Division. At the close of the month, 94.41 per cent of all excavation was completed.

Dry excavation in Culebra Cut was completed on September 10, and all rolling stock, equipment, tracks, and miscellaneous material were removed from the Canal prism.

Material dumped from the Naos Island trestle during the month totaled 31,671 cubic yards.

The daily average number of laborers at work was 4,788, while the average number of gold men working was 412.

Quartermaster's Department.

LABOR.

The force report of September 24 showed a decrease of approximately 3,000 men, as compared with the number working on August 27. The United Fruit Company has established a recruiting agency on the Isthmus, and in two weeks 327 laborers were sent by that company to its plantations in Costa Rica and Honduras; over 90 per cent of these laborers were British West Indians.

BUILDINGS.

Building work was confined chiefly to the commissary, clubhouse, and police station at Pedro Miguel. All of these buildings were well under way at the close of the month and will be completed within 60 days.

QUARTERS

The demand for gold and silver quarters at Ancon and Balboa continues; at other points there is no congestion. Instructions have been given to discontinue assignments of married quarters in the Las Cascadas–Bas Obispo district, and the department will withdraw its organization from that district as soon as all quarters are vacated.

MATERIAL AND SUPPLIES.

The value of material received was $643,155.38. This material came forward in 32 steamers, having a total weight of cargo, exclusive of lumber, piling, and ties, of 11,850 tons.

Subsistence Department.

The Hotel Tivoli was operated at a loss of $152.36. The operation of the line hotels, laborers' messes, and restaurants resulted in a net profit of $1,718.93. The total net profit on subsistence operations during the month was $1,566.57.

Department of Civil Administration.

COURTS.

During the month, one civil case was disposed of in the Supreme Court, 51 civil and 45 criminal cases in the circuit courts, and 51 civil and 398 criminal cases in the district courts.

POSTS, CUSTOMS, AND REVENUES.

Money order sales amounted to $406,515.28, and the fees to $1,868.45. Receipts from stamp and card sales and newspaper postage aggregated $6,177.22. The total collection of revenues was $19,110.50, and the collections on account of court fines, costs, and fees $2,272.05. A total of $164,794 was deposited in postal savings accounts, and a total of $187,585 was withdrawn. At the port of Ancon, 22 vessels entered and 19 cleared; at the port of Cristobal, 18 entered and 20 cleared.

POLICE AND PRISONS.

The total number of persons arrested was 399, of whom 357 were men and 42 women

Nine convicts were committed to the penitentiary and 12 were discharged, leaving 140 convicts in confinement at the close of the month. The cost of guarding and subsisting these prisoners was $2,592.64, and the value of the work performed by them on the roads of the Canal Zone was $2,340.90.

FIRE PROTECTION.

Two fires were reported in the Canal Zone and these occasioned no loss of property.

Department of Sanitation.

The total number of deaths from all causes among employes was 44, divided, as follows: From disease 36, and from violence eight, giving an annual average per thousand of 7.30 and 1.62, respectively. The annual death rate per thousand among employes during the month of September, 1912, was 9.19.

The annual average death rate per thousand in the Canal Zone, and in the cities of Panama and Colon, including both employes and nonemployes, was 27.39. This rate is based upon a population in the Canal Zone of 62,810, according to the census of February, 1912, and populations in Panama and Colon, respectively, of 47,172 and 20,232, as estimated by the Department of Sanitation. The annual average death rate per thousand among the same classes of population for the month of September, 1912, was 22.42.

Segregating the whites from the blacks, the annual average death rate per thousand from disease among employes was: Whites, 4.08; blacks 8.09, giving a general average for disease of 7.30. For the same month during 1911, the annual death rate per thousand from disease among whites was 5.95; blacks, 12.24, giving a general average of 10.63; and for the same month in 1912: Whites, 4.92; blacks, 6.81, giving a general average of 6.36.

Among employes, deaths from the principal diseases were: Dysentery, one; hemoglobinuric fever, one; organic disease of the heart, two; pneumonia, seven; tuberculosis, four, leaving 21 deaths from all other diesases, and eight deaths from external violence. No case of yellow fever, smallpox, or plague originated on, or was brought to the Isthmus, during the month.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

◆

Interments in Canal Zone Cemeteries.

At a meeting of the Board of Health, held on September 15, it was decided to abolish the charge of issuing burial permits on and after September 20. A charge of $2, however, will be made for gravedigging and interment in connection with each burial made in Canal Zone cemeteries. This charge dces not apply to employes of the Canal Commission and the Panama railroad, or their families, or to employes of contractors engaged on Commission or railroad work.

◆

Balboa Sand Service.

A report of sand shipped from Balboa during the month of September, follows:

DESTINATION.	Number cars.	Cubic yards.
Fifth Division	431	7,680
Atlantic Division	29	667
Fortifications	383	7,185
First Division	8	128
Central Division	47	753
Panama Railroad	66	1,600
Quartermaster's Department	3	75
Municipal Engineering	44	884
Panama Government	4	100
Miscellaneous	5	125
Total	1,020	19,206

JOINT LAND COMMISSION.

Rules of Dismissal.

(Continued from last week.)

In the matter of sundry claims, in the lands of Matachin, docket No. 618-A, etc.—In the case of the following named persons, the evidence before the Commission is that their houses and other improvements have been purchased by the United States and that payments therefor have been made in the year of 1913.

The record of these claims, showing the name and docket number of each, together with the tax numbers of houses included in such claims and the record of the Disbursing Officer showing the register number of each account, its amount, and the month of the year of 1913 in which the same was paid is, as follows:

Name.	*Doc. No.*	*Mo. paid.*	*Reg. No.*	*Am't.*
Alleyne (Allyne) William House No. 52.	626	Aug.	28036	$40
Anderson, George House Nos. 67 and 90.	....	Aug.	28465	110
Armien, Felixia (Felicia) House No. 1,746	625	Aug.	28460	80
Armien, Roger House No. 611.	844	Aug.	28463	40
Ati, Philip (Felipe) House Nos. 98 and 99.	....	Sept.	28797	60
Bertram (Burtram) Joseph House Nos. 162, 163.	480	Sept.	28802	250
Brown, Charles House No. 360.	552	Aug.	28682	60
Brown, Percy House No. 77.	....	Aug.	28461	35
Constantine, Camillo (Carmeal) House No. 421.	738	Aug.	28680	30
Edmond, Joseph (Joseph, Edmond) House No. 166.	....	Sept.	28826	20
Farqueson (Farquharson), Daniel House No. 1,732.	....	Sept.	28808	30
Gardine, Hurbert House No. 1,746	157	Aug.	28153	65
Gedem, (Gideon), Albert House No 362.	....	Sept.	28815	15
George, Theophilus Farm only.	....	Aug.	28674	10
Gooden, Uriah House No. 1,737	....	Aug.	28678	110
Henry, Robert Farm only.	....	Sept.	28818	10
Hudson, Maria (Mariah), House No. 1,708.	1, 48	Sept.	28819	35
James (Jones), Samuel House No. 174.	....	Sept.	28822	40
Lindsay, A. H. Farm only.	....	Aug.	28614	15
Lond, Fred House No. 1,330.	....	Sept.	28829	20
Lynch, Juliet House No. 640.	793	Aug.	28610	150
McLean (McLane), James. House No. 1,863.	....	July	27878	100
Miza, Marie (Mary) Louise H. Nos. 1,702, 1,703	....	Sept.	28834	90
Montley, Jesse, estate of House No. 600.	....	Aug.	28151	200
Moridon, Thomas, administrator of estate of Pino Lambert House No. 1,550.	....	Sept.	28836	25
Osborne, John House No. not given.	....	Sept.	28838	15
Palmer, John H House No. 164.	481	Sept.	28839	175
Ratigan, Nehemiah House No. 459.	897	Aug.	28685	60
Stone, James Farm only.	....	Sept.	28848	5
Thompson, Adelina (Adlin) House No. 1,422.	....	Sept.	28851	100
Williams, Florence House No. 93.	....	Sept.	28854	120

In view of the payments noted, the foregoing claims call for no further action by this Commission and they are accordingly dissmissed.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS. L. S. ROWE, *Commissioners.*

September 16, 1913.

In the matter of sundry claims, in the lands of Matachin, docket No. 618–A, etc.—With respect to the occupiers, on the lands of Matachin hereinafter named, the evidence before the Commission is that they have signed contracts with the Isthmian Canal Commission for the sale of the houses designated by their tax numbers, together with all their other improvements situated on the said lands. The names of such persons, the docket numbers of their claims, and the tax numbers of their houses, follow:

Name.	*Docket No.*	*Tax No.*
Chambers, Richard	489	148 & 151
Austin, George H	1,246	....
Chong, Fen	......	132
Hoffman, Dorcas	......	571
Iglesia, Inocencio	......	380
Jones, Drusella	1,347	537
McGrath, Beryl	493	152
Morris, Robert	232	1,723 & 1,729
Morrison, Thomas	559	358
Pedregales, P	342	1,554
Scott, Harriet		566
Vassal, George	....	1,709
Vidal (Vieal), Michael	1,212	......

In view of the agreements herein referred to, these claims call for no further action by the Commission and they are accordingly dismissed.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners.*

September 22, 1913.

In the matter of certain claims for houses in the town of Gorgona, docket No. 1,250–A, etc.—The evidence submitted to the Commission with respect to certain claims filed for buildings in the town of Gorgona showed that the houses referred to were constructed upon lots leased from the Isthmian Canal Commission after such a lease had been entered into.

In a decision rendered April 16, 1913, in the case of Agusta Dunlop, the Commission said:

> "We have therefore reached the conclusion that it is not within the province of the Joint Land Commission to take cognizance of claims arising out of the revocation of revocable leases or licenses issued by the Isthmian Canal Commission. Such claims have no organic relation to grants contained in the Treaty, nor to the international obligation which the United States has agreed to discharge under the Treaty, and for the adjudication of all such claims, the claimants must seek a remedy through the procedure afforded by municipal laws."

In accordance with the decision rendered in the case of Agusta Dunlop, the claims of the following persons, for the houses upon the lots hereinafter designated by their tax numbers, are dismissed without award:

Name.	*Tax No.*	*Docket No.*
Chong, Kong Sing	770	1,059
Cools, Gabriel V	805	1,539
Scipion, Moncoq	861	....
Scipion, Moncoq	866	....
Kenton, Joseph	865	....

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners.*

September 20, 1913.

In the matter of sundry claims, docket No. 1,240–A, etc.,—A number of claims have been presented to the Commission for properties below the 87-foot level, some of which are already submerged or partly submerged. In preparing for the creation of Gatun Lake, many persons were removed from time to time from their holdings, and with many of them settlements were made. Other settlements have been made within this area at a more recent date.

A careful examination has been made of all cases in which a payment has been reported, and where there was any uncertainty in regard to the property covered by the previous payment the claimant has been given the benefit of every reasonable doubt. In the following cases the Commission has reached the conclusion that the claimant has no property for which an award could be sought from this Commission which is not covered by the previous payments hereinafter noted:

Bocanegro, Rufino, docket No. 1,352, the property included in this claim was covered by the payment in April, 1911, by Voucher 14769 for 1,500 banana plants and all his other improvements in the valley of the Trinidad River.

Burnett, Jethero, docket No. 1,377, the property included in this claim was covered by the payment in January, 1912, by Voucher 18133 for growing crops and other improvements in the valley of the Chagres.

Clair, James, docket No. 1,456, the property included in this claim was covered by the payment in February, 1912, by Voucher 18696 for house tax No. 1, and other improvements in or around Bohio.

Felix, Francisco (Francois), docket No. 1,642, the property included in this claim was covered by the payment in December, 1911, by Voucher 17759 for all growing crops and fruit trees, one house tax, No. 105, and all other improvements in the valley of the Chagres River in the area to be covered by the waters of Gatun Lake.

García, Alejandro, the property included in this claim was covered by the payment in October, 1909, by Voucher 8203 for a house at Buenavista, and in January, 1912, by Voucher 18265 for House 153 and improvements near Bohio.

Grant, Virginia, the property included in this claim was covered by the payment in January, 1912, by Voucher 18490 for house, tax No. 1,214 and other improvements near Tabernilla.

Hamilton, Charles, docket No. 1,143, the property included in this claim was covered by the payment in January, 1912, by Voucher 18267 for house, tax No. 29, together with improvements near Bohio.

Henry, Robert, the property included in this claim was covered by the payment in February, 1912, by

Voucher 18752 for house, tax No. 1,137 and other improvements at Barbacoas.

Herrera, José Pilar, docket No. 1,369, the property included in this claim was covered by the payment on April 6, 1911, by the Panama Railroad Company to said Herrera for the purchase of improvements on land owned by the Panama Railroad Company in the valley of the Chagres River which was situated below a contour line of 87-feet above sealevel.

Jimenez, Jacinto, docket Nos. 126 and 237, the property included in this claim was covered by the payment in May, 1912, by Voucher 20192 for property near the Valdespino River, located as property No. 32 on the sketch map of the Gatun Lake area.

Johnson, Joseph, the property included in this claim was covered by the payment in January, 1912, by Voucher 18495 for houses, tax Nos. 1,217 and 1,218 and all other improvements in or near the town of Tabernilla.

Leonia, Edward (Girard), the property included in this claim was covered by the payment in June, 1913, by Voucher 25051 for house, tax No. 36 and other improvements.

McLean, John, the property included in this claim was covered by the payment in September, 1910, by Voucher 12404 for houses, tax No. 134 and fruit trees near Bohio.

de Orta, Andres, docket No. 434, the property included in this claim was covered by the payment in February, 1912, by Voucher 18739 for house, tax No. 1,432 and other improvements at Buenavista.

Osborn, John, the property included in this claim was covered by the payment in January, 1912, by Voucher 18509 for house, tax Nos. 1,168 and 1,169 and other improvements near Tabernilla.

Quinto, Ezekiel, docket No. 1,160, the property included in this claim was covered by the payment in July, 1911, by Voucher 15929 for house, tax No. 1,431 and other improvements at Buenavista.

Rojas, Juan, docket No. 1,491, the property included in this claim was covered by the payment in December, 1911, by Voucher 17752 for house, tax No. 102 and other improvements in the valley of the Chagres.

Rowe, Ann, docket No. 1,376, the property included in this claim was covered by the payment in January, 1912, by Voucher 18134 for houses, fruit trees, growing crops and other improvements in the valleys of the Chagres and Caño Quebrado Rivers.

Sanguillen, Tomasa, docket No. 1,374, the property included in this claim was covered by the payment on April 17, 1911, by the Panama Railroad Company, for the purchase of improvements on land owned by the Panama Railroad Company, in the valleys of the Trinidad and Chagres Rivers, which are situated below a contour line of 87-feet above sealevel.

Teijiera or Trejola, Francis, the property included in this claim was covered by the payment in July, 1913, by Voucher 25509 for house No. 259 and all other improvements at Santa Cruz.

In view of the payments herein noted, no claim against the United States can be recognized by the Joint Land Commission, and these claims are hereby dismissed.

(Signed) Federico Boyd, Roland P. Falkner, Samuel Lewis, L. S. Rowe, *Commissioners.*

September 16, 1913.

In the matter of sundry claims in the lands of Matachin, docket No. 618–A, etc,—With respect to the occupiers on the lands of Matachin hereinafter named, the evidence before the Commission is that they have signed contracts with the Isthmian Canal Commission for the sale of the houses herein designated by their tax numbers, together with all other improvements situated on the said lands. The names of such persons, the docket numbers of their claims, and the tax numbers of their houses, follow:

Name.	*Docket No.*	*Tax No.*
Alexia (Elixia), Dolores	623	363
Allen, Richard	....	1694
Anderson, Chas. F. (Chas. H.)	1257	267
do	1258	386
Bouguestry, Marie L. A. (Boquette, María Louise)	633	1700
Bricklift, Nathan	....	73
Carr, (Carrol) Alexander	644–1628	580
Carr, James	....	88
Cater, James (James A.)	....	351
Chambers, Josiah	....	152
Cophar, Theophas, (See Tefascola	646	....
Darsheauz, Leonce	....	1560
Desis, (Decues) Samuel	....	1, 2, 3, & 4
Diaz, Juan (Juan Diaz Abreo).	....	40
Fernandez, Manuel (see Carvajal, Placldo)	....	....
Fraile, Emiliano	....	21
Francis, James	485	168
Gale, Peter	898	541
Gillis, Victoria (Richard)	....	78
Gordon, Walter U	....	Farm only
Hall, Francis	66	542
Henderson, Nathaniel	739	Not given
Higgins, (Higglnson) Josephine.	....	92
Hycient, (Hyacient) Matherine	567	150
Iglesia, Modesto	1078	422
Jarrett, Isabel (Isabella)	....	1698
Johnson, James U	564	161
Kayne, James	....	1333 & 547
Knight, William	672	340, 341 & 1742
Lawrence, Joseph	673	473
Legall, John	....	539, 540, 555, & 1720
Magannon, Margarita	....	Not given
McFarlane, Samuel	....	12
McKinney, George	....	1754
Marriot, Jean Mariette (Mariette Juan)	972	599
Martin, Thomas	....	100
Moody, Rebecca	....	1561
Morey, (Murray) Samuel B.	689	532
Moridon, Thomas, administrator of estate of Pino Lambert	....	1550
Nelson, Georgiana	....	54
Nobriga, John de	....	652
Peña, Juan	....	1753
Peters, George	1162	Farm only
Ramirez, (Rimera) Rufino	....	1724
Reid, Martin E	....	123
Ricketts, Joseph	700	373
Smith, William	945	153
Smith, Benjamin	736	357
Spence, Jacob	....	24
Tefascola (Theo. Fascola)	....	361
Torres, Dianas (Dimas)	....	Not given
Thompson, Richard	In 79	536
Townsend, Hezekiah	714	Farm only
Valdelamar, Juana	....	377
Voyer, Luis (Louis)	....	110
Walker, Odina (James Walker).	....	32
Walker, Victoria (James Walker)	....	172
Wiggins, Donald	....	Farm only
Williams, Florence	....	95
Good Samaritan Lodge, No. 52, Royal King George	....	2036

In view of the agreements herein referred to, these claims call for no further action by the Joint Land Commission and they are accordingly dismissed.

(Signed) Federico Boyd, Roland P. Falkner, Samuel Lewis, L. S. Rowe, *Commissioners.*

September 16, 1913.

In the matter of sundry claims, docket No. 1,240–A, etc.—With reference to the claims for improvements of the persons hereinafter named, the evidence before the Commission is that they have signed agreements for the sale of their houses and other improvements to the Isthmian Canal Commission. The names of such persons, their docket numbers, the tax numbers of the houses included in such agreements and their location, follow:

Name.	*Docket No.*	*Tax No.*	*Locality.*
Anderson, Charles H	1257	267	Santa Cruz (Gamboa)
Moran, Anibal	1095	875	Topkeca
Moran, Victor		881	Topkeca
Quintas, Emilio		887	Near Dump 4
Teran, Guillermo		879	Juan Grande (Waterloo)
Thompson, Richard	In 79	890	Topkeca
Wilson, John	1600	...	Bohio

In view of the agreements before noted these claims call for no further action by this Commission, and they are accordingly dismissed.

(Signed) Federico Boyd, Roland P. Falkner, Samuel Lewis, L. S. Rowe, *Commissioners.*

September 16, 1913.

In the matter of sundry claims, docket No. 1,240–A, etc.—In the case of the claims hereinafter noted, the evidence before the Commission showed that the properties claimed had been voluntarily abandoned by the claimants a number of years before the claim was filed with the Joint Land Commission. By reason of such abandonment any rights which these persons may have had to the properties in question lapsed, and such parties are not entitled to an award from the Joint Commission.

In view of the abandonment of the properties the claims of the following persons are hereby dismissed:

Lucero, Cristobal.—Claim for improvements located on the public land, tract No. 17 of the property map of the Canal Zone.

Rodriguez, Jacinta.—Claim for improvements located on the public land, tract No. 16 of the property map of the Canal Zone.

Rojas de Padilla, Virginia, docket No. 360.—Claim for houses and other improvements at Old Frijoles.

(Signed) Federico Boyd, Roland P. Falkner Samuel Lewis, L. S. Rowe, *Commissioners.*

September 20, 1913.

In the matter of sundry claims, docket No. 1,240–A, 532–A, 1,245–A, etc.—With reference to the claims for improvements of the persons hereinafter named, the evidence before the Commission is that they have signed agreements for the sale of their houses and other improvements to the Isthmian Canal Commission. The names of such persons, their docket numbers, the tax numbers of the houses included in such agreement, and their location, follow:

Name.	*Docket. No.*	*Tax No.*	*Locality.*
Baptiste, John	906	244	Gamboa
Fever, Eugene	850	1028	Caimito Mulato
Jimenez, Marco	...	302	Cruces
Johnjack, Mesma	...	1184	
		1167	Loma de Tabernilla
Julians, Victor	934	223	Gamboa
Marcado, Valdimiro	...	...	Caño Quebrado
Mollino, Jinia	...	291	Cruces
Navas, Appolinia	...	309	Cruces
Rodriguez, V., María	1065	211	Gamboa
Urriola, Margarita	...	308	Cruces
Vasquez, Vicenti	...	...	Juan Grande
Villereal, José	...	289	Cruces
Watson, Elijah	1084	...	Juan Grande (Waterloo)
Castillon, Dionisio	...	318	Cruces
Larin, Narcisa	1478	...	Caño Quebrado
Pardo, Francisco	...	336	Cruces

In view of the agreements before noted these claims call for no further action by this Commission, and they are accordingly dismissed.

(Signed) Federico Boyd, Roland P. Falkner. Samuel Lewis, L. S. Rowe, *Commissioners.*

September 22, 1913.

In the matter of sundry claims at Matachin, docket No. 618-A, etc.—In the case of the claimants named below who are occupiers of that portion of the original estate of Matachin, which was purchased by the French Canal Company and subsequently became the property of the United States, an examination of the evidence shows that they entered upon possession of the lands on which they claim improvements under leases from the Isthmian Canal Commission.

In a decision in the case of Agusta Dunlop, rendered April 16, 1913, the Commission said:

> "We have therefore reached the conclusion that it is not within the province of the Joint Land Commission to take cognizance of claims arising out of the revocation of revocable leases or licenses issued by the Isthmian Canal Commission. Such claims have no organic relation to the grants contained in the Treaty, nor to the international obligations which the United States has agreed to discharge under the Treaty; and for the adjudication of all such claims, the claimants must seek a remedy through the procedure afforded by municipal laws."

In accordance with the foregoing decision, the claims of the following persons are hereby dismissed:

Arias, Ricardo, for House 149, and other improvements.

Ayarza, Victor, docket No. 1,430, for house, tax No. 119, and other improvements.

Callender, Louise, estate of, for house, tax No 125, and other improvements.

Cesaire, Boula, in docket No. 930, for house, tax No. 649.

Sing, Man, for house, tax No. 127, and other improvements.

(Signed) Federico Boyd, Roland P. Falkner, Samuel Lewis, L. S. Rowe, *Commissioners.*

September 19, 1913.

In the matter of sundry claims located as below designated, docket No. 1,240-A—In the case of the claimants named below, an examination of the evidence shows that the properties which they now claim were held under leases from the Panama railroad, which leases provide that on the revocation of the lease the lessee shall remove all improvements which he has made, and which leases in the cases here named have been duly cancelled.

The claims for damages in these cases have no organic relation to the grants contained in the Treaty, nor to the obligation which the United States has agreed to discharge under the Treaty. The relationship is one existing between the claimants and the Panama Railroad Company, and if any damage was suffered by reason of the cancellation of these leases, the courts of the Canal Zone are the proper forum for the assertion of such claims.

In accordance with the principles herein formulated; the claims of the following persons are dismissed because of lack of jurisdiction, to-wit:

Gutierrez, José Carmen, for house, tax No. 1,003, at West San Pablo.

White, Ateo, docket No. 1,525, for houses, tax Nos. 1,072 and 1,082 at San Pablo.

White, Wong, docket No. 1,608, for houses, tax Nos. 1,095 and 1,098 at San Pablo.

(Signed) Federico Boyd, Roland P. Falkner, Samuel Lewis, L. S. Rowe, *Commissioners.*

September 22, 1913.

(*To be continued.*)

PANAMA RAILROAD CROSS-TIES

Black Guayacum Variety Laid in Early Days Has Stood Test of Time.

The chief engineer of the Panama railroad has prepared a report of the use and life of hardwood ties laid in the roadbed of the line since 1878, and specifications under which they have been purchased since the United States assumed control of the road. The report, in part, is, as follows:

The original track of the Panama railroad, as it existed in 1885, before being disturbed in any way by Canal operations, was laid with small hardwood ties obtained on the Isthmus, and from Colombia. The greater part of these ties were procured from the north coast of Colombia, and were shipped to Colon from the port of Barranquilla. They were of a variety of wood commonly known as lignum vitæ (*guayacum recina*), and now spoken of as black guayacum, to distinguish it from yellow guayacum, a wood of the same family, but with less power of resistance to mechanical wear or decay.

Other varieties of wood, such as balsamo (or quira), and polvillo, were procured by the company, but the only species available at the present time are a few balsamo ties, which were laid in the old track near Mount Hope in 1900, and which were taken out of the roadbed last year, and replaced by a larger tie. Practically, the only wood that has stood the test of time is the black guayacum, procured in the early days of the railroad's operations.

The guayacum ties procured by the old company were very small, being "pole" ties, about five to six inches thick, with a 6 to 7-inch face, eight feet long; some of them were quite crooked and irregular in shape. These carried the light traffic of the railroad prior to American Canal operations without difficulty, but when construction work was begun in earnest, it was found necessary to replace the small ties with those of a larger dimension.

There has been so much said about the long life of these hardwood ties that it would be well to set forth what little authentic information is available. The following are extracts from the annual reports since 1878:

1880—About 5,000 new lignum vitæ ties have been placed in the track.

1884—During the year, 30,000 new lignum vitæ ties have been put in, and during the coming year, 3,000 additional will be required.

1885—During the year 1885, 10,000 lignum vitæ ties have been received and put in the roadbed. The existing contract for the 30,000 spoken of in the annual report of 1884 will complete the work for the present.

1886—The number of lignum vitæ ties put in the road in 1885 amounted to 10,000, while in 1886, over 20,000 have been received.

1888—The number of lignum vitæ ties placed in the main line during the year was 5,456, and upon deviations, 8,747.

1889—Such is the durability of lignum vitæ cross-ties used in the track that only 5,855 new ones were required for the year.

1890—The track has been kept in excellent condition, although only 4,014 lignum vitæ ties were received during the year.

1891—The general condition of the roadbed and track continues excellent. Only 6,167 lignum vitæ ties were laid during the year. The exceptional durability of these ties (about 30 years, when of good quality) reduces the number of yearly requirements to small proportions.

1892—Four thousand one hundred and twelve lignum vitæ ties were laid.

1893—Four thousand five hundred and seven genuine lignum vitæ ties were laid, and 2,539 of native hardwoods for sidings.

1894—Seven thousand one hundred and ninety-six lignum vitæ ties were laid.

1895—Ten thousand two hundred and twenty lignum vitæ ties were laid.

The main line of the railroad was first double-tracked from White House (near Las Cascadas) to Tabernilla, to provide for the movement of the spoil trains to and from the Tabernilla dumps, and it was found necessary to remove many of the small hardwood ties from the roadbed in this section, on account of the increased traffic. These small ties were allowed to remain in the track in the section between Empire and Culebra, where the line was double-tracked, and where the traffic was comparatively light. There are many of these old ties still in use in the roadbed in that section.

The hardwood ties laid in the old track were, generally speaking, in very good condition. There were little, if any, signs of decay, but in many cases, especially with the smaller ties, they were badly worn at the rail seat by the mechanical action of the base of the rail, no tie plates being used on the ties. They were also "spike killed," caused by replacing spikes and changing rail. It will be interesting to note that many of the ties removed from the main track at that time, and later, are now being relaid on the tracks connecting with the new terminal docks at Cristobal. The timber in the ties is practically as good as ever. As their smaller size is not objectionable in the yard tracks, it is expected that they will still have a long life in other services. Tie plates are not necessary with these ties, which results in some saving.

The mechanical wear on the old hardwood ties in contradistinction to the decay of the wood is demonstrated by the fact that while the base of the rail, and the driven spikes have cut into the hardwood and weathered it, the material in the balance is as good as ever. The same experience has, of course, long been encountered and commented upon in the tie records of the United States. The difference between the experience there and here, however, lies in the fact that the ties referred to in the former records have probably not been used for a period longer than eight to 10 years, while local hardwood ties are from 20 to 25 years old, and have been used in a tropical climate where all other wood decays in from three to five years.

The black guayacum cross-tie is probably a thing of the past. Such material is now so valuable for other purposes in connection with machinery and manufacturing arts, that it is not to be expected that it can be procured at reasonable prices for cross-ties. The Panama Railroad Company has procured only 4,000 or 5,000 guayacum cross-ties in the past six years, and most of these have been of the inferior variety known as yellow guayacum.

During the past few years guayacum cross-ties have been purchased under the following prices and specifications:

1898-1904.

First-class—6 by 8 inches, by 8 feet, $1.50 each.
Second-class—5½ by 6 inches, by 7.9 feet, $1 each.

1907.

First-class—6 by 8 inches, by 8 feet, $1.62 each.
Second-class—5½ by 7 inches, by 7.9 feet, $1.42 each.

1908-1910.

First-class—7 by 9 inches, by 8.6 feet, $2.10 each.
Second-class—6½ by 8 inches, by 8.3 feet, $1.75 each.

1911.

First-class—7 by 9 inches, by 8.6 feet, $2.25 each.
Second-class—6½ by 8 inches, by 8.3 feet, $1.75 each.

SPECIFICATIONS.

1. The material used shall be black or yellow guayacum, commonly known as guayacan or lignum vitae.

2. All ties shall be well and smoothly hewed out of straight growing timber of specified dimensions, and out of wind, sawed, or square cut ends, with straight and parallel sides and faces. All ties shall have bark entirely removed when cut. Ties shall be free of splits, loose, or decayed knots, or any other imperfections, which may impair their strength or durability. Not more than one inch of sap wood will be allowed, measured across the side or face.

3. Sawed ties will be accepted agreeing in other respects with the above paragraph, provided the saw cut extends throughout the length of the tie, making parallel sides and faces.

4. The width of the face and the thickness of the tie shall conform to sizes mentioned in the table of dimensions below, but a variation of size will be permitted of one inch over in thickness, one inch over in width, and three inches over in length. No variation in size under those specified will be allowed.

TABLE OF DIMENSIONS.

				Maximum variation from straight edge.	
	Thickness.	*Width of face*	*Length.*	*Top and bottom.*	*Sides.*
First-class..	7″	9″	8′6″	½″	2″
Second-class	6½″	8″	8′3″	1″	3″

Not more than 10 per cent of any particular shipment will be accepted as seconds, and it is desired to reduce this percentage as much as possible.

Emigration from the Isthmus Continues.

According to the figures of the quarantine service nearly 2,500 more people left the Isthmus in September than landed, constituting the largest exodus in any one month since the beginning of the Canal work.

The total number of steamship passengers who embarked at Colon for foreign ports during the month was 5,371, consisting of 2,279 cabin, and 3,092 steerage passengers. The number of passengers who landed at Colon from foreign ports was 2,849, consisting of 1,600 cabin, and 1,249 steerage passengers. The number of persons who embarked over those who landed at this port was 2,522. The immigration from the West India islands consisted of 172 cabin, and 802 deck passengers, an increase in cabin, but a slight reduction in steerage passengers, as compared with August. Of the steerage passengers from other countries, Colombia furnished 130, and Costa Rica 77. There were only 96 steerage passengers from Europe during the entire month. The number of persons arriving "in transit," practically all tourists, was 1,806, a decrease of 601, as compared with the preceding month.

The number of persons who landed at the ports of Ancon and Panama during September from foreign ports was 487, consisting of 352 cabin, and 135 steerage passengers. The number of persons who embarked for foreign ports during the same period was 450, consisting of 356 cabin, and 94 steerage passengers. The number of those who landed over those who embarked was 37. The net emigration from the Isthmus during September was 2,485. The total number of vessels arriving at Colon during the month was 93, and at the port of Ancon, 23.

Red Cross Finances.

The financial statement of the Canal Zone Chapter, American National Red Cross, for the month of September, 1913, follows:

RECEIPTS.

September 1, On hand	$2,018.21	
September 18, From disbursing Officer, I. C. C., for piano sold at Culebra	80.00	
September 30, Membership dues	3.00	
September 30, Received to date, account of Red Cross ball	827.50	
Total receipts		$2,928.71

DISBURSEMENTS.

September 6, Relief of destitute missionary, Ancon	75.00	
September 6, Disbursing Officer, I. C. C., printing	2.67	
September 13, Relief of Jamaican woman at Colon, deported by I. C. C.	3.00	
September 13, Relief of family of employe at Ancon, repatriated to Jamaica	15.00	
September 17, Relief of destitute American, Cristobal	23.25	
Total disbursements		$118.92
September 30, Balance on hand		$2,809.79

JOHN L. PHILLIPS,
Treasurer.

Approved:
EDW. SCHILDHAUER,
Chairman.

The "Gold Hill Line."

The so-called "Gold Hill line" is 9½ miles in length, from the south end of the Chagres River bridge to the junction with the previously operated line at Pedro Miguel. Just south of the bridge it swings eastward of the 95-foot berm and passes around Gold Hill on a high level. Its highest point is 271 feet above sealevel, near the La Pita divide; the continental divide is crossed opposite Culebra, at an elevation of 241 feet above sealevel. The grading was completed in March, 1912, and the completed track was turned over to the railroad by the Canal Commission on May 25, 1912, since which it has been used for through freight trains, and, on occasions, for special passenger trains.

Married.

TORBERT-MORCHIO—At the Ancon Chapel, on Saturday, September 13, at 8.30 p. m., Miss Maria Catalina Morchio of Genoa, Italy, to Mr. William A. Torbert of Miami, Fla., the Rev. H. R. Carson officiating. Canal Zone residence, Balboa.

DAILY-GALE—At the Union church, Cristobal, on October, 13, Miss Mabel Louise Gale of Imperial, Cal., to Mr. John D. Daily of Monticello, Ia., the Rev. C. O. Purdy officiating. Canal Zone residence, Gatun.

WEDDOE-BALLARD—On October 11, in the Union Church, Cristobal, Miss Ada Mae Ballard of Joliet, Ill., to Mr. James Andrew Weddoe of Pulaski, Va. Canal Zone residence, Corozai.

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LOST—On October 18, in Empire shops, one hotel book, containing about 32 coupons; one commissary book, new, $15, one commissary book, old, containing coupons to the value of 14 cents, and one metal check, No. 187032. Finder is requested to return articles to office of general foreman, Empire shops.

LOST—On Monday, October 13, between 2 and 4 p. m., a gold and enamel belt buckle, either in the Cristobal commissary, or on Front street, Colon, in going to the railroad station. Finder is requested to communicate with Mrs. S. R. Hart, Box 52, Cristobal. Reward.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The following is the schedule for moving pictures for the week October 27 to November 1: Monday, Empire; Tuesday, Gatun; Wednesday, Culebra; Thursday, Empire; Friday, Porto Bello; Saturday, Cristobal.

The standing in the chess tournament is, as follows: Culebra won 15 points; Empire, 10; Cristobal, seven, and Gatun, six.

The standing in the bowling league, October 20, was, as follows:

Team.	*Won.*	*Lost.*	*P. C.*
Cristobal	7	2	.778
Corozal	6	3	.667
Empire	5	4	.556
Culebra	5	4	.556
Gatun	1	5	.167
Camp Elliott	0	6	.000

The standing in the basketball league, October 20 was, as follows:

Empire	4	0	1.000
Gatun	3	1	.750
Camp Elliott	3	1	.750
Culebra	1	3	.250
Cristobal	1	3	.250
Corozal	0	4	.000

COROZAL.

The Corozal bowling team won three games on Saturday night, October 18, from the Marines of Camp Elliott. All games were close as shown by the following scores:

Camp Elliott.				*Corozal.*			
Donell	215	181	141	Louch	188	138	161
Weis	147	148	223	Ziller	133	...	...
Ogl	164	132	149	Bordt	168	193	128
Hoffman	127	185	125	Parkis	203	192	173
Thompson	157	170	139	Edwards	181	162	154
				Davis	...	179	178
Totals	810	816	777		873	864	794

High scores in duckpins for the week ending Saturday, October 18, were, as follows: Owens, 101, Burke, 102; Beall, 109. *Tenpins*—Ziller, 201, 205, 242, 213; Davis, 202; Parkis, 205, 232; Taylor, 211, 231, 200.

The Corozal tenpin team will not bowl on Saturday night, October 25, but will bowl Empire on the Corozal alleys on November 1.

Although the Corozal basketball team is badly crippled by the absence of four of the players, who started the season with the team, they will play Culebra at Empire on Wednesday night, and Empire at Empire on Saturday night of this week.

CULEBRA.

On Wednesday night, October 15, the Culebra basketball team was defeated by the Camp Elliott team on the Empire floor by the score of 41 to 19. The line-up was:

Camp Elliott—Smith and Harper, forwards; Murray, center; McElroy, and Briggs, guards.

Culebra—Stripling, Worsely, and Bracker, forwards; Gassman, center; Rose, and Blumenberg, guards.

The Camp Elliott bowling team will bowl at Culebra on Friday night, October 24.

EMPIRE.

The Isthmian league bowling game between Empire and Cristobal, played Saturday, October 18, resulted in favor of Cristobal. Scores:

Empire	812	787	801	Cristobal	795	888	836

For the remainder of the bowling series, the home games for Camp Elliott will be bowled on Nos. 1 and 2 alleys at the Empire clubhouse.

On Wednesday evening, October 15, the Culebra chess club played the Empire club at Empire, with the following results:

Culebra.		*Empire.*	
Dubois	0	Caldwell	1
McClure	1	Goolsby	1
Warner, A. M	0	Hall	1
Warner, J. F	1	Smith	0
Second		*play.*	
Dubois	1	Goolsby	0
McClure	0	Hall	1
Warner, A. M	1	Smith	0
Totals	4		4

The results of the chess tournament games played with Cristobal on Saturday, October 18, were:

Cristobal.	*Won*	*Empire.*	*Won.*
Hunt	0	Caldwell	1
Taylor	0	Goolsby	1
Tuttle	1	Brady	0
Wilson	0	Smith	1
Second		*play.*	
Hunt	0	Smith	1
Tuttle	0	Goolsby	1
Taylor	0	Caldwell	1
Wilson	1	Brady	0
Totals	2		6

At the meeting of the Empire debating club, held Friday evening, October 17, the following question was debated: "Should what is popularly known as the unwritten law be given credence in court." The speakers were Messrs. Morrison and DeBarrows for the affirmative, and Messrs. Swanson and Patterson for the negative. The judges were Messrs. McColley, Rossiter, and Harris, and decided in favor of the negative.

GATUN.

The Empire basketball team defeated the local team on Saturday night, October 18. The score was 41 to 18. F. G. Swanson acted as referee. Mr. W. B. Childers, mayor of Gatun, made a few remarks before the game, congratulating the Empire team on its splendid record, and expressing the appreciation of the Gatun public for the work the Gatun team has done so far this season.

Mr. C. B. Russell will act as secretary during the leave of absence of Mr. Frank Gardner Smith, who sailed for the United States on the *Carl Schurz* on Tuesday, October 21, on six weeks' vacation.

Culebra took two out of three games of tenpins at Gatun on Saturday, October 18.

The results of the chess match between Culebra and Gatun on Saturday, October 18, were 5 to 3 in favor of Culebra:

Culebra.	*Won.*	*Gatun.*	*Won.*
Dubois	1	Brown	1
McClure	2	Carson	0
Warner, A. M	1	Logan	2
Warner, J. F	1	Marquard	0

Mrs. Dow Walker played several piano selections for the motion picture entertainment at Gatun on Friday evening, October 17.

CRISTOBAL.

On Wednesday evening, October 15 a chess match between local teams resulted, as follows:

Rattner	2	Verner	0
Ogden	2	Taylor	0
Tuttle	1	Wilson	1
Martin	0	Hurt	2
Totals	5		3

All postponed tenpin games will be bowled on or before October 25, at which time the local bowling tournament closes.

An unmarried folks tournament in duckpins will be be held on Monday, October 27. It is the intention to hold a married folks tournament and an unmarried folks tournament on the second and fourth Monday nights of each month, respectively.

The Cristobal basketball team defeated Corozal on Saturday, October 18. Score 35 to 7. Luce threw nine field goals and six foul goals. The line-up was, as follows: *Corozal*—Dougherty, Howe, Bessy, Ross, Kenealy, and Russell. *Cristobal*—Mathews, Luce, Simons, Hughes, and Barcroft.

The Cristobal junior basketball team was defeated by the Panama National Institute team on Saturday, October 18. Score, 16 to 14. The juniors are open to challenge.

Sixty-six were in attendance at the discussion club on Thursday night, October 16 to hear Dr. C. C. Pierce on "Sex hygiene." Subject for discussion on Thursday night, October 23 will be "Shall candidates for marriage hold health certificates?" with Mr. J. M. Weaver in charge. On Wednesday night, October 29, Mr. W. W. Warwick, assistant comptroller of the treasury, will speak.

An old fashioned All Hallowe'en social will be held on Thursday night, October 30. The games, refreshments, and decorations will be suited to the occasion.

Mr. H. D. Brittin, who has been connected with the Jersey City Y. M. C. A., arrived on the steamship *Advance*, on Saturday, October 11, to assume the physicial directorship at the Cristobal clubhouse.

PORTO BELLO.

A set of new books for the library has been ordered from the United States, and will be here in a short time.

A number of new phonograph records have been added to the collection.

The handicap pool tournament, which has been in progress for the last few weeks has been concluded. The final standings are:

Name.	*Won.*	*Lost.*	P. C.
Bucklin	12	1	.923
*Smith	11	2	.833
Bowen	11	2	.833
Heil	10	3	.769
Cummings	7	5	.583
Murray	7	5	.583
Keene	7	6	.538
Colberg	7	6	.538
Doyle	5	8	.385
J. D. Sherrard	4	8	.333
Chase	4	9	.307
Englebrecht	2	11	.154
T. W. Sherrard	2	11	.154
Thompson	1	12	.077

*Smith and Bowen were tied for second place, and on the play-off, Smith won the game, 100 to 60, receiving the silver medal. Bowen was awarded a bronze medal.

OFFICIAL CIRCULARS.

November 3 a Holiday.

CULEBRA, C. Z., October 14, 1913.

CIRCULAR No. 503:

Monday, November 3, 1913, the anniversary of the independence of the Republic of Panama, will be observed as a holiday in the Canal Zone, and as far as practicable all public business will be suspended on that day.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Acting Head of the Fifth Division.

CULEBRA, C, Z., October 16, 1913.

CIRCULAR No. 509:

Effective this date, and during the absence of Mr. H. O. Cole on leave, Mr. Robert B. Tinsley, superintendent, will be in charge of the work of the Fifth Division of the Chief Engineer's Office.

GEO. W. GOETHALS,
Chairman.

Chief Clerk, Office of the Chairman.

CULEBRA, C. Z., October 11, 1913.

CIRCULAR No. 507:

Effective October 13, 1913, Mr. Wm. H. May will, in addition to his duties as Secretary to the Chairman, take over the duties of the chief clerk during the absence on leave of Mr. C. A. McIlvaine.

GEO. W. GOETHALS,
Chairman.

Handling of Brass and Copper Scrap.

CULEBRA, C. Z., October 18, 1913.

CIRCULAR No. 426-c:

Special attention is directed to the necessity for exercising more care in the handling of brass and copper scrap, which is very valuable salvage. This applies particularly to scrap material or equipment composed partly of brass and copper. It has been noticed around various shops and at points where construction work is being carried on that brass valves, copper wire, sheet copper and various other items of this character are mixed with iron and steel shop scrap. During the month of September, the salvage gang at Mount Hope recovered over 11,000 lbs. of brass and copper scrap, after sorting over shop scrap turned in from the line. Such material should be carefully segregated in separate piles and turned over to the nearest district quartermaster or storekeeper, Q. M. D., at least once a week, for if it is allowed to lie around, loss will be incurred.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission.
President, Panama Railroad Company.

Accountability for Rolling Stock.

CULEBRA, C. Z., October 9, 1913.

CIRCULAR No. 183-z-2:

Effective October 10, 1913, the accountability for all rolling stock, over which the superintendent of transportation has control, will be transferred on Form Q. M. D. 4, to the accountability of Mr. J. C. Keller, Corozal.

Mr. Keller will consolidate memorandum receipts he holds for rolling stock and obtain memorandum receipts from the superintendent of transportation, who will be the responsible officer for all rolling stock under his jurisdiction.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Submission of Work Requests.

CULEBRA, C. Z., October 15, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

Hereafter, when submitting work request, Form C. E.-159-2, the original and *five* copies must be forwarded to this office when the work is to be performed by a department or division of the Isthmian Canal Commission, and the original and *ten* copies when the work is to be performed by the Panama Railroad Company.

Attention is also called to the fact that the estimated cost of the work to be performed must be shown in every instance where it is practicable to do so.

GEO. W. GOETHALS,
Chairman.

Preparation of Contracts.

CULEBRA, C. Z., October 13, 1913.

CIRCULAR No. 505:

Hereafter, all contracts made by the Isthmian Canal Commission or the Panama Railroad Company on the Isthmus will be prepared by the Chief Quartermaster, with the advice of the Chief Counsel or the Examiner of Accounts when necessary.

GEO. W. GOETHALS,
Chairman.

Appointment of Superintendent of Schools.

ANCON, C. Z., October 18, 1913.

CIRCULAR No. 117:

To Heads of Departments and Divisions—Effective today, Mr. Albert R. Lang is appointed superintendent of Canal Zone schools, vice Mr. Frank P. Wagg, resigned.

RICHARD L. METCALFE,
Head of Department of Civil Administration.

Sailing of the "Cristobal."

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., October 20, 1913.

CIRCULAR No. 245:

To All Concerned—The sailing date of the steamship *Cristobal* has been set at 3 p. m., October 25, from Pier 11, Cristobal.

F. MEARS,
Acting General Superintendent.

Suspension of Interlocking Service at Tower R.

OFFICE OF GENERAL SUPERINTENDENT,
PANAMA RAILROAD COMPANY,
COLON, R. P., October 15, 1913.

G. S. BULLETIN No. 12:

The interlocking plant at Tower R will be put out of service at 12 o'clock noon, Friday, the 17th instant, and switches will be handled by switch tenders as long as required.

Train order signal at Tower R and signals at south end Canal siding, will continue to be controlled from Tower R until operators are no longer required at this point.

F. MEARS,
Acting General Superintendent.

Special Train.

PANAMA RAILROAD COMPANY,
FREIGHT AND PASSENGER DEPARTMENT,
COLON, R. P., October 18, 1913.

All concerned—For the benefit of those desiring to witness performances of the Morton Opera Company, at the Garden Theatre, Colon, a special train will be run from Colon to Gatun, Tuesday and Thursday, October 21 and 23. Train will leave Colon passenger station at 11.30 p. m.

J. C. ANGEL,
Freight and Passenger Agent.

Rainfall, Oct. 1 to Oct. 18, 1913, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—.	*Ins.*		*Ins.*
Ancon	.88	5	3.38
Balboa	1.39	11	6.47
*Miraflores	1.37	11	7.43
Pedro Miguel	1.88	11	9.24
Rio Grande	1.11	3	4.06
Central Section—			
Culebra	.90	5	3.41
*Camacho	1.20	3	4.35
Empire	.95	5	3.52
Gamboa	.74	5	3.87
*Juan Mina	.80	9	4.36
Alhajuela	1.38	9	3.55
*El Vigia	1.85	9	5.20
*Frijoles	2.01	11	9.75
*Monte Lirio	1.90	11	8.88
Atlantic Section—			
Gatun	2.17	14	7.86
*Brazos Brook	2.26	5	9.48
Colon	2.97	5	12.78
†Porto Bello	2.93	11	13.78

*Standard rain gage—readings at 5 p. m., daily Automatic rain gage at unstarred stations—value midnight to midnight.

†To 5 p. m., October 17.

Stages of the Chagres River and Gatun Lake.

Maximum heights of the Chagres River for the week ending midnight, Saturday, October 18, 1913. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.				
	Vigla.	Alhajuela	Gamboa.	Frijoles	Gatun Lake*
Sun., Oct. 12	128.4	94.6	68.5	68.5	68.5
Mon., Oct. 13	126.6	93.1	68.7	68.6	68.7
Tues., Oct. 14	128.6	94.4	68.9	68.8	68.9
Wed., Oct. 15	127.4	93.8	69.1	69.0	69.1
Thurs., Oct. 16	127.2	93.4	69.3	69.2	69.3
Fri., Oct. 17	133.6	97.8	69.5	69.4	69.5
Sat., Oct. 18	127.6	93.8	69.6	69.6	69.6
Height of low water to nearest foot	125.0	91.0	44.0		

*Sluice gates in spillway at Gatun were closed on June 27, 1913, with surface of lake at elevation 48.25.

Misdirected Letters.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressees:

Alexander, Melville
Allard, T. T.
Angelear, Lou
Brown, Capt. Elliott F.
Burns, Lawrence
Cauthers, R. A.
Clarke, William F.
Daley, James H.
Doran, E.
Duval, William F.
Enright, John
Feehan, Harry
Foster, Wm. A.
Foune, Harry
Gilbert, Nat
Grier, Samuel
Hancock, Col. G. W.
Harris, John
Haymond, O.
Hitt, Sam
Holmes, Charles W.
Hurley, J.
Jurss, George (2)
Kelly, Grady
Kimball, Oliver D.
King, Mrs. Anna
Kitchen, F. K.
Kraus, Mathew
Lever, Mrs. W. M.
Lynn, L. M.
Mitchell, Joseph
Ruffo, Dr. J. B.
Sanford, Chas. & Co.
Schaeffer, Mrs. Joseph
Slonaker, C. R.
Smits, William
Taylor, Robert H.
Vasquez, Percival E.
Weidner, Mrs. Eliz. U.
Wiggins, Miss Eva
Wright, J. W.

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LOST—Between Balboa shops, and Panama, on October 10, a diamond ring with "E. F. S., 1898" engraved on the inside. Finder is requested to call at **Room 24, House 162, East Balboa, and receive reward.**

Reduced Rates to Employes—United Fruit Company's Service.

CULEBRA, C. Z., October 15, 1913.

The following reduced rates are quoted by the United Fruit Company for employes of the Commission and the Panama Railroad Company:

BETWEEN NEW YORK AND COLON.	In suites.		In staterooms with bath.		In staterooms without bath.	
	One way.	Round trip.	One way.	Round trip.	One way.	Round trip.
Adults	$101.25	$198.00	$76.25	$150.50	$56.25	$112.50
Children 8 to 12 years old	50.65	99.00	38.15	75.25	28.15	56.30
Children, 3 to 8 years old	25.35	49.50	19.10	37.65	14.05	28.10
Children under 3 years of age not occupying seat at table, or berth in stateroom	Free	Free	Free	Free	Free	Free
If more than one child under 3 years of age, for each additional child	25.35	49.50	19.10	37.65	14.05	28.10

BETWEEN NEW ORLEANS AND COLON.	In suites.		In staterooms without bath.	
	One way.	Round trip.	One way.	Round trip.
Adults	$65.00	$127.50	$40.00	$75.00
Children, 8 to 12 years old	32.50	63.75	20.00	37.50
Children, 3 to 8 years old	16.25	31.90	12.50	25.00
Children under 3 years of age not occupying seat at table, or berth in stateroom	Free	Free	Free	Free
If more than one child under 3 years of age, for each additional child	16.25	31.90	12.50	25.00

Suites and staterooms with bath will not be sold for less than two full fares.

In addition, a reduction of 25 per cent will be allowed on fares published in current passenger tariff between Port Limon and Colon, and between Kingston and Colon.

W. H. MAY,
Secretary to the Chairman.

COMMISSARY DEPARTMENT.

The commissary stores are open during the following hours:

Cristobal, 8 a. m., to 12.30 p. m., and 2 to 7 p. m.
Balboa, 8 a. m. to 12.30 p. m., and 2.30 to 7 p. m.
Ancon, 8 a. m. to 1 p. m., and 3 to 6 p.m.
All others, 8 a. m. to 1 p. m., and 3 to 7 p. m.

Retail prices of cold storage provisions effective October 21, 1913:

	Price.
FRESH MEATS.	
Mutton—Stewing, per pound	6
Shoulder, neck trimmed off (4 pounds and over), per pound	9
Entire, forequarter (not trimmed, 10 pounds and over), per pound	8
Legs (8 to 10 pounds), per pound	17
Cutlets, per pound	18
Short cut chops, per pound	20
Lamb—Stewing, per pound	6
Entire forequarter, neck trimmed off, per pound	9
Legs (5 to 8 pounds), per pound	20
Chops, per pound	24
Cutlets, per pound	24
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	12½
Chops, shoulder, per pound	17
Chops, per pound	26
Loin, for roasting per pound	26
Cutlets, per pound	30
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	8
Plate, per pound	9
Corned, No. 1, per pound	14
Corned, No. 2, per pound	12
Chuck roast, 3 lbs., and over, per pound	12
Rib roast, second cut (not under 3½ pounds), per pound	16
Rib roast, first cut (not under 3 pounds), per pound	18
Pot roast, per pound	19
Rump roast, per pound	19
Porterhouse roast, per pound	20
Steak, Chuck, per pound	12½
Round, per pound	13
Rib, per pound	18
Sirloin, per pound	19
Rump, per pound	19
Porterhouse (not less than 1½ pounds), per pound	20
Tenderloin (Western), per pound	30
Pork—Loin chops or roast, per pound	17
Hams, fresh, per pound	§20
Shoulders, fresh, per pound	§17
Spare ribs, per pound	15
Backbones, per pound	15
Pigs' feet, each	7
Pigs' head, ½-head	60
Sausage, home made, per pound	20
MISCELLANEOUS.	
Livers—Beef, per pound	11
Calf, each	60
Half, each	30
Steak, Hamburger, package	13
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Devonshire Farm, per pound	20
Sweetbread, beef, per pound	34
Eggs, fresh, per dozen	†38
per ½-dozen	†19
Bluefish, per pound	12
Halibut, fresh, per pound	15
Salmon, per pound	15
Roe shad, each	75
Shad roes, pair	40
Oysters, quart	35
POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, large, each	1.40
Fancy roasting, mild fed, med., each	1.10
Fancy roasting, corn fed, about 5½ pounds, each	1.25
Fancy roasting, corn fed, about 4½ pounds, each	1.00
Fowls, each ††60, 70, 80, 90, and	1.00
Ducks, Western (about 4½ pounds), each	1.25
Capons, each	2.00
Broilers, milk fed, each	70
Broilers, corn fed, each	60
Turkeys, per pound	28
Squabs, each	50
Rabbits, skinned, each	30
Partridges, pair	1.30
Grouse, per pair	1.30
Pheasants	1.30
CURED AND PICKLED MEATS.	
Ham—Genuine Westphalia, per pound	40
Ham—Sugar cured, per pound	20
Sliced, per pound	22
Half, for boiling, per pound	21
Boiled, per pound	28
Hocks, per pound	‡8
Beef, salt, family, per pound	12
Bacon—Breakfast, whole piece, per pound	25
Sliced, per pound	26
Ham, lunch, per pound	32
Pork, salt, family, per pound	14
Ox tongues, each	1.00
Pigs' feet, per pound	7
Tongues, per pound	18
DAIRY PRODUCTS.	
Butter—Creamery, special, per pound	†38
Sheffield Farms, extra fancy, per lb.	46
Cheese—Philadelphia cream, cake	10
Cheese—Roquefort, per pound	35
Young America, per pound	22
Swiss, per pound	28
Edam, each	1.00
Edam, tin	25
Parmesan, per pound	35
Gouda, per pound	30
Snappy, per cake	10
Milk (certified), per quart	**.20
Fer-mil-lac, bottle	**.20
Ice cream, quart	‡25
½-gallon	‡50
VEGETABLES AND FRUITS.	
Beets, per pound	3
Celery, per head	6
Cabbage, per pound	3½
Cucumbers, per pound	†6
Carrots, per pound	3
Egg plant, per pound	4
Lettuce, per pound	14
Onions, per pound	3
Potatoes, white, per pound	3
sweet, per pound	2
Parsley, bunch	5
Peppers, green, per pound	4
Romaine, per pound	14
Squash, per pound	3
Turnips, per pound	3
Tomatoes, per pound	5
Yams, per pound	3
Grapes, Malaga and Tokay, per pound	12
Grape fruit, each	4
Lemons, per dozen	24
Limes, per hundred	80
Pears, per pound	7
Oranges, Jamaican, per dozen	18

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

††Fowls weigh each, about as follows: 3, 3½, 4, 4½, and 5 pounds. Prices are based accordingly; when size ordered is not in stock, next lightest weight is supplied and refund note sent for difference.

‡Sold only from commissaries; no orders taken for delivery.

§Not less than half of a fresh ham or shoulder will be sold.

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Supplies for the Canal.

The following steamers with supplies for the Isthmian Canal Commission and the Panama Railroad Company arrived at the ports of Balboa, Colon, and Cristobal during the week ending October 11:

Carrillo, October 5, from New York, with 149 pieces furnace material, for Mechanical Division; 440 pieces structural material, for First Division; 400 cases linseed oil, 51 cases paper, 51 cases caustic soda, 1,489 sacks oats, for stock.

Sixaola, October 6, from New Orleans, with 706 barrels paving brick, 1,603 sacks creosoted blocks, for Second Division; 2,976 pieces sewer pipe, 81 bales cotton waste, 1,017 bales hay, 420 pieces lumber, 700 cases kerosene, for stock.

Prinz Joachim, October 6, from New York, with six crates batteries, for Panama railroad; 122 bundles pipe, six cases paper, for stock.

Santa Marta, October 8, from New York, with 64 reels copper cable, 267 bundles structural material, for First Division; 271 pieces sewer pipe, 500 bales splice bars, 120 cases soap polish, for stock..

Turrialba, October 9, from New Orleans, with 2,979 sacks creosoted blocks, 381 barrels brick, for Second Division; 60 barrels alcohol, for Sanitary Department; 2,659 pieces lumber, 19 rolls cotton duck, 150 bags feed, 87 bales cotton waste, for stock.

Colusa, October 10, from Columbia River, with 14 spud timbers, for Sixth Division; 2,562,846 feet B. M. lumber, 1,228 pieces piling, for stock.

Katfos, October 10, from Jacksonville, with 306,851 feet B. M. lumber, 3,402 pieces cross-ties, 780 pieces piling, for stock.

Advance, October 11, from New York, with 110 crates building material, six reels copper cable, 45 cases electrical machinery, 18,000 pieces conduit, 218 packages structural material, for First Division; 18 boxes fire brick for Fifth Division; 83 rolls wire fencing, 133 rolls wire cloth and fencing, 2,776 pieces structural iron, for Mechanical Division; 25 drums chloride of lime, for Division of Municipal Engineering; 150 rolls roofing paper, 316 drums lubricating oil, for stock; and a miscellaneous cargo, the whole consisting of 22,838 packages, weighing 217 tons.

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Tide Table.

The following table shows the time of high and low tide at Panama for the week ending November 1, 1913:

Date.	High	Low	High	Low
	A.M.	A.M.	P.M.	P.M.
Oct. 26	12.12	6 35	12.43	7.00
Oct. 27	1.13	7.32	1.42	7.53
Oct. 28	2 05	8.23	2.34	8.43
Oct. 29	2 51	9.10	3 21	9.30
Oct. 30	3 37	9.57	4 05	10 15
Oct. 31	4.20	10.40	4 50	11.00
Nov. 1	5 02	11.24	5.35	11.44

75th meridian time.

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line.

NEW YORK TO CRISTOBAL.*

Allianca	P. R. R.	Thursday	Oct.	16
Colon	P. R. R.	Wednesday	Oct.	22
Advance	P. R. R.	Tuesday	Oct.	28
Panama	P. R. R.	Monday	Nov.	3
Allianca	P. R. R.	Monday	Nov.	10
Colon	P. R. R.	Monday	Nov.	17
Advance	P. R. R.	Saturday	Nov.	22
Panama	P. R. R.	Saturday	Nov.	29
Allianca	P. R. R.	Friday	Dec.	5

CRISTOBAL TO NEW YORK.*

Panama	P. R. R.	Wednesday	Oct.	22
Allianca	P. R. R.	Tuesday	Oct.	28
Colon	P. R. R.	Tuesday	Nov.	4
Advance	P. R. R.	Sunday	Nov.	9
Panama	P. R. R.	Sunday	Nov.	16
Allianca	P. R. R.	Saturday	Nov.	22
Colon	P. R. R.	Saturday	Nov.	29
Advance	P. R. R.	Friday	Dec.	5

NEW YORK TO COLON.

Zacapa	U. F. C.	Wednesday	Oct.	15
Emil L. Boas	H.-A.	Saturday	Oct.	18
Tenadores	U. F. C.	Saturday	Oct.	18
Almirante	U. F. C.	Wednesday	Oct.	22
Tagus	R. M.	Saturday	Oct.	25
Carrillo	U. F. C.	Saturday	Oct.	25
Prinz Joachim	H.-A.	Saturday	Oct.	25
Santa Marta	U. F. C.	Wednesday	Oct.	29
Pastores	U. F. C.	Saturday	Nov.	1
Carl Schurz	H.-A.	Saturday	Nov.	1
Metapan	U. F. C.	Wednesday	Nov.	5
Prinz August Wilhelm	H.-A.	Saturday	Nov.	8
Tivives	U. F. C.	Saturday	Nov.	8
Oruba	R. M.	Saturday	Nov.	8
Zacapa	U. F. C.	Wednesday	Nov.	12

COLON TO NEW YORK.

Metapan	U. F. C.	Thursday	Oct.	23
Oruba	R. M.	Tuesday	Oct.	28
Tivives	U. F. C.	Monday	Oct.	27
Prinz August Wilhelm	H.-A.	Tuesday	Oct.	28
Zacapa	U. F. C.	Thursday	Oct.	30
Emil L. Boas	H.-A.	Tuesday	Nov.	4
Tenadores	U. F. C.	Tuesday	Nov.	4
Almirante	U. F. C.	Thursday	Nov.	6
Trent	R. M.	Tuesday	Nov.	11
Carrillo	U. F. C.	Tuesday	Nov.	11
Prinz Joachim	H.-A.	Tuesday	Nov.	11
Santa Marta	U. F. C.	Thursday	Nov.	13
Carl Schurz	H.-A.	Tuesday	Nov.	18

NEW ORLEANS TO COLON.

Sixaola	U. F. C.	Saturday	Oct.	18
Cartago	U. F. C.	Wednesday	Oct.	22
Turrialba	U. F. C.	Saturday	Oct.	25
Heredia	U. F. C.	Wednesday	Oct.	29

COLON TO NEW ORLEANS.

Abangarez	U. F. C.	Thursday	Oct.	23
Parismina	U. F. C.	Saturday	Oct.	25
Sixaola	U. F. C.	Thursday	Oct.	30

*Amended schedule, resulting from temporary withdrawal of the *Allianca* for repairs.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 1 p. m.; for Southampton on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays and Saturdays at 3 p. m.; ships for New York via Kingston, on Tuesdays at 1.30 p. m. and Thursdays at 1.30 p. m.; for Bocas del Toro on Mondays at 5 p. m.; for Limon, via Bocas del Toro, on Tuesdays at 5 p. m.; and for Limon direct, Tuesdays at 3 p. m.

Hamburg-American steamers sail for New York, via Kingston and Santiago de Cuba, on Tuesdays; the *Prinz Joachim* and *Prinz August Wilhelm* at 10 a. m., and the *Emil L. Boas* and *Carl Schurz* at 2 p. m.

The Panamanian Steamship Company's *Panama* will sail from Panama for Aguadulce and Pedregal on October 26.

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The following vessels arrived at, or departed from, the port of Balboa during the week ending Saturday, October 18, 1913:

Arrivals—October 13, *Barracouta*, from Central America; October 13, *Pachitea*, from southern ports; October 13, *Guatemala*, from southern ports; October 14, *Pennsylvania*, from San Francisco; October 14, *Quito*, from southern and intermediate points.

Departures—October 13, *Ucayali*, to Callao; October 13, *Palena*, to southern ports; October 17, *City of Para*, to northern ports; October 17, *Ecuador*, to southern ports.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, OCTOBER 29, 1913. No. 10.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Water Supply from Miraflores Lake.

The rise of Miraflores Lake has necessitated the abandonment of the pumping station for the Cocoli reservoir, west of Miraflores Locks, and water is now being taken from the lake near Miraflores passenger station. The floor of the Cocoli station was 37.6 feet above sealevel. A concrete bulkhead four and a half feet high was built around the building to protect it until the surface of the lake had reached elevation 41 feet. When the water reached elevation 39.3 feet it flooded over the spillway of the reservoir, and Cocoli Lake is now a part of Miraflores Lake.

The two pumps in the Cocoli station were transferred to the temporary pump station at Miraflores, about 250 feet southwest of the permanent station, now under construction. One was closed down on October 16, and started at its new location at 6 p. m., Sunday, October 19; the other was removed on October 18, and started at Miraflores at 4 p. m., October 22. Each is a 10-inch, three-stage, turbine pump, with a registered capacity of 1,500 gallons per minute. They supply through a 16-inch discharge pipe to the main from the Rio Grande reservoir to Panama. A Venturi meter installed near the juncture indicates that the two sources together are supplying about 7,000,000 gallons per day to the Canal work and villages south of the continental divide, and the city of Panama. Approximately 70 per cent of this comes from Miraflores Lake.

Excavation at the site of the permanent purification plant in connection with the water supply, on the hill overlooking Miraflores spillway, is being carried on by night and day shifts.

Trial of Steel Couplings for Dredge Pipelines.

Trial will be made of a metal coupling for use on the pipelines of the Commission suction dredges, and if they meet the test, the use of the present rubber sleeves will probably be discarded. The coupling is all steel, does away with clamps and attachments necessary to fasten the rubber sleeve to the pipe, and it is claimed that after once installed, there will be practically no expense for maintenance. The rubber sleeves give trouble constantly, and their upkeep is a considerable item. The steel device is known as the Parker Universal coupling, and requisition has been made for six for use on 20-inch pipe.

Increase of Pupils and Staff in Schools.

Contrary to expectations some months ago, the work in the Canal Zone schools since the beginning of the new school year has shown an increase over last year. On October 7, there was an average daily attendance in the schools for white children of 1,005, as compared with 940.6 in June, 1913, and an average daily attendance in the schools for colored children of 817, as compared with 706.5 in June. The work of the high schools has also increased, and it has been found necessary to recreate the position of supervisor of the high school and grammar grades, and to employ an additional teacher in the high school, whose time will be devoted to the teaching of English and history. A rearrangement has been made in the high school hours of study, which allows the pupils more time for their lessons. Under the new schedule, the morning session at the Ancon high school is from 8.30 to 11.50, and the afternoon session from 1.20 to 2.40. Formerly, there was only the daily morning session, from 8.30 to 11. At the Empire high school, the new hours are from 8.30 to 11 in the forenoon, and from 1.40 to 3.40 in the afternoon. There was formerly only the afternoon session, from 1.50 to 3.40. The schedule is arranged to fit closely with the arrival and departure of trains carrying pupils who reside at other points. The shortening of the present noon hours at all schools, now rather long, is being given consideration.

Crematory Building.

A one-story frame building to house the two-retort crematory described in THE CANAL RECORD of July 30, 1913, will be erected by the Chief Quartermaster's construction forces. It will be situated near the sexton's office in Ancon cemetery, and is designated for temporary use only, as the site of the graveyard will probably be changed within the next year or so. The building will be 35 by 39 feet in plan, and will contain four rooms divided by wooden partitions, one for receiving, one for the incinerator, one to house the machinery, and the other to be used for storing supplies. The floor will be of cement. The crematory apparatus will be installed under the supervision of an expert furnished by the contractor, the Jarvis Engineering Company of Boston.

DREDGING CULEBRA CUT.

Vessels from Atlantic and Pacific Entrances Working Together in Removal of Slides.

Excavation of a navigable channel through the foot of Cucaracha slide was begun at 6 p. m., Sunday, October 26, by pipeline suction dredge *No. 85*. The dredge was brought up to the south end of Culebra Cut from the Pacific entrance during the forenoon of October 24. During the same morning, a barge surmounted by trestle work, which had been held in the chamber of Pedro Miguel Lock since October 15, was towed to Bridge 57½ of the Panama railroad, crossing the Cut about 1,000 feet north of the lock, for the removal of the girder span through which vessels are to make passage until the bridge is demolished. Earlier plans had reckoned on a surface elevation of 68 feet in the Cut at the time of removing the span, but the trestle work on the barge was reconstructed, and the span was towed aside during the morning of October 25, when the surface was at 63.08 feet above sealevel. The dredge reached the slide at 10.40 a. m. of that day. Connection of its discharge pipe, floated on pontoons, was made with the relay pumping station on the west bank of the Canal, 2,500 feet south of the slide, by 3 p. m. Preliminary pumping, for test and adjustment, began directly afterward, and first excavation was made in the evening of October 26.

In its passage from the Pacific to the Cut, the dredge was towed by the tug *Miraflores*. Accompanying them were the steam launches *Birdena* and *Louise*, towing a lighter for repair parts and a fuel oil lighter, and clapet *No. 9*, and steam launch *No. 26*, towing seven sections, each about 250 feet in length, of the 20-inch discharge pipe for the dredge, arranged in parallel on pontoons. The tows entered the lower chamber of Miraflores Locks at 9.04 a. m., the upper level at 9.45, and Miraflores Lake at 10.20. Passing across Miraflores Lake, the foremost vessels entered the east flight at Pedro Miguel Lock at about 11.10, and passed into Culebra Cut at 11.52 a. m.

The tug, clapet, and two of the launches returned directly to the Pacific entrance, passing out of the lower end of Miraflores Locks at about 1.50 p. m. The third launch, the *Louise*, remained in the Cut, just south of Bridge 57½, to handle the dredging equipment through the trestle and to the slide.

With its work in the Cut, dredge *No. 85* will have served in each of the three primary divisions of the Canal, namely, the Atlantic, Pacific, and Central. From the beginning of its service, in 1909, to April, 1910, it worked in the Atlantic entrance and in supplying spoil from the south side of Gatun Dam for the hydraulic core. Just before the closing of the West Diversion at Gatun, effected on April 24, 1910, the dredge was towed through it to the lake side of the dam. It supplied hydraulic spoil until July, 1912, when it was stranded on the toe of the west wing of the dam, by raising and then lowering the lake surface, in order that it might be dismantled and transferred by train to the Pacific entrance. Rebuilt at the Balboa shipyard, it began excavation in the inner harbor in November, 1912, and was engaged there, excavating over 2,000,000 cubic yards, until its transfer to Culebra Cut.

The tug *Miraflores* is distinguished as the only Isthmian Canal Commission vessel equipped with wireless telegraph. The apparatus was installed in 1912 by the commander of the vessel, Mr. Neil Langvardt, at his own expense, to provide means of communication while the *Miraflores* was engaged in the sand service from Punta Chamé. The commander was his own operator, having learned the operation of the system while on his annual leave. The launch *Louise* is one of the relics of the French work, rebuilt by the Americans. It was formerly *La Petite Louise*, and is best remembered by older employes for its services in the communication with the sanitarium on Taboga Island. Clapet *No. 9* and launch *No. 26*, also relics of the French, towing the pontoons loaded with discharge pipe for the dredge, were commanded in group by Laurent Roquebert, foreman of dredges in the Pacific section, who has the record of the longest Canal service of any of the employes. He came to the Isthmus for the first French company in 1885, and has worked ever since at dredging about the Pacific end, for the two French companies, for the Panama railroad in the maintenance of the channel to its wharves, and for the Isthmian Canal Commission.

NORTH OF THE SLIDE.

The first dredging in Culebra Cut was begun on Thursday, October 23, at the bases of the east and west Culebra slides, about 2,000 feet on the other side of Gold Hill, from Cucaracha slide, by ladder dredge *No. 1* and the dipper dredges *Chagres* and *Mindi*, which which were brought from the Atlantic entrance and across Gatun Lake on October 22. These slides, pushing toward the center of the Canal from either side, have narrowed the channel to a clear passage of about 90 feet width. It is believed that the three dredges will be able to maintain the channel and clear the Cut at this point without difficulty. They are served by six dump barges, each of 400 cubic yards capacity, which the tugs *Bohio*, *Empire*, and *Gatun* handle to and from the dumping grounds in the old course of the Chagres, opposite Gamboa bridge and below the line of the Canal. The tows are made up by the tender *De Lesseps*.

RISE OF SURFACE IN SOUTH END.

Dredge *No. 86*, which began pumping water from the lake side of Cucaracha slide through the trench leading to the south end of the Cut at midday of October 21, was engaged continuously in that work until the morning of October 27. Its output, augmenting the natural flow through the trench from the lake, which increased steadily with the rise of the lake, was sufficient to fill the south end of the Cut practically to lake level in the night of October 26. Dredge *No. 86* will begin excavating at the foot of Cucaracha slide as soon as electrical energy is supplied to the pump prepared for it in the relay station. The stages on each side of the slide, since October 22, at 8 a. m. of each date, have been, as follows:

	North side*	South side†
Thursday, October 23	71.71	56.02
Friday, October 24	71.39	59.61
Saturday, October 25	71.53	63.08
Sunday, October 26	71.67	67.03
Monday, October 27	71.78	71.23
Tuesday, October 28	71.92	71.90

*Gamboa gage, same as Gatun Lake.
†Gage at north end Pedro Miguel Lock.

WORK AT GAMBOA.

The old French ladder dredge *No. 5* had excavated to the morning of October 29, a channel through the dike at Gamboa, 150 feet wide with bottom 10 feet above the Canal bottom, giving a clear draft of over 21 feet at present. It is estimated that the dredge will have the channel entirely clear within a month.

Lost—At Pedro Miguel, on Friday, October 24, gold seal ring with red camelian stone. Reward, if returned to L. W. Taswell, Jr., Culebra.

LABOR FORCE AND QUARTERS IN SEPTEMBER.

The force report for September 24 shows the actual working force of the Canal Commission to be 32,266; of the Panama railroad, 5,234, and of the contractors, 2,282, a total effective working force of 39,782 men, a decrease of 3,103 as compared with the statement for August. The gold force on the Canal work, composed almost exclusively of white Americans, was 4,524, an increase of 437, as compared with the previous month. A statement of the Canal force, by divisions, follows:

Department or Division.	SILVER EMPLOYES*													Total silver.	Total gold.	Grand total
	Artisans.						European laborers.		West Indian laborers.							
	Monthly	44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents.	7 cents.			
Construction & Engineering	4,173	8	3	342	1,360	3,777	2,954	743	77	434	6,561	2,462	230	23,133	2,817	25,950
Civil Admin.	118	..	..	...	....	.....	.....	.....	...	...	.....	.....	...	118	277	395
Sanitation	642	.	..	3	3	5	.....	.....	...	...	7	308	2	972	323	1,295
Quartermaster's	904	..	..	204	384	516	3	2	...	...	393	1,085	17	3,541	223	3,764
Subsistence	680	..	.	2	2	1	.....	.....	...	...	.....	.....	20	705	48	753
Disbursements	7	..	.	..	....	.....	.....	.....	...	...	.....	.....	...	7	15	22
Examination of Accounts	4	..	.	..	....	.....	.....	.....	...	..	.....	.....	...	4	83	87
Total	6,528	8	8	551	1,749	4,299	2,985	745	77	434	6,966	3,855	†269	28,480	3,786	32,266
Month previous	6,9[illegible]	9	[illegible]	[illegible]	91	4,734	3,144	80[illegible]	91	141	7,270	4,63[illegible]	‡295	30,918	4,087	35,005

I. C. C. force, 32,266; Panama railroad force, 3,810, Panama railroad commissary force, 1,424. Total, 37,500.
*All wages specified are in gold. †Includes six at five cents. ‡Includes four at five cents.

The force report of the Department of Construction and Engineering, including the employes of contractors, as of September 24, was, as follows:

Division.	SILVER EMPLOYES*													Total silver.	Total gold.	Grand total.
	Artisans.						European laborers.		West Indian laborers.							
	Monthly	44 cents	32 cents	25 cents.	20 cents.	16 cents.	20 cents.	15 cents.	20 cents.	16 cents.	13 cents.	10 cents.	7 cents			
Chief Engineer	2,855	..	1	277	1,012	2,790	1,336	461	18	40	4,511	86	†119	14,286	1,566	15,852
Mechanical Div.	151	8	6	22	83	302	16	2	...	...	1,289	52	14	1,945	712	2,657
Atlantic Div.	533	..	1	29	173	393	422	184	...	86	428	177	18	2,444	224	2,668
Central Division	634	..	..	14	92	292	1,180	96	59	308	333	1,371	79	4,458	315	4,773
U. S. Steel Products Co.	......	..	..	...	.....	.....	......	......	...	...	.....	......	....	197	209	406
Chicago House Wrecking Co	......	..	.	...	.....	.....	......	......	...	..	.....	......	....	12	3	15
McClintic-Marshall Co.	......	..	..	...	.....	.....	......	......	...	...	.....	......	....	1,640	221	1,861
Total	4,173	8	8	342	1,360	3,777	2,954	743	77	434	6,561	2,462	†230	23,133	2,817	25,950
Month previous	4,615	9	9	375	1,480	4,126	3,12[illegible]	797	91	141	6,908	3,072	‡257	25,303	3,110	28,413

*All wages specified are in gold. †Includes four at five cents. ‡Includes three at five cents.

QUARTERS.

A report of Commission and Panama railroad quarters occupied on September 30, follows:

Place.	Gold.			Europeans.			West Indians.		
	Men	*Women*	*Children*	*Men*	*Women*	*Children*	*Men*	*Women*	*Children*
Balboa	465	36	44	505	....	....	909	....	......
Ancon[1]	590	308	237	6	....	....	920	7	5
Corozal	833	236	173	584	....	....	580[2]	8	5
Miraflores	3	....	....	8[3]	....	....	232	4	4
Pedro Miguel	245	75	93	325	....	....	163	....	......
Paraiso	176	76	83	168	5	14	255	109	159
Culebra	354	145	154	367	47	88	348	97	149
Empire	787	279	295	392	45	79	572	156	246
Las Cascadas	148	98	128	30	20	41	240	158	184
Bas Obispo	72	42	47	66	10	17	236	57	70
Gatun	603	201	208	985	20	24	1,056	20	12
Cristobal[4]	980	411	472	144	....	....	1,468[5]	234	378
Toro Point	50	10	11	91	....	....	320	....	......
Porto Bello	69	24	19	119[6]	1	2	284	2	4
Total	5,375	1,941	1,964	3,790	148	265	7,583	852	1,216

(1) Includes Sabanas police station, Taboga Island, Culebra Island, Palo Seco, and Naos Island. (2) Includes 74 Panamanians. (3) Includes eight Asiatics. (4) Includes Colon Beach, and Colon Hospital. (5) Includes 46 East Indians, 11 American citizens and, 65 Panamanians. (6) Includes 19 Asiatics. Gold force of contractors (included above), 19 families, and 439 bachelors.

TABOGA SANITARIUM.

Institution To Be Placed Entirely on a Pay Basis After November 1.

An arrangement has been approved, effective November 1, whereby all employes of the Canal Commission and Panama railroad, and of contractors having hospital privileges, who are recommended for a stay at Taboga sanitarium by the physicians at Ancon and Colon hospitals, and who elect to go there, will be charged the rates in force for members of employes' families. It is to be borne in mind that the trip to Taboga will be wholly optional with the patient, and in case he goes, he will be given the usual sick certificate covering his stay. A circular, published in THE CANAL RECORD of August 13, 1913, gives the rates that are now charged dependent members of employes' families, which, for adults, two or more assigned to one room, is $1.50 per day, and for adults occupying a room to themselves at their own request, $2 a day.

The new plan is for the purpose of making the sanitarium as far as possible self-sustaining. The total expenditures of the institution during the fiscal year ending June 30, 1913, amounted to $32,469.41, not including any portion of the cost of operating the launch *Sanidad.* The revenues for the same period amounted to $9,706.96.

The number of employes in the sanitarium on June 30, 1912, was 59; number admitted during the fiscal year 1912–13, was 1,953, and of members of their families, 1,189, a total of 3,201. This was about 700 less than the total for the fiscal year 1911–12. The number of Americans who received treatment during the last fiscal year was 2,586; all others, consisting principally of Spaniards, Greeks, and Italians, 615; total, 3,210. The average number of days' treatment per employe for the year was 6.71; average number of persons constantly sick 36.06; number of days' relief furnished patients 21,165, and cost of subsistence per patient per day, $0.674, as compared with $0.651 for the preceding fiscal year.

Additional Seismic Movements.

Another pronounced earthquake shock was experienced at 10.02 a. m., on Thursday, October 23, following a period of about 10 days during which only one tremor was recorded. The movement was felt generally over this part of the Isthmus, and its intensity, according to the Rossi-Forel scale, I to X, was estimated at IV. All seismograph pens at the Ancon and Gatun stations were thrown off the sheets, so the record of maximum amplitude was lost, but the seismograph at Gatun showed a movement of 115 mm. to the north before the pen left the sheet. The duration of the shock is estimated at from 15 to 20 seconds. The instruments indicated the same distance as heretofore, namely, a point about 115 miles from Ancon, probably southwest, which would bring the epicenter off the coast of Los Santos province. Telegraph advices received from towns in Los Santos and Coclé provinces show that the last pronounced shock, while severe there, did not accomplish any great amount of damage. At Anton and Penonomé, some buildings threatened to collapse, and in Los Santos village, the schoolchildren became panic-stricken, and in the hurry to leave the building, several of the smaller pupils were trampled on and injured. Up to Monday, October 27, there had been a total of 38 movements registered by the instrument at Ancon in the present series, which began on October 1. Three tremors occurred on the 24th, one on the 25th, and another on the 26th.

A report received from Messrs. W. C. Johnston and D. F. MacDonald, who went to Los Santos province on October 7 to investigate the cause of the earthquakes at the request of the Panama Government, states that the disturbances appear to have their origin in the vicinity of two mountain peaks, known as Quema and Canajagua, the former having an altitude of about 3,000 feet. Their study of this locality leads them to believe that the shocks are caused by breaks in the earth at a distance below the surface, resulting in subterranean slides and displacements. The investigators found no sign of volcanic activity. They also announced their belief that the movements will end about the middle of November, when the forces of the sun and moon will cease to work in conjunction. They advise that reports of damage have been considerably exaggerated, and that only the roofs of some old adobe houses have suffered.

PERSONAL.

The Hon. Lindley M. Garrison, accompanied by Mrs. Garrison, Brigadier General Erasmus M. Weaver, U. S. A., member of the General Staff, and Chief of the Coast Artillery, and Mr. and Mrs. W. R. Pedigo, arrived on the steamship *Colon*, which docked at about 9.30 a. m., Tuesday, October 28. He called on President Porras at 4 p. m., on the same day, also on the American Minister, and was afterward taken on an automobile trip to Old Panama, and around the city, visiting the famous flat arch in Santo Domingo church. He began an inspection of the Canal work on Wednesday, October 29. During their stay on the Isthmus, Secretary and Mrs. Garrison will be the guests of Colonel and Mrs. Goethals at Culebra.

Capt. Courtland Nixon returned to the Isthmus on the *Colon*, on Tuesday, October 28, from his annual leave of absence.

Lieut. Geo. R. Goethals, accompanied by Mrs. Goethals, will sail for New York on the United Fruit Company's steamer *Zacapa*, on Thursday, October 30, on vacation leave.

Mr. J. W. Collier, Member of Congress from Mississippi, arrived on the Isthmus on the *Cristobal*, on October 18, on a sightseeing trip to the Canal. He returned to New York on the same vessel on October 25.

Judge S. E. Blackburn, accompanied by his family, sailed for New York on the *Cristobal*, on Saturday, October 25, on annual leave of absence.

Mr. Chas. R. Williams sailed for New York on the *Panama*, on Wednesday, October 22, on vacation leave.

Knights of Columbus.

The recently instituted council of the Knights of Columbus at Cristobal, elected the following officers, Sunday, October 26, for the ensuing term: Grand knight, A. P. E. Doyle; deputy grand knight, J. A. Corrigan; chancellor, Wm. J. McCusty; recording secretary, J. V. Delgado; financial secretary, C. B. Briggs; treasurer, Wm. J. Owens; lecturer, T. A. Aanstoos; advocate, J. M. O'Brien; warden, A. L. Kerr; inside guard, T. E. Heslin; outside guard, P. F. Corrigan; trustees, F. Bruk, D. F. Rabbitt, M. C. O'Hearn; chaplain, Rev. Father Henry C. Pouget. The council is in an excellent condition, both numerically and financially.

Masonic Club of Empire.

The material for the "Record of Masons on the Panama Canal" has been sent to the States but owing to the number of photographs it will take the printers several weeks to prepare the plates, etc. Consequently, there are about 30 days remaining in which applications can be received. All Master Masons who have delayed sending in their photographs and Masonic records should communicate with J. L. Caldwell, secretary-treasurer, Masonic Club, Box 147, Empire.

J. L. CALDWELL,

Empire, C. Z. October 27, 1913.

Visit of Exposition Commissioners.

Mr. James F. Stutesman, formerly United States minister to Bolivia, Mr. John T. Dwyer, managing editor of the Philadelphia *Record*, and Mr. Oscar H. Fernbach of the publicity bureau of the Panama-Pacific Exposition, composed a commission, which arrived at Colon on the United States scout cruiser *Birmingham*, on Friday, October 24. Their mission was to extend an official invitation to the Republic of Panama to participate in the San Francisco celebration, and in an audience with the President, assurance was given that Panama would take part. The commissioners were entertained at a dinner at the University Club by Mr. William Jennings Price, the American minister, on Tuesday evening, October 28. Messrs. Stutesman and Fernbach sailed for Costa Rica on Wednesday, October 29, while Mr. Dwyer will return to his home on Thursday. The two first-named commissioners expect to visit all the Central American countries in the interests of the exposition.

Canal Visitors.

Twenty-four members of the National Grain Dealers Association, recently in convention in New Orleans, arrived on the Isthmus on the *Sixaola*, on Thursday, October 23, to see the Canal. They sailed for Bocas del Toro on Monday, October 27.

Twenty-five members of the American Society of Civil Engineers, also arrived on the *Sixaola* from New Orleans, on Thursday, October 23, and are inspecting the Canal work. They will return to the United States on Thursday, October 30.

Examination by Board of Local Inspectors.

The Board of Local Inspectors will conduct examinations at the Administration Building, Ancon, on Wednesday, November 5, 1913, beginning promptly at 2 p. m., for persons desiring to procure the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for licenses must procure from the Executive Office, Ancon, forms of application and information respecting the filling out of same, not later than the day previous to the examination. In addition, all persons desiring chauffeurs' licenses must provide themselves with automobiles with which to demonstrate their ability to properly operate same.

W. V. JUDSON,
Chairman, Board of Local Inspectors.
ANCON, C. Z., October 23, 1913.

CANAL MEDALS.

A Total of 6,489 Medals and 3,857 Service Bars Have Been Earned to Date.

Six hundred and forty-three Canal medals have arrived and are being distributed among those entitled to them. The service bars earned for the period January 1, 1912, to January 1, 1913, have not yet been received.

The presentation of Canal medals was formally authorized by ex-President Roosevelt in a letter to the Chairman of the Isthmian Canal Commission, dated December 23, 1907. The details were turned over to a committee, which, on April 27, 1908, recommended certain conditions in line with Mr. Roosevelt's expressed desire under which the medals were to be awarded, and also made suggestions as to their general design. The conditions as adopted were, as follows:

1. American citizens alone to be eligible for medals; for naturalized citizens medal service to commence only after acquiring citizenship.
2. Medal service to begin with American occupation, employes of the Canal Commission and the Panama railroad to be equally eligible after that date.
3. Medals to be numbered consecutively in the order in which they have been earned.
4. Service to be satisfactory.

In addition, it was decided to award bars for each two years of continuous service.

The suggestion, afterward adopted, that the name of the medal holder and date of his appointment be engraved on the back of each medal, was made by one of the 1904 employes in a letter, dated March 12, 1908.

The artist, Mr. F. D. Millet, who went down with the *Titanic*, was engaged to prepare the design, and Mr. Victor M. Brenner, medalist, was employed to make the dies. It was early decided to manufacture the medals out of old French scrap, and with this end in view, five samples were sent to the director of the United States mint at Philadelphia on October 29, 1908. The shipment consisted of 25 pounds of staybolts, 30 pounds of excavator bearings, 24 pounds of bushings, another lot of 28 pounds of excavator bearings, and 35 pounds of locomotive driver bearings, all taken from old French equipment. Subsequently, the director of the mint advised that the only metal in the samples sent adapted to the manufacture of the medals was that in the staybolts, and to make the metal workable 10 per cent of alloy would have to be added. There were 5,500 pounds of these staybolts available; the entire amount was reserved for the medals, and in January, 1909, one thousand pounds were shipped to the United States. This amount has sufficed for the manufacture of all medals and service bars up to date.

As the mint could only make the medals, the engraving had to be arranged for elsewhere, and a contract was entered into with Mr. Alva Nelson of New York City for this work at a cost of 22 cents each for the medals, and 14 cents each for the service bars. This arrangement has been renewed from year to year on the same basis. The cost of making the medals has been $350 per thousand, and of the service bars $80 per thousand. The tissue paper in which they are wrapped costs 19 cents for each thousand medals, and the pasteboard box in which they are mailed to the employe adds slightly to the total expense, so that each medal represents an outlay of about 50 cents. The expense is paid out of a special appropriation made by Congress for the purpose.

Under the present regulations medals cannot be duplicated; if an employe loses his medal the loss is irremediable. It is possible, however, in view of the numerous reports of loss of medals by the holders thereof since the first issue, that some action may be taken in the future for providing duplicates. In one case, a medal claimed to have been received in bad condition was returned for correction of the defects.

A statement of the number of medals and service bars issued, or to be issued, for each period from 1904 to 1912, inclusive, follows:

Period.	*No. Medals.*	*First Bar.*	*Second Bar.*	*Third Bar.*
1904-1906	232			
1905-1907	885			
1906-1908	1,147	146		
1907-1909	1,384	536		
1908-1910	943	704	92	
1909-1911	959	830	362	
1910-1912	939	615	498	74
Total	6,489	2,831	952	74

Sixty-three per cent of medal recipients, 1904–1906, received first bars, 1904–1908. Sixty-one per cent of medal recipients, 1906–1908, received first bars, 1906–1910. Sixty per cent of medal recipients, 1907–1909, received first bars, 1907–1911.

Forty per cent of medal recipients, 1904–1906, received second bars, 1904–1910. Forty-one per cent of medal recipients, 1905–1907, received second bars, 1905–1911.

Thirty-two per cent of medal recipients, 1904–1906, received third bars, 1904–1912.

◆

New Gasoline Boats.

Award has been made to the Welin Marine Equipment Company of Long Island City, N. Y., for a gasoline launch for use of the port captain at Balboa, at $4,530. The vessel is designed for rough service in connection with the moving of cargo lighters at the Balboa docks and wharves, and will have a length of about 40 feet, and beam of 10 feet. Its scantlings and keel will be of oak, keelson of yellow pine; planking of 1¼-inch yellow pine, copper fastened; frame of 1½-inch oak; hull, sheathed with copper. The engine will be of the heavy duty type of from 40 to 45 horsepower.

Requisitions have been placed for a seagoing gasoline towboat, and a gasoline launch, to be used in connection with the work on the proposed east breakwater. The towboat will be 60 feet long, with beam molded at the water line of 14 feet. Its freeboard at the lowest point of sheer will be two feet nine inches. It will be equipped with an 80-horsepower engine, two watertight bulkheads, an electric light plant to take care of all the lights normally required and four additional ones, tank capacity for gasoline sufficient for a run of 150 miles, pilot house, cabin, which will be capable of accommodating 24 passengers, provided with benches covered with cushions; necessary life-saving apparatus, and a 12-foot dory. The bottom of the hull will be sheathed with No. 18 copper. The towboat will have a speed of nine knots an hour, and will be used principally in towing piles, but can also be utilized in shifting barges, picking up stray piles, and in running back and forth from Toro Point.

The launch is to be a duplicate of the *Psyche Rittenhouse*, now in the quarantine service at Colon and Cristobal, which was built by C. L. Seabury and Company of Morris Heights, N. Y. It will be used in making miscellaneous trips in connection with the breakwater work.

◆

Progress on Permanent Buildings at Balboa.

Forces of the American Bridge Company completed the erection of the steel framework for the new administration building, overlooking the proposed Balboa townsite, on October 10. They have also completed to date the erection of skeletons for 19 of the 27 steel-frame buildings of the permanent shops at Balboa. Buildings Nos. 14, 15, 24, 25, and 27 have not been begun. Erection of the steel for building No. 5, the general storage building, is about 75 per cent completed; for No. 6, the paint shop, about 50 per cent; and for No. 9, the galvanizing shop, about 65 per cent. All of the slightly over 6,000 tons of steel required for the shop buildings has been delivered on the Isthmus, and about 5,400 tons have been erected. The erection force of the company at Balboa numbers about 90 white Americans, structural iron workers, with about 20 negro painters.

Roofing the buildings has kept pace with the completion of erection at the successive structures. The local factory of the American Cement Tile Manufacturing Company has completed the manufacture of the tile required in the original contract for the shop buildings, and is now engaged in the preparation of roofing for other buildings, and for stock for future repairs. It is expected that the work will be finished about the first of January, 1914.

◆

Change in Tramway Line to Ancon.

The street railway track leading up the hill on which the Hotel Tivoli is situated has been removed, as a means of beautifying the approach and grounds of the hotel, and connection with the branch line leading into the Ancon Hospital grounds has been effected by a curve track, swinging from the foot of the hill to a connection opposite the Ancon dispensary. This arrangement eliminates reversing the cars, as was necessary before on both out and return trips and saves about five minutes on each trip.

◆

Counterfeit Money.

The Chief of the Division of Police and Prisons has issued the following circular notice to the district commanders, under date of October 25:

> Information has reached this office that there are a number of counterfeit 50-cent United States silver coins in circulation in the Canal Zone, a number having been located at Empire.
>
> All members of this division are instructed to be on the lookout with a view of locating the source of this spurious coin, and in the event that any information is received, immediate report should be made to police headquarters by telephone.

◆

The people of Gatun will celebrate the successful use of Gatun Locks, at the Gatun clubhouse on Saturday evening, November 1, under the auspices of the Gatun Masonic Club. There will be addresses by some of the distinguished men on the Isthmus, followed by dancing.

◆

Married.

PRINGLE–MALLET—On Monday evening, October 27, at the Panama Cathedral, Miss Dita Mallet, only daughter of Sir Claude and Lady Mallet, to Mr. Kenneth McKenzie Pringle, eldest son of Sir John Pringle of Cape Clear, Jamaica, Bishop William Rojas officiating.

GROWING OF TROPIC FRUITS.

Subsistence Department Plans to Develop a Tract at Frijoles to Supply Commissaries.

The Subsistence Department has taken charge of the estate known as Palenquillo and Frijol Grande, which comprises lands formerly owned by Martin Linczer, Margaret Rose Smith, and Mrs. George Francis Hill, lying along the Panama railroad relocation, and extending from the old site of Bohio to Caimito. Title to this land passed to the United States through awards for damages made to the owners by the Joint Land Commission. The land between Gatun and Gamboa, recently declared a reservation, also includes a number of other cultivations which are a part of the Frijoles plantation. Some of these contain valuable fruit trees, together with a considerable amount of cane and bananas.

The Linczer tract included several acres of standing cane, a crudely equipped sugar mill, and certain building improvements at Frijoles. The present crop of cane should have been cut in March, and has, therefore, depreciated to some extent in value, but the Subsistence Department is utilizing as much of it as is valuable in the production of molasses for the commissaries. The apparatus consists of a small Champion crusher, which is being operated by mule power, and three kettles for boiling down the cane juice. It is intended to continue the growing of cane, but only in sufficient quantities to supply the commissaries with cane syrup, and cane for sale by the stalk, which is greatly in demand by the West Indian employes. Eventually, it is probable that the crusher will be operated by steam power, and that an evaporating pan will be installed, thereby insuring a standard quality of molasses.

The production of sugar cane will, however, be secondary to the growing of the most common varieties of tropic fruit. During the past two years, the supply of oranges, limes, avocadoes, bananas, mangoes, etc., has been steadily diminishing. Jamaica was formerly depended on to a considerable extent for oranges, limes, mangoes, and avocadoes, but of late the shipments have become scantier and of poorer quality. With the reduction of the duty on these fruits by the new tariff, it is anticipated that the shipments from Jamaica to the United States of the better grades will increase, especially in the case of oranges, in view of the shortage of the California crop, and the high prices now prevailing.

There are at present on the farm a considerable number of banana walks in productive state. The Frijoles banana is considered superior in quality to others in this part of the Isthmus, and for years vendors have done a profitable business in selling to passengers at the Frijoles railroad station when the trains stop there. The rise of the Chagres River, which has drowned out a number of small plantations in the vicinity of Cruces, has had a tendency to cause a scarcity of banana shipments down the Chagres. A shipment of 110 bunches from the farm one day last week was distributed among various commissaries. It is planned to go into banana culture on a scale sufficient to meet the commissary and hotel requirements, and also to raise an adequate supply of oranges, limes, and avocadoes. To this end, over 1,000 avocado seeds have already been planted, all from Jamaican stock. Recognizing the impossibility of at once determining the best grades to adopt, various kinds will be planted and then budded on to other stock in a way to procure the best results. It is not intended to import budded orange and grape fruit trees from the United States, as the experience of others has shown that they do not thrive well under local conditions, but to bud from native pedigreed stock. This plan will give all the better known tropic varieties a trial, and by gradually eliminating the undesirable kinds, to arrive eventually at a standard. This high class stock will also be available for dissemination throughout the Republic of Panama.

There are about 275 acres of cultivable land in the tract. A great deal of the original estate was inundated by Gatun Lake, and a considerable part of the remaining portion above the 87-foot level has been detached and isolated, making it necessary to use a launch in visiting the various sections. It is not planned to do any intensive farming, and the products will be limited in the main to the articles mentioned above, with the addition possibly of corn and plantains. The farm arrangements are in the hands of Mr. Ernest Bradford, chemist for the Subsistence Department. All products derived from the estate are handled through the local purchasing agent of the Panama railroad.

◆

New Schedule for Sightseeing Trains.

Following is a new schedule of sightseeing trains, effective October 27, 1913:

Mondays, Wednesdays, Fridays, leave Panama passenger station at 8 a. m., for Pedro Miguel over the main line, returning to Panama over construction tracks, taking in Pedro Miguel and Miraflores Locks and Pacific sealevel section, returning to Panama about 11 a. m.

Tuesdays, Thursdays, and Saturdays, leave Colon passenger station at 8.15 a. m. for Gatun, taking in Gatun Locks and Atlantic sealevel section, returning to Colon about 11.45 a. m.

Passengers located in Panama desiring to make this trip, can do so by taking regular train No. 2, leaving Panama at 7.30 a. m., connecting with sightseeing train at Gatun, and can return to Panama after the trip on train No. 5, leaving Gatun at 11.20 a. m.

Lectures on the lock models will be given at the model room near the Hotel Tivoli at Ancon on Mondays, Wednesdays, and Fridays, about 11 a. m., and on Tuesdays, Thursdays, and Saturdays, at 3 p. m.

◆

Concrete Work in Locks and Spillways.

Concrete work in the Gatun locks is nearly completed, the aggregate amount in place at the close of work on October 25, being 4,481,109 cubic yards.

A statement of the concrete laid in the three sets of locks for the Canal, and in Gatun and Miraflores spillways, as of October 25, follows:

GATUN LOCKS.

The last concrete for the locks proper, as distinguished from that necessary to finishing work by the First Division, was mixed and placed on August 16, 1913. At the close of work on that day the total amount of concrete placed by the Atlantic Division amounted to 2,045,485 cubic yards.

PEDRO MIGUEL LOCK.

	Concrete laid. Cubic yards.
Oct. 20	57
Oct. 21	50
Oct. 22	14
Oct. 23	7
Oct. 24	13
Oct. 25	18
Total	159
Previously reported	924,316
Grand total	924,475

MIRAFLORES LOCKS.

Oct. 20	12
Oct. 21	62
Total	74
Previously reported	1,511,075
Grand total	1,511,149

GATUN SPILLWAY.*

Oct. 21	13
Total	13
Previously reported	237,318
Grand total	237,331

MIRAFLORES SPILLWAY.

Concrete work at the Miraflores spillway was completed on October 8. At the close of work on that day, the amount of concrete placed aggregated 76,346 cubic yards.

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*Includes hydroelectric station and duct line.

◆

Men Wanted for Hard Rock Excavation.

The Wisconsin Granite Company, 520 Chamber of Commerce Building, Chicago, Ill., has advised the office of the Chairman of the Canal Commission that it can use a few men experienced in hard rock excavation. All applications should be directed to the company at the above address.

◆

Celebration of Mass at Culebra.

The Catholics of Pedro Miguel and Paraiso are informed that mass is celebrated at the Church of the Holy Redeemer, Culebra, at 9.15 on Sundays and feast days.

HENRY COLLINS.

Culebra, C. Z., October 27, 1913.

CLASSIFIED EXPENDITURES—ISTHMIAN CANAL COMMISSION.

A statement of classified expenditures of the Isthmian Canal Commission to July 31, 1913, follows:

PERIODS.	Department of Civil Administration.	Department of Law.	Department of Sanitation.	Department of Construction and Engineering	General Items.	Fortifications.	Total.
Total to June 30, 1909	3,427,090.29	....	9,673,539.28	69,622,561.42	78,022,606.10	....	160,745,797.09
Total—Fiscal Year, 1910	709,351.37	....	1,803,040.95	26,300,167.05	2,863,088.83	....	31,675,648.20
Total—Fiscal Year, 1911	755,079.44	....	1,717,792.62	27,477,776.19	3,097,959.72	....	33,048,607.97
Total—Fiscal Year, 1912	820,398.57	24,729.16	1,620,391.12	28,897,738.10	2,819,926.53	1,212,881.66	35,396,065.14
Total—Fiscal Year, 1913	681,389.06	20,253.11	1,435,400.96	33,017,852.99	1,063,322.52	1,901,475.86	38,119,694.50
July, 1913	61,472.81	1,597.91	121,487.47	2,138,540.39	237,534.13	131,333.71	2,691,966.42
Grand total	6,454,781.54	46,580.18	16,371,652.40	187,454,636.14	88,104,437.83	3,245,691.23	301,677,779.32

JOINT LAND COMMISSION.

Rules of Dismissal.

(*Continued from last week.*)

In the matter of sundry claims located at Matachin, docket No. 618-A, etc.—In the case of claimants named below, who are occupiers on that portion of the original estate of Matachin, which was purchased by the French Canal Company and subsequently became the property of the United States, an examination of the evidence shows that they entered upon possession of the lands on which they claim improvements under leases from the Isthmian Canal Commission.

In a decision in the case of Agusta Dunlop, rendered April 16, 1913, the Commission said:

> "We have therefore reached the conclusion that it is not within the province of the Joint Land Commission to take cognizance of claims arising out of the revocation of revocable leases or licenses issued by the Isthmian Canal Commission. Such claims have no organic relation to the grants contained in the Treaty, nor to the international obligation which the United States has agreed to discharge under the Treaty; and for the adjudication of all such claims the claimants must seek a remedy through the procedure afforded by municipal laws."

In accordance with the foregoing decision, the claims of the following persons are hereby dismissed:

Barrio, Andrea, for house, tax No. 1,600 and other improvements.

Cleron, Felix, in docket No. 931, for house, tax No. 594 and other improvements.

Domingue (Dominique), Isidore, docket No. 1,077, for house, tax No. 538 and other improvements.

Maestre, Rafael, in docket No. 482, for house, tax No. 645 and other improvements.

Melendez, Petrona, for house, tax No. 1,736 and other improvements.

Olivarez, Julia, for house, tax No. 1,731 and other improvements.

Pitie (Peters), Stephen, for house, tax No. 122 and other improvements.

Ramos, Carlos, docket Nos. 1,599 and 160, for house, tax No. 156, and other improvements.

Robinson, Matilda, for house, tax No. 1,710 and other improvements.

Williams, John, for house, tax No. 22 and other improvements.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners*.

September 16, 1913.

In the matter of sundry claims located as below designated, docket No. 1240-A, etc.—In the case of the claimants named below, an examination of the evidence shows that they entered upon the possession of the lands on which they claim improvements, under leases from the Isthmian Canal Commission.

In a decision in the case of Agusta Dunlop, rendered April 16, 1913, the Commission said:

> "We have therefore reached the conclusion that it is not within the province of the Joint Land Commission to take cognizance of claims arising out of the revocation of revocable leases or licenses issued by the Isthmian Canal Commission. Such claims have no organic relation to the grants contained in the Treaty, nor to the international obligation which the United States has agreed to discharge under the Treaty, and for the adjudication of all such claims the claimants must seek a remedy through the procedure afforded by municipal laws."

In accordance with the foregoing decision, the claims of the following persons are hereby dismissed:

Best, Joseph, for house, tax No. 1,024, and other improvements at Caimito Mulato.

Campbell, Daniel, for house and other improvements at Caimito.

Gutierrez, Manuel, for house, tax No. 1,797 and other improvements in the lands of Juan Grande (Waterloo).

James, Daniel, docket No. 34, for house and other improvements at Caimito, under Lease 6,813.

Fontenell, Nugent, docket No. 884, for house and improvements on the lands of Juan Grande (Waterloo.)

Mendez, Celso, docket No. 1,322, for improvements at Mamey y Culo Seco.

Morrison (Murray), Thomas, docket No. 1,625, for house, tax Nos. 1,033 and 1,038 and other improvements at Caimito Junction.

Navarro, Eusebia, for house, tax No. 1,643, and other improvements at Gamboa.

Phillips, Richard, docket No. 620, for house, tax No. 1,023 and other improvements at Caimito.

Villaverde, José, for house, tax No. 1,762 and other improvements on the lands of Juan Grande (Waterloo.)

(Signed) FEDERICO BOYD, ROLAND P. FALKNER SAMUEL LEWIS, L. S. ROWE, *Commissioners*.

September 16, 1913.

In the matter of sundry claims, docket No. 1,240-A, etc.—In a number of cases claims have been presented to the Joint Commission for property which is no longer in existence, it being alleged by the claimants that such property has been destroyed by the operations of the Isthmian Canal Commission, by the formation of Gatun Lake, the relocation of the Panama railroad line, by the formation of dumps, by the clearing of watersheds, or other operations.

In some cases the United States denies that the property claimed ever existed in the names of the claimants and bases this denial upon the fact that the Isthmian Canal Commission has from the outset made very complete records of any property damaged by the operations of the Commission and of all houses destroyed by the Commission, and that prior to the formation of Gatun Lake, careful investigation was made of the territory to be covered by the waters of the lake and records made of all houses and improvements in this area.

In the following cases the evidence before the Commission is not of a character to justify the Commission in making an award for the property claimed, and the said claims are accordingly dismissed:

Aguilar, Theodosia Dulcia, claim for improvements said to have been located on the Aojeta River.

Arauz, Avelina Filos de, docket No. 1,483, claim for thatched house and other improvements said to have been located at Aguas Claras.

Bernal, Miguel, docket No. 778, claim for thatched house and other improvements said to have been located in the district of Buenavista at the mouth of the river Caño Quebrado.

Lee, Susan, docket No. 1,439, claim for improvements said to have been located at Bohio.

Montout, Leopold, docket No. 378, claim for thatched house and other improvements said to have been located on the lands of Caño Quebrado.

Quinto, Juan, claim for a thatched house burned by the Isthmian Canal Commission and for other improvements said to have been located between Frijoles and Agua Salud.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners*.

September 20, 1913.

In the matter of sundry claims, docket No. 1,240-A—In the case of the claims hereinafter mentioned, the evidence submitted to the Commission, either as to the ownership in the claimant of the property for which a claim was made or as to the existence of the property itself, was not of such a nature as to justify the Commission in proceeding to an award:

Ernest, Isadore, claim for improvements now largely overgrown with jungle at Caimito.

Fackelow (Ficklow), William, claim for a thatched house and other improvements at Bohio Hill.

Gale, John, docket No. 405, claim for House 1,143 and improvements on east side of Barbacoas bridge.

Lee, Jan (Hing Lee), docket No. 1,244, claim for property said to have been located at Escoval and under water since 1908.

Nobriga, John D., docket No. 535, for house at Bailamonos.

In the absence of sufficient evidence, these cases are hereby dismissed.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners*.

September 18, 1913.

In the matter of house No. 1776 and improvements, docket No. 1,240-A—The evidence before the Commission is to the effect that the owner of the house No. 1776 and its improvements, who appears in the records of the Commission under the name of Manual Yveino, is also known under the names of Yebano, Ibaña, Ibañez, and Baños. The evidence before the Commission shows that under the name of Manuel Baños he signed on March 19, 1912, an acknowledgment, in which it is stated that he recognizes that the land occupied by himself on which was located the house, tax No. 1776, belonged to the United States of America, and in which he agreed that in consideration of permission to occupy said land that he would vacate the said land and remove therefrom any and all improvements without making any claim of any kind against the United States, the Isthmian Canal Commission, or Panama Railroad Company by reason of such removal.

In view of the agreement herein described the Joint Land Commission can recognize no claim against the United States for which an award should be made, and the case is accordingly dismissed.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners*.

September 15, 1913.

Rules.

In the matter of sundry claims for houses in the town of Gorgona, docket No. 1250-A, etc.—Inasmuch as the Commission has certified its inability to agree whether or not those persons are entitled to compensation, who after November 15, 1907, purchased houses in the town of Gorgona from persons who owned such houses prior to the said date, and whose occupancy of the lots upon which such houses were erected was prior to their acceptance of Isthmian Canal Commission leases, it is directed that the claims of the following persons for the houses specified, which fall in this category, be referred to the decision of the umpire to be appointed under Article XV of the Treaty ratified February 26, 1904:

Armstrong, Christian, tax No. 840; Brigite, Augustin, tax No. 780; Bernard, Charles D., tax No. 775; Bailey, George, tax No. 841; Ching, Wing Lee, tax Nos. 710 and 834; Caldwell, Jack, tax No. 786; Carrington, W. H., tax No. 735; Forbes, Rosa, tax No. 732; Gordon, Edward, tax No. 811; Maduro, I. L., tax Nos. 835 and 837; Lindor, Leanor, tax No. 831; Ogilvie, D. W., tax Nos. 868 and 736; Pence, Juan A., tax Nos. 753 and 754; Tai, Kam Ling, tax No. 743; de Tomo, Francisco and Fasano, A., tax No. 799; Yu, José L., tax No. 772; Zuleta, Marcial, tax No. 816.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners*.

September 23, 1913.

In the matter of sundry claims.—Inasmuch as the Commission has certified its inability to agree on the question, whether or not compensation should be awarded to persons who purchased houses and other improvements from parties who held the same under leases from the Isthmian Canal Commission, but who had been in the occupancy of such houses or lands prior to the time when they took a lease from the Commission, it is ordered that the following cases, which come within this category, be referred to the decision of the umpire to be appointed under Article XV of the Treaty ratified February 26, 1904:

Calderon, Eleodoro, claim for house No. 1733 at Matachin, on lands purchased by the French company, which subsequently became the property of the United States.

Estrada, José de la Cruz, claim for house No. 281 in the village of Cruces.

Moldonado, Juan, in docket No. 678, claim for house No. 280 in the village of Cruces.

Murgas, Marcolino, claim for house No. 303 in the village of Cruces.

Prado, Cayetano, in docket No. 136, claim for houses Nos. 241, 181, 296, and 306 in the village of Cruces.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners*.

Opinion

on the status of occupiers and tenants on that portion of the Matachin estate acquired from the French Canal Company—Portions of the original estate of Matachin were acquired by purchase by the French Canal Company and subsequently became the property of the United States. On this part of the estate the status of occupiers and tenants of the Matachin estate is governed by the principles formulated by the Commission in the opinions dated June 24, 1913, and July 25, 1913, which determined the status of occupiers and tenants on public lands in the Canal Zone who went upon such land prior to and subsequent to the date of the Treaty between the United States of America and the Republic of Panama, ratified February 26, 1904.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners*.

September 15, 1913.

Opinion

in the matter of sundry claims on that portion of the lands of El and La Pihiva lying below a topographical contour line of 87 feet above sealevel—Among the persons who make claim for improvements in the lands of El and La Pihiva are certain persons whose improvements are below the 87-foot level. Concerning such persons the following statement is made in the answer of Counsel for the United States:

> "It is submitted that the United States of America have acquired under an award of the Joint Land Commission of 1908 and the deeds in execution thereof, all interest, claims, and demands of every kind and character whatsoever in and to that part of the estates of El and La Pihiva (Pisva) lying below a topographical contour line of 87 feet elevation above mean sealevel, and that this Joint Land Commission has no jurisdiction to make awards in favor of claimants alleging themselves to be the owners of any improvements located upon said lands."

For the determination of the rights of these claimants the Commission deems it unnecessary to enter into an examination of the effect of the award of the Commission of 1908. The evidence submitted shows that these claimants occupied these lands subsequently to 1908 for a period sufficient to acquire rights under Law No. 48 of 1882. Their status, therefore, is governed by the opinion of the Commission announced July 25, 1913.

The Commission has, therefore, reached the conclusion that those claimants who fulfill the aforesaid requirements are entitled to compensation and awards will be made accordingly.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners*.

September 23, 1913.

OFFICIAL CIRCULARS.

Disposition of "Bad Order" Lidgerwood Cars.

CULEBRA, C. Z., October 22, 1913.

CIRCULAR No. 323-T:

Hereafter, any Lidgerwood flat cars which may be retired and turned over to the Quartermaster's Department as bad order cars, should be sent to Mount Hope depot, at which point the air brake parts will be removed, bodies lifted off trucks and burned, and such usable parts as are needed will be recovered after the bodies are burned.

GEO. W. GOETHALS,
Chairman.

Estimate of Cost on Work Request.

CULEBRA, C. Z., October 21, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

Hereafter, in cases where it is not practicable for the department submitting work request (form C. E. 159-b) to furnish an estimate of the cost of the job, the department performing the work will insert the estimated cost on one copy of the work request, which will be furnished for that purpose, and forward the same direct to the Examiner of Accounts at Empire.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Form for Silver Employes Sent to District Physician.

CULEBRA, C. Z., October 21, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

The Acting Chief Sanitary Officer calls attention to the fact that foremen and others who are in the habit of sending silver employes to the district physicians for treatment are not using form D. S. No. 3 (Request for medical treatment) which is provided for that purpose. Please instruct all concerned to furnish the necessary information to the district physicians on form D. S. No. 3 and see that they are supplied with this form.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Inspector, Office of Chief Engineer.

CULEBRA, C. Z., October 23, 1913.

CIRCULAR No. 510:

Effective this date, Mr. George A. Greenslade is appointed inspector, Office of the Chief Engineer.

As such, his duties will cover both work and labor. As regards work, he will report on the methods and economy of performance. As regards labor, he will inspect and report on the methods of handling labor, the results obtained, the tools used, conformance with rules and regulations, and the efficiency attained, not only as regards the labor itself, but also as regards the foremen and general foremen in charge of same.

Heads of departments and divisions will afford him any facilities necessary for the proper performance of his work and will consult with him directly on all matters requiring his assistance.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Reservations on the "Cristobal," November 25.

CULEBRA, C. Z., October 27, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

All first-class sailing accommodations on the steamship *Cristobal*, scheduled to sail from New York on November 25, will be reserved exclusively to members of the House Committee on Appropriations. No requests for first-class accommodations on this boat should, therefore, be made.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Fire Equipment in Moved Buildings.

CULEBRA, C. Z., October 23, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

In the future, when on account of construction work or for any other reason it becomes necessary to remove or demolish any buildings of the Commission or Panama railroad, prior notice should be given to the Chief of the Division of Fire Protection in order that steps may be taken to properly care for any fire equipment which may be installed therein.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

New Section P. R. R. Main Line Placed in Service.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., October 25, 1913.

G. S. BULLETIN No. 15:

The new section of north bound track near the Pedro Miguel station, will be put in service at 7 a. m., Sunday, the 26th instant, and double track will thereby be extended northward to a point opposite Pedro Miguel station.

Switches will be equipped with hand throw switchstands temporarily, and served by switch tenders, until such time as new interlocking plant is put into service. Please be governed accordingly,

F. MEARS,
Acting General Superintendent.

Change in P. R. R. Signal Service.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
Colon, R. P., October 24, 1913.

G. S. BULLETIN No. 14:

Effective 12.01 p. m., October 25, the outlying home signal located south end of Canal siding and governing northward trains will be placed "Out of service." All northward trains will continue to observe the "Fixed arm" indicating "Limited speed" until train has passed all switches that were formerly controlled from Tower R. This "Fixed arm" will remain in its same location, which is 1,950 feet south of Canal siding.

On the same date and at the same time the power operated manual block signal (stencilled M. B.) at the south end of Canal siding will go out of service and all southward trains will be governed by the manual block signal at Tower R.

F. MEARS,
Acting General Superintendent.

Change in Sailing of the "Heredia."

COLON, R. P., October 28, 1913.

To All Concerned—The steamship *Heredia* is scheduled to sail from New Orleans on Wednesday, October 29, stopping at Mobile to pick up members of the Southern Commercial Congress who are making the cruise. The following will be the itinerary:

Leave New Orleans, Wednesday, October 29, at 11 a. m.; arrive Mobile, Thursday, October 30, at 8 a. m.; leave Mobile, Thursday, October 30, at 11 a. m.; arrive Colon, Tuesday, November 4, at 7 a. m.; leave Colon, Thursday, November 6, at 10 a. m.; arrive Bocas del Toro, Thursday, November 6, at 9 p. m.; leave Bocas del Toro, Friday, November 7, at 9 p. m.; arrive Colon, Saturday, November 8, at 8 a. m.; leave Colon, Saturday, November 8, at 3 p. m.; arrive New Orleans, Thursday, November 13, at 7 a. m.

You will note that the usual stop at Limon is omitted from this itinerary and steamer will remain in Colon until Thursday, sailing at 10 a. m. direct to Bocas, returning to Colon Saturday morning, and resuming her regular schedule northbound.

H. R. WILFORD,
General Agent.

Misdirected Letters.

The following insufficiently addressed letters originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressees:

Bascom, F.
Blades, Mrs. Eudora
Byam, Mrs. Joseph
Clark, John
Davis, Hugh
De Haunt, Harry G.
Doying, W. A. E.
Emmett, W. P.
Fitch, E. G.
Franco, John
Gage, Alfred
Geisdorf, Otto
Hall, Thomas
Howley, Andrew
Jackson, Wm. T.
Kerwin, John
La Wall, Fred
Lewis, Charles
Mayers, Thomas
McArthur, A. T.
McDaid, George
Miller, J. F.
O'Brian, Mrs. Jos.
Riley, Hugh F.
Schling, Frank
Schnieder, Mrs. Barney
Schutt, Mrs. George
Smith, Samuel T.
Strauss, J. R.
Wiggins, Miss Eva
Wilkes, R. H.
Wrocester, C. H.
Kitchen, F. L.

Supplies for the Canal.

The following steamers with supplies for the Isthmian Canal Commission and the Panama Railroad arrived at the ports of Balboa, Colon and Cristobal during the week ending October 18:

Heredia, October 13, from New Orleans, with eight crates steel, for Panama railroad; 2,083 barrels paving brick, for Second Division.

Pastores, October 15, from New York, with 341 pieces structural material, for First Division; 11 pieces chain, 300 cases turpentine, 43 pieces plumbing material, for stock.

Pennsylvania, October 14, from San Francisco, with 576 pieces lumber, for stock.

Metapan, October 15, from New York, with 13 reels cable, 33 cases louvre panels, 13 reels cable, for Panama railroad; 10 cases electric pumps, 82 cases electrical machinery, 356 pieces structural material, for First Division; 46 cases pipe fittings, 45 pieces steel bars, for stock.

Abangarez, October 16, from New Orleans, with 128 pieces lumber, for Sixth Division; 2,983 sacks creosoted blocks, for Second Division; 500 kegs white lead, 608 pieces lumber, 111 pieces pipe, 232 pieces pipe-fittings, 69 barrels rosin, for stock.

Panama, October 16, from New York, with 19 crates electric lamps, for Mechanical Division; three barrels whiskey, for Sanitary Department; 16 dredge doors, for Sixth Division; 51 packages structural material, seven cases electrical machinery, 99 pieces structural material, for First Division; 92 steeel doors, for fortifications; 300 drums carbide of calcium, for Lighthouse Division; 5,714 pieces hollow tile, for Second Division; 159 rolls wire cloth, for Administration Building; 50 stoves, 40 cases varnish, 600 garbage cans, 60 barrels liquid tar, 107 boxes soap, for stock; and a miscellaneous cargo, the whole consisting of 7,718 pieces, weighing 212 tons.

Rainfall, Oct. 1, to Oct. 25, 1913, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	2.05	24	7.32
Balboa	1.41	24	9.43
*Miraflores	1.37	11	10.22
Pedro Miguel	1.88	11	11.66
Rio Grande	1.11	3	6.28
Central Section—			
Culebra	.90	5	5.56
*Camacho	1.20	3	7.03
Empire	1.24	19	6.40
Gamboa	2.63	19	7.60
*Juan Mina	.80	9	6.04
Alhajuela	1.38	9	5.33
*El Vigia	1.85	9	7.57
*Frijoles	2.52	20	13.47
*Monte Lirio	4.00	20	13.26
Atlantic Section—			
Gatun	2.81	19	14.73
*Brazos Brook	5.50	20	16.02
Colon	2.97	5	17.99
†Porto Bello	2.97	17	18.83

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—value midnight to midnight.

†To 5 p. m., October 24.

Stages of the Chagres River and Gatun Lake.

Maximum heights of the Chagres River and Gatun Lake for the week ending midnight, Saturday, October 25, 1913. All heights are in feet above mean sea level.

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela	Gamboa.	Frijoles	Gatun Lake*
Sun., Oct. 19	127.8	93.4	69.8	70.0	70.0
Mon., Oct. 20	134.6	98.4	70.1	70.6	70.7
Tues., Oct. 21	127.8	94.2	70.8	70.8	70.8
Wed., Oct. 22	130.0	95.4	71.1	71.0	71.1
Thurs., Oct. 23	128.5	95.1	71.3	71.3	71.4
Fri., Oct. 24	128.1	94.0	71.5	71.5	71.6
Sat., Oct. 25	128.0	94.0	71.6	71.6	71.7
Height of low water to nearest foot	125.0	91.0	44.0		

*Sluice gates in spillway at Gatun were closed on June 27, 1913, with surface of lake at elevation 48.25

Family Quarters.

Applications for married quarters on file on September 30, were, as follows:

DISTRICT.	List No. 1.	List No. 2.
Ancon	7 (2)	106 (22)
Ancon Hospital	....	7
Balboa	2 (3)	57 (6)
Corozal	9 (8)	141 (13)
Cristobal	....	129 (2)
Culebra	....	43 (3)
Empire	....	77 (28)
Gatun	....	62 (3)
Las Cascadas	....	24 (2)
Pedro Miguel	....	63 (9)
Porto Bello	......	6 (5)
Toro Point	......	2
Total	18 (13)	717 (93)

NOTE—The figures in parentheses show the number of applicants already occupying regular or nonhousekeeping family quarters at stations other than those at which applications are filed.

Married.

WARREN-HEYNS—At Santa Rita Church, Gatun, on September 24, Miss Mary Ann Heyns of Birmingham, Ala., to Mr. William Wesley Warren of Canton, Miss., the Rev. Father M. A. Jiamona officiating. Canal Zone residence, Cristobal.

Commissary Cold Storage.

No changes are reported in the list of cold storage supplies sold at the commissaries, published in THE CANAL RECORD of October 22.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The first ten men in the all-Isthmian bowling league are, as follows: O'Meara, Parkis, Cushing, Dougherty, Bullard, Davis, Barte, King, McColley, Barrett.

The standing of the chess clubs in the all-Isthmian tournament is, as follows: Culebra won 20½ points, Empire, 16½ points; Gatun, 15 points, and Cristobal, 10 points.

The standing of the teams in the basketball league on October 27, was, as follows:

Team.	*Won.*	*Lost.*	*P. C.*
Empire	6	0	1000
Camp Elliott	4	2	.600
Gatun	3	2	.667
Cristobal	2	3	.400
Culebra	2	4	.333
Corozal	0	6	.000

The standing of the teams in the bowling league on October 27, was, as follows:

Cristobal	7	2	.778
Corozal	6	3	.667
Empire	8	4	.667
Culebra	8	4	.667
Gatun	1	8	.111
Camp Elliott	0	9	.000

CULEBRA.

On Monday night, October 20, the first "Smoker" since the demolition of the old Culebra Y. M. C. A., was held in the schoolhouse, with an attendance of 150 men. An orchestra furnished music during the evening. The program for the entertainment was, as follows: Piano solo, Mr. C. C. Pearsall; singing and dancing act, Shubert; blackface comedy, E. L. Emery; banjo solo, C. R. Ray, with five encores; and a wrestling match between Christy of Camp Otis and J. Guy DeCora of Culebra, won by the former. During the evening, four comic moving picture films were exhibited. Sandwiches, home made cake, lemonade, and cigars were served at the close of the program.

High scores in tenpins during the week were made by Finley, with 201, and Chadbourne, with 216.

The Camp Elliott bowling team lost three games to the local team on Friday night, October 24, by the following scores:

Camp Elliott.				*Culebra.*			
Darnell	149	144	120	Case	178	165	142
Weis	143	137	181	Cushing	186	184	189
Ogle	120	158	165	Herrington	157	179	144
Thompson	133	188	149	Chadbourne	124	170	150
Jenkins	151	156	129	Dougherty	193	145	184
Totals	687	783	744		838	843	809

Rev. C. H. Elliott of Cristobal spoke at the Sunday night service, October 26, to a good-sized audience. Everyone is invited to attend these services in which special features will be introduced nearly every Sunday evening.

On Wednesday night, October 22, the Culebra basketball team defeated the Corozal team at Empire by the score of 20 to 16. The line-up was, as follows:

Corozal—Bessey and Doherty, forwards; Russell, center; Kenealy, Howe, Shafer, guards.

Culebra—Bracker, and Stripling, forwards; Gassman, center; Rose, Blumenberg, Worsely, guards.

EMPIRE.

The regular meeting of the Empire debating club will be held Friday, October 31. The subject will be "Resolved, that the trusts should be abolished." Speakers for the affirmative will be Mr. D. C. Brown and Mr. McColley; for the negative, Mr. Martin and Mr. D. Watson. The public is invited.

The Empire basketball team defeated the Corozal team on Saturday, October 25, by the score of 53 to 13.

The bowling games between Empire and Gatun were won by Empire on Saturday, October 25. Scores were, as follows: Empire, 843,904,850; Gatun, 737,811,734.

Three hundred and fifty men attended the "Smoker" on Tuesday, October 21, at which the following program was given: Music by the Tenth Infantry orchestra; three selected moving picture reels; E. L Emery in his own act; E. Paul Case, soloist; F. J. Shubert, song and dance; Kane and Terrell, musical impersonators; "Happy" Draughon, comedian; Burmaster and Morrison, blackface act; C. C. Pearsall, piano solo; Mr. Ray on the banjo; and an address by Mr. W. W. Warwick, formerly chairman of the Empire Y. M. C. A. council.

The Culebra chess team played the Empire team on Wednesday, October 22. Empire won two and one half games, and Culebra won five and one half games.

On Saturday, the Gatun chess team visited the Empire team, with the result that each won four games and lost four games.

On Wednesday night, October 22, the Empire basketball team defeated the Camp Elliott team at Camp Elliott, by the score of 31 to 12.

GATUN.

On Wednesday evening, October 22, the local basketball team defeated the Cristobal team, by a score of 22 to 16. The players for the local team were Huber, Whiston, Wright, Bane, Mitchell, Connolly, and Bruce. Those on the Cristobal team were Mathues, Frazer, Simons, Hughes, and Barcroft.

On Saturday evening, the local team was defeated at basketball by the Marines from Camp Elliott. The game was close throughout the halves, the score standing at 11 to 12 in favor of the Marines at the close of the first half, and 23 to 25 at the close of the game. Mr. F. G. Swanson of Empire was referee.

Moving pictures this week will be shown on Thursday evening, October 30.

On Saturday evening, November 1, the Gatun basketball team will play the Corozal team at Corozal.

CRISTOBAL.

A concert was given on Tuesday night, October 21, by the orchestra from the steamship *Prinz August Wilhelm.*

On Wednesday night, the Gatun chess team defeated the Cristobal team, in the all-Isthmian chess tournament. Results were, as follows:

Cristobal.	*Won.*	*Gatun.*	*Won.*
Hurt	0	Brown	1
Taylor	0	Byrne	1
Tuttle	1	Dashiel	0
Verner	1	Logan	2
Wilson	1	Marquard	1
Totals	3		5

Mr. Chas. J. Ewald was a guest at the discussion club meeting on Thursday evening. Mr. Ewald is traveling secretary of the Y. M. C. A., for South America. Mr. Christian Doxrud and Captain Thorvald Nilsen will address the club on Thursday night, November 6. Captain Nilsen accompanied Amundsen on his Antarctic explorations as far south as their vessel, the *Fram*, could go. This will be an open meeting, to which the public is invited.

On Saturday night the band from the cruiser *Birmingham* gave a concert in connection with the moving picture show, and Mr. E. J. Shubert sang several solos. Immediately following the moving pictures, the Culebra basketball team played Cristobal in the all-Isthmian tournament. The score was 13 to 10 in favor of Cristobal. The line-up was, as follows: *Culebra*—Messrs. Bracker, Stripling, Chadbourne, Rose, and Gassman. *Cristobal*—Messrs. Mathues, Raymond, Simons, Hughes, Moons, Fraser, and Taylor. Camp Elliott plays at Cristobal on Saturday, Novemher 1. The Cristobal juniors will play the team from the National Institute of Panama at Cristobal on the same night.

A "Camp fire banquet" will be held on Thanksgiving eve at the Washington Hotel. Judge Thos. E. Brown, Jr., will be toastmaster. Other speakers will be Mr. Richard L. Metcalfe, Mr. William Jennings Price, Mr. W. W. Warwick, and Dr. Claude C. Pierce. Col. George W. Goethals and Mr. Joseph Bucklin Bishop are to be the guests of the occasion. Tickets for the banquet are on sale this week. Men who procure tickets on or before November 16 will have their names and the dates on which they began service on the Isthmus printed on the souvenir programs.

During the week ending October 25, the high scores for tenpins were: Bullard, 211; Brittin, 205; Barte, 200. For duckpins: Barte, 115; Pinney, 122. Mr. J. W. Barrett is in the lead for the monthly high score in tenpins, having bowled 232 pins.

The local tenpin tournament, which closed this week resulted, as follows:

Name.	*Won.*	*Lost.*	*P. C.*
1—Bullard	24	6	.800
2—Collins	15	15	.500
3—Gibson	15	15	.500
4—Barrett	14	16	.467
5—Buser	13	17	.433
6—Barnum	9	21	.300

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending November 8, 1913:

DATE.	Low	High	Low	High
	A.M.	A.M.	P.M.	P.M.
Nov. 2	......	5.47	12.10	6.20
Nov. 3	12.32	6.32	12.57	7.08
Nov. 4	1.22	7.20	1.50	8.00
Nov. 5	2.17	8.16	2.47	9.02
Nov. 6	3.23	9.25	3.53	10.14
Nov. 7	4.35	10.47	5.00	11.28
		P.M.		
Nov. 8	5.45	12.16	6.05	......

75th meridian time.

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings of the Panama Railroad Steamship Line; of the Royal Mail Steam-Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.*

Advance	P. R. R.	Tuesday	Oct.	28
Panama	P. R. R.	Monday	Nov.	3
Allianca	P. R. R.	Monday	Nov.	10
Colon	P. R. R.	Monday	Nov.	17
Advance	P. R. R.	Saturday	Nov.	22
Panama	P. R. R.	Saturday	Nov.	29
Allianca	P. R. R.	Friday	Dec.	5
Colon	P. R. R.	Thursday	Dec.	11
Advance	P. R. R.	Wednesday	Dec.	17

CRISTOBAL TO NEW YORK.*

Colon	P. R. R.	Tuesday	Nov.	4
Advance	P. R. R.	Sunday	Nov.	9
Panama	P. R. R.	Sunday	Nov.	16
Allianca	P. R. R.	Saturday	Nov.	22
Colon	P. R. R.	Saturday	Nov.	29
Advance	P. R. R.	Friday	Dec.	5
Panama	P .R. R.	Thursday	Dec.	11
Allianca	P. R. R.	Wednesday	Dec.	17

NEW YORK TO COLON.

Almirante	U. F. C.	Wednesday	Oct.	22
Tagus	R. M.	Saturday	Oct.	25
Carrillo	U. F. C.	Saturday	Oct.	25
Prinz Joachim	H.-A.	Saturday	Oct.	25
Santa Marta	U. F. C.	Wednesday	Oct.	29
Pastores	U. F. C.	Saturday	Nov.	1
Carl Schurz	H.-A.	Saturday	Nov.	1
Metapan	U. F. C.	Wednesday	Nov.	5
Prinz August Wilhelm	H.-A.	Saturday	Nov.	8
Tivives	U. F. C.	Saturday	Nov.	8
Oruba	R. M.	Saturday	Nov.	8
Zacapa	U. F. C.	Wednesday	Nov.	12
Emil L. Boas	H.-A.	Saturday	Nov.	15
Tenadores	U. F. C.	Saturday	Nov.	15
Almirante	U. F. C.	Wednesday	Nov.	19
Trent	R. M.	Saturday	Nov.	22
Carrillo	U. F. C.	Saturday	Nov.	22

COLON TO NEW YORK.

Zacapa	U. F. C.	Thursday	Oct.	30
Emil L. Boas	H.-A.	Tuesday	Nov.	4
Tenadores	U. F. C.	Tuesday	Nov.	4
Almirante	U. F. C.	Thursday	Nov.	6
Trent	R. M.	Tuesday	Nov.	11
Carrillo	U. F. C.	Tuesday	Nov.	11
Prinz Joachim	H.-A.	Tuesday	Nov.	11
Santa Marta	U. F. C.	Thursday	Nov.	13
Carl Schurz	H.-A.	Tuesday	Nov.	18
Pastores	U. F. C.	Tuesday	Nov.	18
Metapan	U. F. C.	Thursday	Nov.	20
Prinz August Wilhelm	H.-A.	Tuesday	Nov.	25
Tivives	U. F. C.	Tuesday	Nov.	25
Thames	R. M.	Tuesday	Nov.	25

NEW ORLEANS TO COLON.

Turrialba	U. F. C.	Saturday	Oct.	25
Heredia	U. F. C.	Wednesday	Oct.	29
Atenas	U. F. C.	Saturday	Nov.	1
Parismina	U. F. C.	Wednesday	Nov.	5

COLON TO NEW ORLEANS.

Sixaola	U. F. C.	Thursday	Oct.	30
Cartago	U. F. C.	Saturday	Nov.	1
Turrialba	U. F. C.	Thursday	Nov.	6
Heredia	U. F. C.	Saturday	Nov.	8

*Amended schedule, resulting from temporary withdrawal of the *Allianca* for repairs.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 1 p. m.; for Southampton on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays and Saturdays at 3 p. m.; ships for New York via Kingston, ou Tuesdays at 1.30 p. m. and Thursdays at 1.30 p. m.; for Bocas del Toro on Mondays at 5 p. m.; for Limon, via Bocas del Toro, on Tuesdays at 5 p. m.; and for Limon direct, Tuesdays at 3 p. m.

Hamburg-American steamers sail for New York, via Kingston and Santiago de Cuba, on Tuesdays; the *Prinz Joachim* and *Prinz August Wilhelm* at 10 a. m., and the *Emil L. Boas* and *Carl Schurz* at 2 p. m.

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The following vessels arrived at, or departed from, the port of Balboa during the week ending Saturday, October 25:

Arrivals—October 19, *Peru*, from San Francisco; October 20, *Mantaro*, from south ports; October 22, *Chile*, from Guayaquil; October 22, *Aysen*, from south ports.

Departures—October 19, *Guardian*, to south; October 20, *Pachitea*, to Callao; October 20, *Guatemala*, to south ports; October 20, *Quito*, to south intermediate ports; October 24, *Pennsylvania*, to San Francisco.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, NOVEMBER 5, 1913. No. 11.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting nformation, will receive attention unless signed with the ull name and address of the writer.

NOTES OF PROGRESS.

Last Lock Gate Leaf on Hinges.

The last of the 92 leaves for the miter gates of the Canal locks was lowered into place on its hinge pintle on Thursday, October 30. This was the side wall leaf of the lower operating gate in the east flight at Miraflores Locks. The lower operating gates at Miraflores are the largest in the Canal construction, each of the lower leaves being 82 feet high and weighing over 700 tons.

The swinging of a leaf means the completion of its erection, sheathing, and most of the riveting and reaming, but it is a step toward final adjustment. The work of lining up and babbiting the nickel steel bearing plates at both ends of a leaf can be completed only after the leaf is swinging in operating position, and the leaves are yet to be tested, painted inside and out, and fitted with footwalk and handrail.

Progress on High-Power Radio Station.

The Penn Bridge Company of Beaver Falls, Pa., which has the contract from the Navy Department for the fabrication and erection of the three 600-foot towers for the proposed Darien radio station at Caimito, has let a subcontract to the Central American Construction Company of Colon to do the work of erection. None of the material has arrived on the Isthmus. Forces of the Quartermaster's Department of the Isthmian Canal Commission are engaged in the preliminary work of erecting the foundation piers of concrete for the towers.

Paraiso Shops Reopened for Repairs to Dredging Vessels.

The mechanical shops at Paraiso were reopened on November 1, to care for the repair of vessels used in dredging operations between Gatun and Pedro Miguel. These shops were closed in the early part of 1909, as a step in the centralization of steamshovel and steel dump car repair work at Empire shops, and of other heavy repairs to rolling stock at Gorgona.

At present, the shops at Paraiso are operated by the Mechanical Division, which now has charge of all the large shops maintained in the Canal construction. The dry dock shops at Cristobal were transferred to this division on May 1, and the shipways shops at Balboa on November 1. The force at the Paraiso shops at present numbers about 150 men.

Gatun Valley Railroad Embankment Completed.

The work of raising the embankment of the main line of the Panama railroad, across the Brazos and Quebrancha bottoms in the Gatun River valley, to final grade, which was begun early in August, was completed on October 30. The fills have been raised approximately five feet, so that the top is now at elevation 92 feet above sealevel, with a minimum width of 40 feet, and the track has been ballasted with Chagres River gravel. Steamshovel No. 225, which supplied about 75,000 cubic yards of spoil from a borrow pit near Quebrancha siding for raising the embankments, and the rolling stock used in placing the material, have been transferred to Cristobal for work on permanent railroad connections to Atlantic coaling pier.

Panama Railroad Ships to Carry Tourists.

In view of the anticipated reduction in force, it was believed some months ago that the Panama railroad steamers would not be able to engage in the tourist traffic during the early months of the dry season at least, and instructions were issued to that effect. A less number than was expected of the employes separating from the Canal service are returning to the United States via P. R. R. boats, and, in consequence, there has been no lack of accommodations in either direction. It is now thought that this condition will continue, and, therefore, the previous instructions have been revoked to the extent that each Panama railroad steamship, except in special cases, will be permitted to carry a limited number of tourist passengers.

Reduced Coal Consumption.

The completion of various parts of the Canal work has effected a considerable reduction in coal consumption, and a recent estimate, based upon the probable requirements of the Canal Commission and the Panama railroad until June 30, 1914, places the amount at about 27,000 tons monthly; from 15,000 to 20,000 tons monthly for the Commission, and the remainder for the Panama railroad. The consumption before the end of dry excavation averaged about 40,000 tons a month for both the Canal and the railroad. The dredges from now on will use more coal than formerly, but the amount is expcted to be considerably less than that required when the Central Division steamshovels were in full operation.

Three storage piles are maintained near the coal dock at Mount Hope. One is known as the Folks River storage pile, another as the borrow pile, and the third as the Brown hoist pile. From 60,000 to 70,000 tons of coal are kept constantly in storage in these three piles. The Brown hoist, used in lifting the coal from ships, was formerly operated the full 24 hours, working on three 8-hour shifts. With the lessened demand for coal, it has been possible to reduce the number of shifts to two, one shift working from 6 a. m. to 2 p. m., and the second shift from 2 p. m. to 10 p. m.

Coal is brought to the Isthmus from the United States under a contract with the Earn Line, and, under arrangement with the Panama railroad, the unloading of the cargo is performed by the railroad forces, the steamship company paying for the service at the rate of 20 cents a long ton. While the colliers have occasionally been subjected to delays in arrival on account of rough weather at sea, and on one trip, a vessel had to put in at Cuba for repairs, no cargo has ever been lost.

Awards for Pumping Equipment.

Bids were opened in Washington on October 6, under Circular No. 796, for the required motor-driven centrifugal pumps, valves, piping, hydraulic operating tables, traveling cranes, air compressor, and switchboards, complete, with all electrical instruments and connections, for the new Ancon and Miraflores pump stations. Awards have been made, as follows:

1. To the Blackall and Baldwin Company, New York, for 14 centrifugal pumps, complete, with General Electric motors and compensators, at $29,000, as follows:

Ancon pump station—Two 3-stage pumps, each of 2,500 gallons a minute capacity, with a total discharge and suction lift of 355 feet, equipped with 10-inch suction and 10-inch discharge; three single-stage pumps, each of 5,000 gallons a minute capacity, with a total discharge and suction lift of 125 feet, equipped with 12-inch suction and 12-inch discharge.

Miraflores pump station No. 1—One 2-stage pump of 2,500 gallons a minute capacity, with a total discharge and suction lift of 143 feet, equipped with 12-inch suction and 10-inch discharge; three 2-stage pumps of 2,500 gallons a minute capacity, with a total discharge and suction lift of 143 feet, equipped with a 15-inch suction, and a 12-inch discharge; one single-stage pump of 250 gallons a minute capacity, with a total discharge and suction lift of 70 feet, equipped with a 4-inch suction and a 3-inch discharge; and one single-stage pump of 250 gallons a minute capacity, with a total discharge and suction lift of 70 feet, equipped with a 4-inch suction and a 4-inch discharge.

Miraflores pump station No. 2—Three 2-stage pumps, each of 2,500 gallons a minute capacity, with a total discharge and suction lift of 143 feet, equipped with a 12-inch suction, and a 10-inch discharge.

The pumps are to be of the turbine or volute type, direct-connected and mounted on a common cast iron base, with induction motors. The pumps for the Ancon station and for Miraflores station No. 2 will handle filtered fresh water, taking their suctions from a force main laid beneath the floor. The pumps for Miraflores station No. 1, with the exception of one of the single-stage 250-gallon pumps, will handle raw fresh water having an iron content of three parts in a million, lifting it from a sump. The other single-stage pump is designed for handling raw sewage with the usual amount of solid and foreign matter, without clogging.

2. To the General Electric Company, for all switch and gage boards, complete, with all instruments, gages, and equipment, at $8,273.

3. To the Pittsburgh Valve, Foundry and Construction Company, for miscellaneous valves, consisting of hydraulic operated, hand operated, check, and foot valves, together with miscellaneous piping, at $15,654.10.

4. To the Janesville (Wis.) Iron Works, one air compressor for Miraflores pump station No. 2, complete, with General Electric motor; one air receiver, and accessories. The compressor is to be a 2-stage intercooled compressor, with a normal capacity of 500 cubic feet of free air a minute to 110 pounds per square inch pressure.

5. To the Chisholm–Moore Manufacturing Company, three hand operated traveling cranes, designed for six tons maximum capacity, and arranged for a maximum lift above the floor of 12 feet, at $1,900.

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Progress on Cristobal Terminal Wharves.

Erection of the remainder of the superstructure on Dock 16 of the new Cristobal terminals, 918 feet of which was erected by forces of the Panama railroad, was begun last week by forces of the Central American Construction Company, which has a contract to complete Dock 16 and erect the superstructure on Dock 15. Only a relatively small amount of material for Dock 15 has reached the Isthmus, but it is expected that arrivals will be fast enough to allow the erection gangs to proceed to Dock 15 as soon as the outer end of Dock 16 is completed. Forces of the contractor have begun to lay the reinforced concrete roof for Dock 16, beginning at the inner end. About 3,100 square feet, containing about 75 cubic yards of concrete, are being laid daily.

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Semiweekly Mail Service to New Orleans.

It has been decided to despatch Canal Zone mails in the future on the steamers of the United Fruit Company leaving Colon for New Orleans on Saturdays, in addition to the Thursday steamers on the same line, but the only mail which will be routed by the Saturday steamers will be that addressed to points in the Gulf States of Alabama, Mississippi, Louisiana, and Texas, and also Arkansas, except when several days elapse between Saturday and the next sailing of a Panama railroad steamer, in which case, mail will be despatched to other points as well. The new arrangement will furnish a double weekly mail service from the Isthmus to those states.

HOTELS AND MESSES.

Small Decrease in Net Revenue during last Fiscal Year—Hotel Tivoli Does an Increased Business.

There were 17 line hotels, three night restaurants, 15 European laborers' messes, and 16 common laborers' kitchens, in operation by the Subsistence Department of the Canal Commission at the close of business on June 30, 1913, a decrease of two hotels, three European laborers' messes, and two common laborers' kitchens over the previous year. This branch of the Subsistence Department is in charge of Capt. F. O. Whitlock, assistant subsistence officer.

The hotel at old Balboa was closed July 16, 1912, and consolidated with the hotel at East Balboa, under the name of the Balboa hotel. The No. 2 hotel at Gatun was closed on March 31, 1912. The messes at Cerro, Haut Obispo, Gatun (No. 68), and Naos Island were closed during the year, and one at Bas Obispo opened. A new kitchen was opened at Bas Obispo, while those at Ancon, Cerro, and Haut Obispo were closed. The number of districts served by the department was reduced from 15 to 14.

The total revenue for the year from the line hotels, restaurants, messes, and kitchens was $1,235,077.84, a decrease of $28,791.97, as compared with the preceding fiscal year; the total cost of operations was $1,205,800.76, a decrease of $20,551.40; the profit was $29,277.08, a decrease of $8,240.57 from the year before. The ratio of supplies consumed to revenue was 0.24 per cent less than the previous year, and of expense to revenue 0.84 per cent more, making the ratio of total cost of operations to revenue 0.60 per cent greater than for the fiscal year 1911-12. The percentage of profit to revenue was 2.37 per cent, or 0.60 per cent less than the previous year.

The net expense for salaries and wages was $166,398.65, an increase of $4,391.88. The proportion of net pay roll to revenue was 13.47 per cent, or 0.65 per cent more than the preceding year.

The total number of meals served in line hotels was 2,340,644, an increase of 265,309, or 12.78 per cent, as compared with the previous year. The average cost of supplies per meal was 24.64, cents, a decrease of 0.40 cent, as compared with 1911-12, while the average cost of service was 5.52 cents, a decrease of 0.09 cent, making a decrease in the total cost per meal of 0.49 cent from the preceding fiscal year. The total number of rations served in European laborers' messes was 935,516, a decrease of 172,659, or 15.58 per cent, as compared with the year before. The average cost of supplies per ration was 31.27 cents, an increase of 0.21 cent, and the average cost of service was 5.86 cents, an increase of 0.39 cent, making an increase in the total cost per ration over the previous year of 0.60 cent. The total number of rations served in the common laborers' kitchens was 461,456, a decrease from the previous year of 123,001, or 21.05 per cent. The average cost of supplies per ration was 22.12 cents, an increase of 0.24 cent from the previous year, and the average cost of service was 3.52 cents, an increase of 0.31 cent, making the total cost per ration 25.64 cents, an increase over 1911-12 of 0.55 cent. The average daily attendance during June, 1913, was 3,279 at the line hotels, 2,412 at the messes, and 1,229 at the kitchens. The attendance at the line hotels was determined on the basis that each guest averaged two meals per day. The following table shows the quantities and gross costs of the principal articles consumed in the line hotels, restaurants, messes, and kitchens during the year:

ARTICLE.	Quantity.	Cost.
Bacon, lbs	64,672	$15,815.93
Beans, dried, lbs	187,721	10,787.46
Beef, fresh, lbs	2,514,380	263,353.57
Beef, salt, lbs	42,008	5,077.98
Beef bones and suet, lbs	175,656	2,573.99
Bread, lbs	2,425,223	95,055.73
Breakfast foods, tins	35,231	4,706.25
Butter, lbs	132,063	49,596.73
Cabbage, lbs	153,075	5,257.90
Cake, lbs	13,492	1,478.81
Cheese, lbs	27,951	6,611.02
Cocoa, lbs	25,691	3,539.65
Coffee, lbs	80,664	16,154.50
Corn meal, lbs	29,016	1,276.91
Eggs, dozen	211,227	65,469.89
Fish, canned, tins	30,460	3,724.03
Fish, fresh, lbs	107,035	7,032.72
Fish, salt, lbs	34,333	2,884.50
Flour, lbs	500,319	15,009.57
Fruits, canned, tins	74,325	2,027.76
Fruits, dried, lbs	33,968	3,093.80
Fruits, fresh		31,171.92
Garbanzos, lbs	162,384	7,321.12
Ham, lbs	45,654	9,142.16
Ice, cwt	66,081	26,432.60
Ice cream, gallons	70,050	35,318.75
Jams		7,491.43
Lamb, fresh, lbs	35,894	4,693.98
Lard, lbs	124,228	13,478.06
Liver, beef, lbs	19,103	2,101.48
Macaroni, lbs	187,360	13,153.26
Maple syrup, quarts	7,702	2,428.88
Meats, canned, tins	23,989	4,571.06
Milk, tins	226,731	18,835.05
Mutton, fresh, lbs	39,801	4,430.79
Oleomargarine, lbs	15,025	1,652.75
Onions, lbs	172,135	5,578.64
Peas, dried, lbs	94,880	5,866.86
Pork, fresh, lbs	166,865	26,468.54
Pork, salt, lbs	4,823	650.07
Potatoes, sweet, lbs	191,422	4,578.93
Potatoes, white, lbs	1,355,214	41,731.25
Poultry, lbs	153,987	25,830.00
Rice, lbs	433,567	13,011.18
Rolls, dozen	37,541	8,741.28
Sausage, lbs	27,325	3,971.42
Sugar, granulated, lbs	144,951	7,104.75
Sugar, yellow, lbs	633,227	25,329.08
Tea, lbs	8,207	2,847.91
Veal, fresh, lbs	72,651	11,009.15
Vegetables, canned, tins	165,566	25,594.74
Vegetables, fresh		21,992.68
Wine, barrels	1,128	23,124.00
Cleaning		10,554.98
Miscellaneous		50,248.16

The original cost of the Hotel Tivoli was $300,595.40. Additions and improvements have been made to the permanent building and bathrooms since July 1, 1908, amounting to $84,264.46, making the book value of the building, $384,859.86. Repairs since the hotel was built have cost $28,098.67, making the total expense of construction and repairs to July 1, 1913, $412,958.53. Profits on operations since July 1, 1908 total $170,298.14, and at the present rate of traffic, the cost will probably be entirely amortized within the next four years. The total cost of the operation of the Hotel Tivoli during the last fiscal year was $200,728.43, and the gross revenue was $276,984.98; the gross profits amounted to $76,256.55. During the months of August, 1912, and June, 1913, the hotel was operated at a loss of $2,333.38, making the total net profits for the year, $73,923.17. A commercial laundry was installed in the hotel in December, 1912, for handling the guests' work.

The total revenue of the Subsistence Department from the operation of the hotels, messes, and kitchens, and the Hotel Tivoli, for the five years from July 1, 1908 to June 30, 1913, was $7,493,887.59. The total revenues of the commissary department of the Panama railroad, which is operated by the Subsistence Department, during the same period, was $30,287,222.74, making a grand total of $37,781,110.33.

SOCIAL LIFE OF THE ZONE.

Church Notes.

The Woman's Altar Guild of St. Luke's Hospital chapel entered upon its seventh year of activity at the annual meeting held at the residence of Mrs. Joseph Bucklin Bishop on Saturday afternoon, November 1, All Saints' Day. The corporate communion of the guild was celebrated in the chapel in the morning at 8 o'clock, there being 10 members present. Minor changes have been made in the working of the organization during the year; these include a reduction of the monthly dues and the omission of one meeting in the month. The only meeting held now is on the first Tuesday afternoon in each month at 4 o'clock. During Lent, weekly morning meetings were held, and the guild members made garments for the children in a summer home in New Jersey. Gifts to the church have been new carpets, cushions for the chancel and for the clergy, and rebinding of the large altar book, in red morocco, from the guild; brass bobaches and shields for the altar candles from a member of the society, and a litany book as an Easter offering from a member. The Sunday school was reopened early in the year, and the members of the guild have cooperated with the chaplain in promoting the work. The officers were reelected for the ensuing year. These officers, with the chaplain, honorary president *ex officio* constitute the executive board. They are, as follows: President, Miss J. Macklin Beattie; vice-president, Mrs. Charles F. Mason; secretary, Miss Kate Feuille; treasurer, Mrs. Charles W. Barber. The next meeting of the guild will be held at the residence of Mrs. Barber at 4 o'clock on Tuesday, December 2.

The monthly meeting of the Woman's Foreign Missionary Society of the Methodist Episcopal Church was held at the home of Mrs. E. M. Keyser on Saturday afternoon, November 1. The important business of the meeting was the report of the chairman of the committee on the federation of church societies. Mrs. Keyser stated that several societies had responded favorably to the plan issued by the committee, notably, the Ladies' Aid Society of the Union Church, Cristobal, and the Woman's Altar Guild of St. Luke's Hospital chapel, Ancon. At the next meeting of the missionary society, which will be held at the residence of Mrs. Charles W. Ports in Panama, the plans for the organization will be perfected, and a call will be issued to the societies of women engaged in Christian work to send delegates to the organization meeting, which will be held early in December.

During the absence on leave of the Rev. Father Ferdinand Allot, priest in charge of St. Ferdinand's Church, Empire, the French and Spanish section of the parish work is under the charge of the Rev. Father Nicholas DeGraaff, C. M., who was called from his missionary work in Persia by the Superior General of the St. Vincentian Order in Paris for this purpose. Father McDonald is in charge of the American section of the parish. The Woman's Altar Society will hold its monthly euchre party in the parish house on Saturday evening, November 8. The society is planning to hold a Christmas bazaar in December.

The monthly meeting of the Ladies' Aid Society of the Union Church, Cristobal, was held in the church on Tuesday, October 14, when a paper was read by Mrs. W. T. Harrison on home customs in Japan. The society extends an invitation to all ladies to join. The officers are, as follows: President, Mrs. M. F. Bradney; vice-president, Mrs. Juliet Carter; secretary, Mrs. F. L. Piper; treasurer, J. T. Veen.

Bible Society's Work.

The agency of the American Bible Society for Central America, which includes Colombia and Panama, is temporarily occupying the new parsonage of the Baptist Church in Cristobal. With the exception of a study, which the pastor reserves for his own use, the agency occupies the entire two-story building. The office is on the ground floor, the walls being lined with shelves where hundreds of Bibles and portions of Scripture are stored. The report of the society's agent for the past six months, just issued, shows that the circulation of Bibles in his district exceeded 1,000. Two salaried agents are employed. Much of the work of circulation is accomplished by the personal effort of the agent, and many of the sales are made by the Canal Commission chaplains and missionaries. Shipments, amounting to 5,543 copies of the Scriptures, entire, or in part, valued at $1,099, have been received at the agency since June 1, 1913. The books circulated are in the following languages: English, Spanish, French, Italian, Swedish, Chinese, Portuguese, Greek, and Arabic.

In August, an exchange of territory was effected between the British and Foreign Bible Society and the American Bible Society, the former taking Persia, from which the American society withdrew for the purpose of occupying Central America, including Colombia and Panama.

Visit of Secretary Garrison.

The Hon. Lindley M. Garrison, accompanied by Mrs. Garrison, and the remainder of the Secretary's party, sailed for New York on the *Colon* on Tuesday, November 4. During his week's stay on the Isthmus, he visited every part of the Canal work. On Wednesday, October 29, he inspected the fortifications at the Atlantic entrance in the morning, and was shown through the manufacturing plants at Cristobal in the afternoon. On Thursday, he was lifted through Gatun Locks from the sea channel to the Gatun Lake level on French clapet, *No. 4*, and was afterward conveyed on a tug through the lake section and Culebra Cut as far as Cucaracha slide. On Friday, he went over the Pacific locks and terminals, and in the afternoon visited the Gold Hill sluicing plant. On Saturday, he inspected Camp Otis and Camp Elliott. He spent most of the day Sunday at Culebra, and on Monday, paid a visit to the fortifications on the islands in Panama Bay in the morning, and was taken through Ancon Hospital in the afternoon.

No Work for Americans in Costa Rica.

Mr. Samuel T. Lee, American Consul at San José, Costa Rica, reports that in recent months, with the closing down of certain parts of the Canal work, a considerable number of white Americans have come to that country in search of employment. Being unable to find work, most of them have soon found themselves in a destitute and desperate situation. The opportunities for profitable work in Costa Rica, at wages which are reasonably expected by white Americans, are very few, and such persons are warned not to go there without a definite engagement in advance.

PERSONAL.

Mr. C. D. Mell of the Forestry Service, Department of Agriculture, has been on the Isthmus for the past few days preparing for a trip to Demerara, where he goes at the request of the Canal Commission for the purpose of making an investigation and report on the quality of greenheart timber to be found there. If a suitable grade can be obtained, the Commission proposes using it for the water seals of mitering gates, as well as for the keel blocks, at the new Balboa dry docks.

Mr. Augustus Smith, the contractor for the coal-handling plants at the Canal termini, arrived on the Isthmus on Sunday, November 2, on the *Carrillo*.

Independence Day of Panama.

The tenth anniversary of the independence of the Republic of Panama was celebrated on Monday, November 3, by patriotic exercises by the schoolchildren, by fire and police drills, and by a solemn session held at the National Theatre. In accordance with custom, the day was observed as a holiday in the Canal Zone.

Prison Commission.

A commission, consisting of Maj. Joseph H. Ford, chairman; Maj. Chas. Gerhardt, Rev. E. J. Cooper, Mrs. Thomas E. Brown, Jr., and Mrs. Frederick Mears, has been appointed by Mr. Richard L. Metcalfe, Head of the Department of Civil Administration, to make inquiry into the conditions at the Gamboa stockade, and to suggest plans for the welfare of its inmates through educational effort. It will be known as the Gamboa commission.

A band will be organized among the prisoners at the stockade, and an expenditure of $150 from the Canal Zone funds for the purpose has been authorized. It is thought that a balanced band can be formed with 12 pieces, and the leaders of the Tenth Infantry and Marine Corps bands have announced their willingness to instruct those of the prisoners who show aptitude. The instruments will probably be purchased from a surplus stock, which has been offered for sale by the Marine Corps band.

Obituary.

Napoleon Brodeur, a private in the Tenth Infantry, U. S. A., stationed at Las Cascadas, died at Ancon Hospital on October 24. He was 19 years of age, single, and had been on the Isthmus five months. He is survived by his father, Napoleon Brodeur, living at Central Falls, New York.

Harry K, the infant son of H. A. Haywood, living at Empire, died at Ancon Hospital on Tuesday, October 29, aged eight months.

In the competition conducted by Don Alejandro Bermudez, Director General of the Panama National Exposition, of designs for an emblematic coat of arms for the exposition, award of the prize of $200 was made to R. Roa Escandon, a Colombian, living in San José, Costa Rica.

UNDERGROUND TRANSMISSION

Combination System Approved for Permanent Wire Distribution.

A committee, consisting of Mr. H. Rowe, chairman; Mr. C. L. Bleakley, Mr. R. K. Morris, and Capt. W. H. Rose, appointed to consider lighting, power, telephone, and fire alarm systems for the permanent towns, has investigated three types of construction, as follows:

1. Overhead construction, where the wires are carried on wood, concrete, or steel poles.
2. Underground construction with armored cables, where the wires are enclosed in lead-sheathed cables, which are protected from mechanical injury by a steel band, or wire armor, the cables to be laid directly in the ground with no other form of protection.
3. Underground conduit construction, where lead-sheathed cables are pulled through underground conduit composed either of vitrified clay or bituminized fibre ducts laid in concrete, with concrete manholes at intervals varying from 250 to 500 feet.

Overhead Construction.

In the opinion of the committee, the only advantage overhead construction has is the smaller first cost. On the other hand there are several disadvantages, chief among which are:

(A) Greatly increased cost of maintenance. The cost of maintenance of the present overhead power and lighting lines on the Isthmus is about $400 per mile per annum, and of overhead telephone and telegraph lines about $550 per mile per annum after two years' service, with a gradually increasing maintenance cost, due to progressive deterioration of messenger wires, hangers, and cable sheaths. The maintenance of the conduit system is known to be very small in comparison with the overhead system, and is estimated at not more than $50 per mile per annum. The maintenance of the armored cable laid directly in the ground would probably exceed this amount, but would be less than the charge against the overhead system.

(B) Any system of overhead wires and cables will prove unsightly, especially in the case of the permanent towns on the Isthmus where expenditures are to be made for the architectural treatment of buildings and grounds.

(C) The danger from lightning is a strong objection to overhead lines. The damage from lightning is not confined to the line structures alone, but extends as well to the buildings entered by any electrical apparatus connected with the lines. This point is especially important at Gatun, where the 2,200-volt lighting service will be connected directly to the main generators in the hydroelectric station. Even the best lightning arresters will not give absolute immunity. Underground lines would be immune in this respect.

(D) The overhead lines are also more susceptible to accidental and malicious damage. The telephone and telegraph lines of the Panama railroad have suffered considerably from falling branches and palm fronds, as well as from persons maliciously shooting into the cables.

Underground Armored Cable System.

This system is in general use in European countries, but as yet does not appear to have met with much favor in the United States, where the conduit system is standard for high-class permanent installations. A disadvantage of this system is the greater difficulty of locating and repairing faults. The protection from mechanical injury afforded by the armor is fairly effective, but is not considered as good as that of the concrete-surrounded ducts. It is, however, more flexible, so far as location is concerned, than the conduit system. The main difficulty of telephone cables of this type is the cutting in of service connections. Even in permanent towns, the changes in service connections will probably be so frequent that for the main telephone cables, it would be necessary to resort to the use of the overhead, or conduit system, in case the armored cable system were adopted for the light and power lines.

Underground Conduit System.

The only disadvantage possessed by this system is the first cost. On the other hand, it possesses to a high degree the qualities of permanence, protection to conductors, ease of inspection and repair, and has the least maintenance cost. The estimated construction costs per mile of each of the above systems, according to the committee's figures were, as follows:

For overhead construction, based upon two pole lines, one for the 2,200-volt circuits, and one for telephone, telegraph, and fire alarm cables, using old 70-pound iron rail for poles, $2,050 per mile for the 2,200-volt line, and $4,345 a mile for the telephone and telegraph cable; total, $6,395 a mile.

For the underground armored cable system, based upon three cables laid in a single trench, $9,829 a mile.

For the underground conduit system, based upon the installation of four ducts, $13,611 a mile. The total annual charges against the three separate systems would be about, as follows: Overhead, $1,413 a mile; armored system, $425 a mile, and underground conduit system, $241 a mile.

The committee was unanimously of the opinion that the overhead system should be discarded in the permanent towns, but in view of the fact that in these towns the present roads and buildings will probably be used as long as their upkeep is not excessive, the committee recommended a combination system based upon the following:

In case of entirely new town layout and construction, the underground conduit system should be installed at the same time as other permanent structures, such as roads, buildings, sewers, etc. In the case of branch lines to isolated buildings, or to isolated small groups of comparatively unimportant buildings, the armored cable system could be used for the lighting and power circuits, and an underground lead-covered cable, without armor, for telephone, telegraph, and fire alarm circuits.

In case of the towns now existing, which will remain as permanent towns, but in which structures will later be replaced by permanent ones, the underground conduit system should be installed in such locations as will not have to be changed later on. The underground armored cable system may be used where this fact cannot be determined, where topographical conditions are unfavorable, or in serving isolated buildings or groups of buildings.

Balboa-Ancon.

The permanent buildings in this vicinity, comprise the following groups of buildings now under erection, or projected: Shops, dry docks, terminals, administration group, official residence group, gold employes' residence group, silver employes' residence group, marine post, etc. In addition, there are the present groups, Ancon Hospital buildings and grounds, Hotel Tivoli, and the Panama railroad station. So far as the new shops, dry docks, and other terminal structures at Balboa are concerned, light and power will be supplied from the substation to be erected near the new dry dock. The committee, therefore, recommended the construction of a trunk conduit line from this substation to a point in the vicinity of the new administration group, with the necessary branch conduit lines to supply light, power, telephone, telegraph, and fire alarm service to the above groups, with the exception of the silver residence group. Under this arrangement, the branch from the new new administration group supplying Ancon Hospital buildings and grounds, Hotel Tivoli, and Panama railroad station would be extended by way of Bishop's Hollow to a point near the hospital gate, with armored cable branches from this point to the Hotel Tivoli and railroad station. Secondary feeders for all new buildings and street lights would be carried in underground conduit, and supplied from subway transformers located in manholes. For all of the buildings in the Ancon Hospital grounds, the present secondary sys- would be kept in service, and supplied from transformers in the manholes of the new conduit system. In the armored cable feeders, the transformers would be located in small concrete houses, or boxes, built above ground. The silver employes' residence group would be supplied direct from the Balboa substation through an underground conduit line, with secondaries underground and transformers in manholes. The present overhead telephone service from Panama to Balboa by way of the Ancon Hospital grounds is unsatisfactory, and there is urgent necessity for improving it at the earliest practicable date. The committee recommended that as soon as the new Balboa layout had been fully determined the work of constructing that portion of the proposed underground system extending from Panama to Balboa be begun without delay.

Pedro Miguel—Paraiso.

At Pedro Miguel, the committee recomended the substitution of the present overhead system by underground distribution, and that work should begin as soon as the plans for the layout of the permanent structures are decided upon.

Gatun.

Owing to the poor condition of the existing pole lines supplying the town of Gatun, and of the danger from lightning, the committee recommended the construction of an underground system at this point some time within the next six months. From experience with the old French buildings on the Isthmus, the committee was of the opinion that under the policy of utilizing the present buildings until the cost of repairs justifies the erection of new ones, the buildings now at Gatun will last for 15 or 20 years. Moreover, it was believed that when new buildings are erected at Gatun, they will conform closely to the general sites of the present structures on account of the topography of the ground, the sharp, steep ridges, and the location of the permanent roads, and that conduit lines laid now will not have to be disturbed. The committee recommended an underground conduit line from the new substation to be erected north of the present administration building, following the general line of the telephone exchange, lodge hall, fire station, to the hospital building. From a point near the telephone exchange, an armored cable branch would extend to the group of buildings in the vicinity of the concrete range light tower, another from near the fire station to the division engineer's residence and buildings in that locality, and a third from near the hospital to the group of buildings west of the Panama railroad. The underground system as outlined would be connected to the present overhead secondary distribution. Authority has already been granted for the construction of an armored cable line from the Gatun substation to the permanent filtration plant at Agua Clara.

Cristobal-Colon.

This district will be supplied with electric light and power from a transformer substation to be built at Mount Hope. The committee has recommended that a trunk conduit line be laid from Mount Hope to Cristobal, and that the distribution system in Cristobal and Colon be placed underground. The present Panama railroad system in the two towns is already to a large extent underground. The committee expressed its belief that underground systems in the permanent towns can be installed within the coming year, and recommended that the work be begun at once, in order that it may be planned and executed with due regard to other permanent work.

The combination system referred to above was approved, in general, by the Chairman and Chief Engineer on September 12, but the stipulation was made that each piece of work be authorized separately and handled on separate work requests. A standing committee, consisting of Mr. Hartley Rowe, chairman; Capt. W. H. Rose, Mr. W. H. Fenley, and Mr. W. L. Phillips, has been appointed, which will be in charge of all matters pertaining to the proposed combination system.

Fire Drills in Canal Zone Schools.

The practice of holding fire drills has been instituted in the Canal Zone schools. These drills, now incorporated into most of the school systems of the United States, have as their object, not only their protective value in case of fire, but also the training they provide in poise and self-control. As a result of a conference with the chief of the Canal Zone Fire Department, it was decided that these drills should be practiced at least once a week until the desired results have been accomplished, when the number may be reduced to two a month, and eventually to one a month. Under the effective working of the system, the alarm is given without any previous warning, and in order that the protective value may not be lost, the same conditions govern in the case of a false alarm as those of a genuine alarm. The working out of the details of these drills has been left to the principal and teachers of the respective schools, and advantage will be taken from time to time of any improvement that the practice may suggest. A monthly report of these drills will be made to the superintendent of schools, together with a summary of the results accomplished.

New Dipper Dredges.

The *Gamboa*, the first of the two 15-cubic yard dipper dredges contracted for by the Canal Commission early in 1913 for work in Culebra Cut, was launched recently at Newburg, N. Y. In accordance with the terms of contract with the builders, the Bucyrus Company of South Milwaukee, Wis., one of these dredges must be delivered at an Atlantic port on or before December 1, 1913, and the other on or before January 1, 1914. It is planned to take the *Gamboa* to New York City about December 1, and to bring it to the Atlantic entrance of the Canal in tow of a seagoing tug. The second dredge will be named the *Paraiso*. A detailed description of these dredges was published in The Canal Record of February 5, 1913.

Cristobal Dancing Club.

The regular dance of the Cristobal Dancing Club will be held on Saturday, November 8, at the Commission club house. Date of the second dance will be announced on that evening.

W. H. Marsh,
Secretary.

Cristobal, C. Z., November 4, 1913.

The construction of two sidings at Coco Solo Point in connection with the proposed east breakwater work, to be built parallel to the track leading from Margarita Point to Coco Solo Point, has been authorized.

Alighting platforms will be built for the convenience of passengers at New Frijoles station, and at New Culebra Siding on the Panama railroad main line.

The Gatun Hunting Club held its last annual barbecue and hunt at Camp Bohio, in the Gatun Lake section, on Sunday and Monday, November 2 and 3. The barbecue was held on the high ground adjacent to the former residence of Mr. Porfirio Melendez at Bohio, the place being one of the old hunting grounds of the club.

A new hotel for the use of gold employes only was opened at Ancon on Tuesday, November 4, while the I. C. C. hotel at Bas Obispo was permanently closed on Sunday, November 2.

Launch Service to Taboga.

The steam launch *Sanidad* leaves the dredge landing at Balboa at 9 o'clock, Tuesday, Thursday, and Saturday mornings. On the return trip it arrives at Balboa about 4 p. m., in time to make connection with the evening trains.

THANKSGIVING.

The President's Proclamation.

By the President of the United States of America. A proclamation:

"The season is at hand in which it has been our long respected custom as a people to turn in praise and thanksgiving to Almighty God for His manifold mercies and blessings to us as a nation.

"The year that has just passed has been marked in a peculiar degree by manifestation of His gracious and beneficent providence. We have not only had peace throughout our own borders and with the nations of the world, but that peace has been brightened by constantly multiplying evidences of genuine friendship, of mutual sympathy and understanding, and of the happy operation of many elevating influences both of ideal and of practice.

"The nation has been prosperous not only, but has proved its capacity to take calm counsel amidst the rapid movement of affairs and deal with its own life in a spirit of candor, righteousness and comity. We have seen the practical completion of a great work at the Isthmus of Panama, which not only exemplifies the nation's abundant resources to accomplish what it will, and the distinguished skill and capacity of its public servants, but also promises the beginning of a new age of new contacts, new neighborhoods, new sympathies, new bonds, and new achievements of cooperation and peace.

" 'Righteousness exalteth a nation,' and 'peace on earth, good will toward men' furnish the only foundations upon which can be built the lasting achievements of the human spirit. The year has brought us the satisfactions of work well done and fresh visions of our duty which will make the work of the future better still.

"Now, therefore, I, Woodrow Wilson, President of the United States of America, do hereby designate Thursday, the 27th of November next, as a day of thanksgiving and prayer, and invite the people throughout the land to cease from their wonted occupations and in their several homes and places of worship render thanks to Almighty God.

"In witness whereof, I have hereunto set my hand and caused the seal of the United States to be affixed.

"Done at the City of Washington, this 23d day of October, in the year of our Lord one thousand nine hundred and thirteen and of the independence of the United States of America the one hundred and thirty-eighth.

"Woodrow Wilson.

"By the President:

"W. J. Bryan, *Secretary of State.*"

CLASSIFIED EXPENDITURES—ISTHMIAN CANAL COMMISSION.

A statement of classified expenditures of the Isthmian Canal Commission to August 31, 1913, follows:

Periods.	Department of Civil Administration.	Department of Law.	Department of Sanitation.	Department of Construction and Engineering	General Items.	Fortifications.	Total.
Total to June 30, 1909	3,427,090.29	....	9,673,539.28	69,622,561.42	78,022,606.10	....	160,745,797.09
Total—Fiscal Year, 1910	709,351.37	....	1,803,040.95	26,300,167.05	2,863,088.83	....	31,675,648.20
Total—Fiscal Year, 1911	755,079.44	....	1,717,792.62	27,477,776.19	3,097,959.72	....	33,048,607.97
Total—Fiscal Year, 1912	820,398.57	24,729.16	1,620,391.12	28,897,738.10	2,819,926.53	1,212,881.66	35,396,065.14
Total—Fiscal Year, 1913	681,389.36	20,253.11	1,435,400.96	33,017,852.99	1,063,322.52	1,901,475.86	38,119,694.50
July, 1913	61,472.81	1,597.91	121,487.47	2,138,540.39	237,534.13	131,333.71	2,691,966.42
August, 1913	57,950.95	1,469.10	112,802.29	2,299,554.75	244,860.32	150,364.19	2,867,001.60
Grand total	6,512,732.49	48,049.28	16,484,454.69	189,754,190.89	88,349,298.15	3,396,055.42	304,544,780.92

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The standing of the chess clubs in the all-Isthmian tournament is, as follows: Empire won 21½ points; Culebra, won 20½ points; Gatun, won 15 points; Cristobal, won 13 points.

The standing of the teams in the basketball league on November 3, was, as follows:

Team.	*Won.*	*Lost.*	*P. C.*
Empire	7	0	1.000
Camp Elliott	5	2	.714
Gatun	3	2	.667
Cristobal	2	3	.400
Culebra	2	5	.286
Corozal	0	7	.000

The standing of the teams in the bowling league, November 3, was, as follows:

Team.	*Won.*	*Lost.*	*P. C.*
Cristobal	7	2	.778
Corozal	8	4	.667
Culebra	8	4	.667
Empire	9	6	.600
Gatun	1	8	.111
Camp Elliott	0	9	.000

The following dates have been arranged for the exhibition of the moving picture films entitled "Quo Vadis:" Tuesday, November 11, Gatun; Wednesday, November 12, Empire; Thursday, November 13, Corozal; Friday, November 14, Cristobal. The admission fees will be, as follows: Adult nonmembers, 50 cents; children, 25 cents; members, free.

COROZAL.

The 3-man team tournament in tenpins closed this week, with team No. 3, composed of Taylor, Smith, and Emerson, the winners. Edwards, high average 175. Prizes for high scores for October were won by Ziller, 242; and Davis, 241.

Empire.				*Corozal.*			
Gustavson	154	210	233	Davis	181	172	180
Potter	161	205	203	Bordt	134	143	187
Peterson	208	181	158	Louch	189	157	168
Boesen	151	135	159	Edwards	192	203	192
Huson	135	...	194				
Sims	...	112	...				
Totals	809	843	947		696	675	727

Corozal bowls Camp Elliott at Empire, Saturday, November 18.

Corozal's team was defeated on its own floor at basketball by a score of 26 to 16 by the Gatun team. The line-up was as follows: *Gatun*—Huber, forward; Wright, forward and center; Flynn, center; Claybourne, Whiston, guards; Bain, forward. *Corozal*—Bessey, Doherty; forwards; Russell, center; Kenealy, Howe, guards, Hess, forward.

The Corozal-Cristobal game scheduled for November 3 has been postponed until November 22.

A combined moving picture show and old-fashioned Hallowe'en party was held on Tuesday, October 31 at which about 385 people were present. Such games as "Cake-snapping," "Ducking for apples," "Snap the apple," "Peanut scramble," "Coin in flour," "Musical chairs," or "Trip to Jerusalem," and "Virginia Reel" were taken part in by all. Apples, coffee, and "Sinkers" were served. The medals for the athletic and aquatic feats of last Labor Day, having been received, were distributed to the winners present.

"Open house" was held at Corozal all day on Monday, November 3. In the evening, free moving pictures were shown, among them two reels of "Custer's last fight," and slides of the Isthmus.

Pablo, the magician, will give an exhibition at the regular picture show on Friday night, November 7. He will present two features called; "Spookville," and "Noah's ark."

Mr. P. H. Chadbourne, a former resident of Corozal, has recently been appointed one of the secretaries of the Corozal clubhouse.

CULEBRA.

The high score in tenpins for the month of October was made by H. G. Cornthwaite, 226.

On Sunday night, colored slides illustrating the story of "The other wise man" written by Henry Van Dyke, were shown at the regular Sunday night service.

On Friday night, November 7, the moving picture reels entitled "Quo Vadis" will be exhibited. The admission fees will be 50 cents for adult nonmembers; children, 25 cents; members, free.

EMPIRE.

The prizes offered for the high score in duckpins and the high score in tenpins for the month of October were won by A. C. Lowande in duckpins, G. E. Gustaveson in tenpins. Duckpin score, 119; tenpin score, 237.

The Empire basketball team defeated the Culebra team on Wednesday evening, October 29, by the score of 50 to 6. On Saturday, November 8, the Cristobal team will play at Empire.

At the regular meeting of the Empire Debating Society held Friday, October 31, the question "Resolved, That the trusts should be abolished" was debated. Mr. Brown and Mr. McColley speaking for the negative won, the judges voting two for the negative and one for the affirmative. The next meeting will be held November 14.

CRISTOBAL.

The single folks bowling tournament held Monday, October 27, resulted, as follows:

Mr. Archie Gibson and Miss C. Carpenter	480
Mr. G. R. Farr and Miss L. Madison	460
Mr. Swift Carpenter and Miss A. Butler	449
Mr. W. G. Russell and Miss M. Stephens	449
Mr. Ernest Cotton and Miss I. M. Glawson	436
Mr. Forest Herrington and Miss C. Mathews	428
Mr. D. Raymond and Miss G. McKenzie	404
Mr. J. H. Gill and Miss M. Butler	397
Mr. James Purvis and Miss O. McKenzie	383
Mr. E. H. Nash and Miss C. Madison	374

Over 100 men attended the discussion club meeting on Thursday, October 30. Mr. W. W. Warwick, the speaker, explained the leading features of the new currency bill. After his address many questions were put to him by his hearers as to the "Why" of certain points in the bill. Mr. H. R. Wilford, general agent of the United Fruit Company will discuss before the club "How to increase shipping in American bottoms," at the regular meeting on Thursday, November 13.

Over 300 persons attended the Hallowe'en social held on Thursday, October 30. A number of men and women all masked in woman's attire led off in a parade. This was followed by a number of games customary on Hallowe'en, which occasioned great merriment. The blindfolded pie eating contest was won by G. R. Farr and Miss Clara Mathews; Mr. I. V. DeLong and Miss Marion Stevens were second. Apple ducking, A. Farrell, first; S. Pollard, second. Placing the donkey's tail, Mrs. Stephens and Mr. V. C. Dillon first; no second. Flour ducking, Mr. L. E. Willson and Mrs. Cook, first; no second. Bag bursting, Mr. Veen, Mrs. Simonson and Mr. Zundel, first; no second. Mr. H. D. Brittin gave a number of exhibitions in gymnastic dancing and tumbling along with members of the boys' department. Messrs. Morris, Burmeister, and Otis furnished a Barbadian talk. Mrs. I. V. DeLong presided at the piano. The ladies furnished home made cakes, which with apples, pumpkin pies, ice cream, and coffee made up the refreshments.

Culebra bowls tenpins in the all-Isthmian tournament at Cristobal on Saturday, November 8.

A married folks' duckpin tournament will be held on Monday, November 10.

The Cristobal boys defeated the Gatun boys at basketball on Saturday, November 1. Score, 14 to 5. Anderson scored four field goals for Cristobal. Saturday night, the second team defeated the Panama National Institute team. Score, 19 to 11.

Eight girls from the girls' gymnasium class gave an exhibition in folk dancing at the children's Hallowe'en party under the auspices of the Sunday school at building No. 1 on Friday night, October 31.

The Empire chess team took five out of eight games in the all-Isthmian chess tournament on Saturday, November 1. The scores were, as follows:

Empire.	*Won.*	*Cristobal.*	*Won.*
Caldwell	1	Hurt	0
Goolsby	1	Taylor	0
Hall	2	Tuttle	1
Smith	1	Verner	0
		Wilson	2
Totals	5		3

PORTO BELLO.

Rev. Carl Elliott of Cristobal preached to a good-sized audience at the Porto Bello clubhouse on Wednesday night, October 29. Mrs. Wilkcs sung a solo and Mrs. MacIntosh played the piano.

A Hallowe'en social was held at the clubhouse on Friday night, October 31. Nearly all who attended were in costume. A lively series of games were played ending with a pie eating contest, and the time honored custom of ducking for apples. The ladies served coffee and pumpkin pie. Prizes were awarded, as follows: For the prettiest costume, Mr. Colberg; the funniest costume, John Bruck; pinning the tail on the cat, Mrs. Medd; chewing the string, Mrs. Butler; ladies' egg race, Mrs. Wilkes; threading the needle, Mrs. Butler; dog fight, Rodger Bucklin; rooster fight, Claud Smith; ducking for apples, Doris Geyer; pie eating contest, Rodger Bucklin.

A "Smoker" was held on Saturday night, November 1 which was attended by nearly everyone in Porto Bello. The gentlemen were served with cigars, and the ladies with candy. Punch was also served. The following program was rendered: Mandolin duet by Messrs. Ramsey and Arbuckle; recitations by Mr. Burmeister; piano solo by Mr. Railey; Barbadian impersonations by Messrs. Burmeister and Otis; mandolin duet by Messrs. Ramsey and Arbuckle; fancy juggling by Mr. Brennan; wrestling by Messrs. Martinoff and Ewald. Moving pictures depicting the "Siege of Calais" were given between the numbers on the program.

The Sunday school held in the morning, and the song service held in the evening were both well attended. Mrs. Wilkes and Messrs. Caldwell and Railey formed a trio which gave a vocal selection. Mr. Railey played a piano solo and also sung "A perfect day." About 60 people were present.

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Revised Pay Car Schedule.

EMPIRE, C. Z., November 5, 1913.

Payments from the pay car will be made on the 11th and 12th of each month, beginning with the November payment and the following approximate schedule will be followed:

11TH.

Leave Empire 5.45 a. m., running direct to Gatun.
Gatun 7.20 to 10.
Frijoles, 10.45 to 11.45, paying transmission line gangs.
Leave Frijoles 11.45, paying Tower R.
Stockade, 12.10 p. m. to 12.20.
Obispo Junction over inside track to Gold Hill tower and vicinity, 12.40 to 1.20.
Paraiso, gangs on east side, 1.50 to 2.10.
Paraiso, gangs on west side, 2.30 to 2.40.
Rio Grande, 3.10 to 3.40.
Culebra, Quartermaster's siding, 4 to 4.10.
Empire shops, 4.20 to 5.

12TH.

Leave Empire 6.05 a. m., running direct to Naos Island.
Pay Naos Island 7.05 to 7.50.
East Balboa, near commissary and terminal siding, 8 to 11.
Pedro Miguel 11.20 a. m , to 12.40 p. m.
Corozal, 1 to 1.30.
Miraflores Locks, east side, 1.40 to 2.20.
Bas Obispo, 3 o'clock, paying south, arriving at Empire, 4 p. m.

JOHN H. MCLEAN,
Disbursing Officer.

◆

Rainfall, Oct. 1 to Oct. 31, 1913, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	2.05	24	8.30
Balboa	1.41	24	10.33
*Miraflores	1.37	11	10.28
Pedro Miguel	1.88	11	12.07
Rio Grande	1.11	3	7.08
Central Section—			
Culebra	.90	5	6.08
*Camacho	1.20	3	7.78
Empire	1.24	19	7.25
Gamboa	2.63	19	8.71
*Juan Mina	1.74	28	7.90
Alhajuela	1.38	9	6.41
*El Vigia	1.85	9	8.26
*Frijoles	2.52	20	14.52
Trinidad	2.95	20	11.86
*Monte Lirio	4.00	20	14 90
Atlantic Section—			
Gatun	2.81	19	15.17
*Brazos Brook	5.50	20	17.85
Colon	2.97	5	18.63
Porto Bello	2.97	17	18.85

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—value midnight to midnight.

◆

Stages of the Chagres River and Gatun and Miraflores Lakes.

Maximum heights of the Chagres River, Gatun and Miraflores Lakes for the week ending midnight, Saturday, November 1, 1913. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.					
	Vigia.	Alhajueia	Gamboa.	Frijoles	Gatun Lake*	Miraflores Lake
Sun., Oct. 26	127.9	93.9	71.8	71.7	71.8	.....
Mon., Oct. 27	127.4	93.8	71.9	71.9	71.9	.....
Tues., Oct. 28	126.9	93.2	72.0	72.0	72 1	.....
Wed., Oct. 29	128 0	94.1	72.1	72.2	72 2	.....
Thurs., Oct. 30	127.6	94.0	72.3	72.3	72.4	.....
Fri., Oct. 31	126.6	93.2	72.4	72.4	72 5	.....
Sat., Nov. 1	130.4	95.8	72.5	72.5	72.6	45.4
Height of low water to nearest foot	125 0	91.0	44 0			

*Sluice gates in spillway at Gatun were closed on June 27, 1913, with surface of lake at elevation 48.25.

◆

LOST—An Eastman 3-A, Hawk Eye kodak, left in a cab in Panama City on Monday evening, November 3. Finder is requested to notify M. Barat, Culebra, C. Z.

OFFICIAL CIRCULARS.

Rates of Pay for West Indians in the Transportation Service.

CULEBRA, C. Z., October 28, 1913.

CIRCULAR No. 229–z–4:

Effective November 1, 1913, the rates of pay for West Indians in the transportation service will be, as follows:

Clerks—	
Entrance rate of pay	$30.00 a month
Intermediate rate of pay	37.50 a month
Maximum rate of pay	50.00 a month
Firemen, (Standard gage locomotives)—	
Entrance rate of pay	37.50 a month
Maximum rate of pay	45.00 a month
Firemen (Narrow gage locomotives)—	
Entrance rate of pay	25.00 a month
Maximum rate of pay	30.00 a month
Messengers—	
Entrance rate of pay	17.50 a month
Intermediate rate of pay	20.00 a month
Maximum rate of pay	25.00 a month
Switch tenders	.10 an hour
Telephone operators	30.00 a month
Trainmen	30.00 a month
Watchmen—	
Entrance rate of pay	20.00 a month
Intermediate rate of pay	25.00 a month
Maximum rate of pay	30.00 a month

All employes of the above classes, who are now receiving more than the maximum rates of pay as shown above, will be reduced, effective November 1, 1913, so that their rates of pay will agree with the above schedule. New employes will be taken on at the entrance rates shown. After three months' satisfactory service they may be promoted to the intermediate rates, where such rates are shown, and after a further period of three months' satisfactory service they may be promoted to the maximum rate of pay of their position.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Amendment to Circular No. 314–K.

CULEBRA, C. Z., October 28, 1913.

CIRCULAR No. 314–L:

Paragraph 7 of Circular No. 314–K, dated September 1, 1913, prescribing gas engine oil for the cylinders of internal combustion engines, is hereby amended to permit the use of Monogram engine oil on motor boats and motor cars of the Commission and Panama Railroad Company.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Reservations on the "Cristobal," Sailing from Colon on November 25.

CULEBRA, C. Z., October 27, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

All first cabin accommodations on the steamship *Cristobal*, scheduled to sail for New York on November 25, will be reserved exclusively to members of the House Committee on Appropriations. No requests for first-class accommodations on this boat should, therefore, be submitted.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Invoicing of Cement Bags.

CULEBRA, C. Z., October 26, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

Effective November 1, cement bags will be invoiced by the Quartermaster's Department for physical accounting only. On that date the various departments and divisions will take an inventory of the cement bags on hand, both empty bags and bags containing cement, and forward these inventories to the costkeeping accountant at Culebra.

By this method, the value of the cement bags will remain in the account, "Material and supplies," and that account will receive credit for the value of the bags accepted by the contractors. The value of all bags rejected, as well as the freight charges on bags returned, will be invoiced to the costkeeping accountant for prorate to the various units of the work on the basis of the cement used.

Inventory of the bags actually on hand should be taken by the departments and divisions every three months for check against the property records.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Transfer of 10-Cent Laborers.

CULEBRA, C. Z., October 30, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

Before laying off any 10-cent laborers due to reduction of force, Inspector Greenslade of this office will be notified directly long enough in advance so that he may have an opportunity to arrange for the transfer of these laborers to other departments and divisions in lieu of higher priced West Indian laborers, who shall be discharged to make place for same, or, if retained, shall be reduced in pay to 10 cents per hour.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Forwarding Survey Papers for Retired Equipment.

CULEBRA, C. Z., October 30, 1913.

CIRCULAR No. 323-I:

Accountable officials will forward promptly survey papers for each steamshovel, locomotive, or other piece of rolling stock to be permanently withdrawn from service, in order that such equipment may be prepared for storage with the least delay practicable.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Delays in Local Freight Shipments.

CULEBRA, C. Z., October 28, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

The acting general superintendent of the Panama Railroad quotes the following report submitted by the freight and passenger agent:

> "Considerable delay has been experienced of late to carload shipments from points on the new main line and old main line and *vice versa* due to cars being improperly carded, showing consignee and destination.
>
> "Should be glad if you would have this matter brought to the attention of all heads of departments and divisions of the Isthmian Canal Commission. In many instances, cars with material are moved and left in Paraiso yard by I. C. C. crews without any billing whatever to cover, causing difficulty on our part in locating even the shipper or the originating point, much less consignee and destination, and the movement of cars without billing, and especially by I. C. C. engines on P. R. R. tracks, has always been strictly against the rules and these rules are not being lived up to."

Please give this matter your attention, and see that the necessary instructions are issued to all concerned.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Shop Expense Percentage.

CULEBRA, C. Z., October 28, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

In accordance with the provisions of Circular No. 169-E, the following shop expense percentage for each shop is hereby fixed, effective November 1, 1913, and will be applied, until further orders, to the distributed labor used in all shop work, in accordance with the provisions of Circular No. 264-A, viz:

DIVISION OR SHOP.	*Shop expense percentum.*
Mechanical Division	50
Dry dock shop	50
Porto Bello	25
Toro Point	50
Paraiso shop	35

Circular letter from this office dated August 22, 1913, is revoked.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Stripping Steamshovel Boilers.

CULEBRA, C. Z., October 25, 1913.

CIRCULAR No. 323–H:

Paragraph B of Circular 323–E, dated September 12, 1913, is hereby amended to omit the stripping of jackets and lagging from the boilers of steamshovels.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Disposition of Chronic Patients.

DEPARTMENT OF SANITATION,
OFFICE OF CHIEF SANITARY OFFICER,
ANCON, C. Z., October 28, 1913.

TO ALL CONCERNED:

Effective October 31, all chronic patients in Ancon and Colon Hospitals not requiring further hospital treatment, and whose disability does not render them eligible for admission to the Corozal Farm, will be discharged from these hospitals, and transferred to a ward set aside for them in Colon Hospital grounds The expense connected with their maintenance—food. necessary clothing, and attendance—will be kept separate from the hospital. The superintendent of Colon Hospital will have supervision over them, and will, in case it becomes necessary, regularly transfer them to the hospital for treatment.

Patients in Ancon and Colon Hospitals eligible for admission to Corozal Farm, and who require no further hospital treatment, must be required to make the necessary application for admission to the farm, and in the event they fail to do this on or before the 5th day of November, 1913, they must be discharged from hospital.

Should there be any of the patients not entitled to the privilege of the farm, who pay the 30-cent rate for their care in hospital, a statement to this effect with the necessary data, should be submitted when the patient is transferred, in order to enable the superintendent of Colon Hospital to render bills.

The necessary arrangements incident upon carrying out the provisions of this circular will be attended to by the Acting Chief Sanitary Officer.

JOHN L. PHILLIPS,
Acting Chief Sanitary Officer.

Approved:
GEO. W. GOETHALS,
Chairman.

Privilege of Choosing Hospitals Discontinued.

DEPARTMENT OF SANITATION,
OFFICE OF THE CHIEF SANITARY OFFICER,
ANCON, C. Z., October 27, 1913.

ALL DISTRICT PHYSICIANS:

Heretofore, American employes, members of their families, and others have been allowed their choice of Commission hospitals, Ancon or Colon. Effective at once, this privilege will be discontinued, and all such patients, unless otherwise ordered from this office, will be sent to Ancon Hospital. This not to include individuals at Gatun, Cristobal, Toro Point, and Porto Bello, who require operative interference, or whose condition will not admit of their transportation to Ancon,

JOHN L. PHILLIPS,
Acting Chief Sanitary Officer.

Approved:
GEO. W. GOETHALS,
Chairman.

Interlocking Plant at Pedro Miguel.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., October 29, 1913.

G. S. BULLETIN No. 16:

Interlocking plant at Pedro Miguel will go into service at 12.01 p. m., Sunday, November 2. All routes are governed by home and dwarf signals, giving aspects in accordance with the Book of Rules.

Please be governed accordingly.

F. MEARS,
Acting General Superintendent.

Change in School Hours.

DEPARTMENT OF CIVIL ADMINISTRATION,
DIVISION OF SCHOOLS.
ANCON, C. Z., October 29, 1913.

PRINCIPALS AND TEACHERS OF WHITE GRADE SCHOOLS:

The following schedule of school hours in the grades of the white schools will be effective November 4:

	A. M.	P. M.
Ancon	8.00 to 11.00	1.00 to 3.00
Corozal	8.00 to 11.00	1.00 to 3.00
Pedro Miguel	8.30 to 11.30	1.00 to 3.00
Paraiso	8.30 to 11.30	1.00 to 3.00
Culebra	8.00 to 11.00	1.00 to 3.00
Empire	8.30 to 11.30	1.00 to 3.00
Las Cascadas	8.00 to 11.00	1.00 to 3.00
Gatun	9.00 to 12.00	1.30 to 3.30
Cristobal—		
Upper grades	8.00 to 11.15	1.15 to 3.15
Lower grades	8.15 to 10.45	1.00 to 2.45
Porto Bello	8.00 to 11.00	1.00 to 3.00

At Ancon, the only changes in the break service will be that the break will arrive in the afternoon 45 minutes earlier and leave one hour earlier than under the present schedule; at Pedro Miguel and Empire, the only change will be that the breaks will leave one hour earlier in the afternoon. An entirely new schedule has been arranged for the Cristobal break.

The first grade in all schools will dismiss 30 minutes earlier in the morning than the other grades. The first, second, and third grades will dismiss 30 minutes earlier in the afternoon than the other grades. The condition of break service at Cristobal has made it necessary to make school hours for the lower grades independent of the upper grades.

Teachers will send to this office revised programs. As a rule, in grades above the second, it is better to have the study period of a subject in preparation of the next day's lesson immediately following the recitation period of that subject.

A. R. LANG,
Superintendent of Schools.

Proposals for Construction of Earth Dike.

OFFICE OF CHIEF QUARTERMASTER,
CULEBRA, C. Z., October 29, 1913.

Sealed proposals will be received at this office until 3 p. m., Thursday, November 20, 1913, and then opened, for the construction of an earth dike, or embankment, containing approximately 71,500 cubic yards of material, at Caño saddle, No. 4, separating Gatun Lake from the drainage area of the Lagarto River. Full information, including plans and specifications, can be secured upon application to this office. Bids must be accompanied by cash, certified check, or post-office money order for five per cent (5%) of amount bid. Proposals should be marked "Proposal for construction of earth dike," and addressed to Captain R. E. Wood, Chief Quartermaster, Culebra, Canal Zone.

COMMISSARY DEPARTMENT.

The commissary stores are open during the following hours:

Cristobal, 8 a. m., to 12.30 p. m., and 2 to 7 p. m.
Balboa, 8 a. m. to 12.30 p. m., and 2.30 to 7 p. m.
Ancon, 8 a. m. to 1 p. m., and 3 to 6 p. m.
All others, 8 a. m. to 1 p. m., and 3 to 7 p. m.

Retail prices of cold storage provisions for the week beginning November 3, 1913:

FRESH MEATS.	Price.
Mutton—Stewing, per pound	6
Shoulder, neck trimmed off (4 pounds and over), per pound	9
Entire forequarter (not trimmed, 10 pounds and over), per pound	8
Legs (8 to 10 pounds), per pound	17
Cutlets, per pound	17
Short cut chops, per pound	20
Lamb—Stewing, per pound	6
Entire forequarter, neck trimmed off, per pound	9
Legs (5 to 8 pounds), per pound	20
Chops, per pound	24
Cutlets, per pound	24
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	12½
Chops, shoulder, per pound	17
Chops, per pound	26
Loin, for roasting, per pound	26
Cutlets, per pound	30
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	8
Plate, per pound	9
Corned, No. 1, per pound	14
Corned, No. 2, per pound	12
Chuck roast, 3 lbs., and over, per pound	12
Rib roast, second cut (not under 3½ pounds), per pound	16
Rib roast, first cut (not under 3 pounds), per pound	18
Pot roast, per pound	19
Rump roast, per pound	19
Porterhouse roast, per pound	20
Steak, Chuck, per pound	12½
Round, per pound	13
Rib, per pound	18
Sirloin, per pound	19
Rump, per pound	19
Porterhouse (not less than 1½ pounds), per pound	20
Tenderloin (Western), per pound	30
Pork—Loin chops or roast, per pound	17
Hams, fresh, per pound	§20
Shoulders, fresh, per pound	§17
Spare ribs, per pound	15
Backbones, per pound	15
Pigs' feet, each	7
Pigs' head, ½-head	60
Sausage, homemade, per pound	20

MISCELLANEOUS.	
Livers—Beef, per pound	11
Calf, each	60
Half, each	30
Steak, Hamburger, package	13
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Devonshire Farm, per pound	20
Sweetbread, beef, per pound	34
Eggs, fresh, per dozen	†38
per ½-dozen	†19
Bluefish, per pound	12
Halibut, fresh, per pound	15
Salmon, per pound	15
Roe shad, each	75
Shad roes, pair	40

POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, large each	1.40
Fancy roasting, milk fed, med., each	1.10
Fancy roasting, corn fed, about 5½ pounds, each	1.25
Fancy roasting, corn fed, about 4½ pounds each	1.00
Fowls, each	††60, 70, 80, 90, and 1.00
Ducks, Western (about 4½ pounds), each	1.25
Capons, each	2.00
Broilers, milk fed, each	70
Broilers, corn fed, each	60
Turkeys, per pound	28
Squabs, each	50
Rabbits, skinned, each	30
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30

CURED AND PICKLED MEATS.	
Ham—Real York and Cumberland	37
Genuine Westphalia, per pound	40
Sugar cured, per pound	20
Sliced, per pound	22
Half, for boiling, per pound	21
Boiled, per pound	28
Hocks, per pound	‡8
Beef, salt, family, per pound	12
Bacon—Breakfast, whole piece, per pound	25
Sliced, per pound	26
Ham, lunch, per pound	32
Pork, salt, family, per pound	14
Ox tongues, each	1.00
Pigs' feet, per pound	7
Tongues, per pound	18

DAIRY PRODUCTS.	Price.
Butter—Creamery, special, per pound	*36
Sheffield Farms, extra fancy, per lb	46
Cheese—Philadelphia cream, cake	10
Roquefort, per pound	35
Yound America, per pound	22
Swiss, per pound	28
Edam, each	1.00
Edam, tin	25
Parmesan, per pound	35
Gouda, per pound	30
Snappy, per cake	10
Milk (certified), per quart	**.20
Fer-mil-lac, bottle	**.20
Ice cream, quart	‡25
½-gallon	‡50

VEGETABLES AND FRUITS.	
Beets, per pound	3
Celery, per head	6
Cabbage, per pound	3½
Cucumbers, per pound	†6
Carrots, per pound	3
Egg plant, per pound	4
Lettuce, per pound	14
Onions, per pound	3
Potatoes, white, per pound	3
sweet, per pound	2
Parsley, bunch	5
Squash, per pound	3
Turnips, per pound	3
Tomatoes, per pound	5
Yams, per pound	3
Grapes, Malaga and Tokay, per pound	12
Grape fruits, each	4
American, each	15
Lemons, per dozen	24
Limes, per hundred	80
Pears, per pound	7
Oranges, Jamaican, per dozen	18

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on list.

††Fowls weigh each, about as follows: 3, 3½, 4, 4½, and 5 pounds. Prices are based accordingly; when size ordered is not in stock, next lightest weight is supplied and refund note sent for difference.

‡Sold only from commissaries; no orders taken for delivery.

§Not less than half of a fresh ham or shoulder will be sold.

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Supplies for the Canal.

The following steamers, with supplies for the Isthmian Canal Commission and Panama Railroad Company arrived at the ports of Balboa, Colon, and Cristobal during the week ending October 26:

Tivives, October 19, from New York, with 1,448 crates insulators, First Division; 276 pieces bridge iron, Panama Railroad Company: 95 boxes window glass, 2,974 sacks oats, 42 bundles shovels, 15 cases paint, for stock.

Peru, October 19, from San Francisco, with 329 coils manila rope.

Prinz August Wilhelm, October 20, from New York, with 80 cases soap polish, 1,447 bales hay, 163 kegs bolts and rivets, 72 kegs bolts and rivets, for stock.

Parismina, October 20, from New Orleans, with 52 pieces oak timbers, Sixth Division; 2,274 sacks creosoted blocks, 855 bundles paving brick, Second Division; 2,930 pieces lumber, for stock.

Zacapa, October 22, from New York, with 13 boxes electrical material, Panama Railroad Company; 2,137 bundles reinforcing bars, administration building; 484 pieces structural material, First Division.

Sixaola, October 23, from New Orleans, with 1,111 bales hay, 25 pieces lumber, 49 pieces timbers, for stock; 77 packages electrical material, Panama Railroad Company; 4,450 feet pipe, Mechanical Division; 452 pieces pipe-fittings, administration building.

Allianca, October 22, from New York, with 18 cases machinery, 255 bundles steel bars, 57 barrels vault lights, First Division; 4,040 pieces tile, Second Division; 15 cases brass tubes, Sixth Division; 31 cases electric lamps, Mechanical Division; 5,478 bundles steel bars, 120 coils rope, Division of Municipal Engineering; 30 rolls wire fencing, Panama Railroad Company; 10,915 pieces steel bars, administration building; 10 boxes solder, 192 kegs bolts and rivets, 24 reels wire rope, 238 kegs nails, 73 coils wire, 42 pieces pipe, 120 bundles brooms, for stock; and a miscellaneous cargo, the whole consisting of 22,312 pieces, weighing 865 tons.

◆

Ancon Crusher.

DATE.	Hours worked.	Cubic yards.
October 20	7.45	1,271
October 21	6.05	2,250
October 22	7 35	1,357
October 23	6.10	2,192
October 24	7.20	1,662
October 25	6 50	1,351
Total	43.45	10,083

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings of the Panama Railroad Steamship Line: of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line.

NEW YORK TO CRISTOBAL.*

Panama	P. R. R.	Monday	Nov.	3
Allianca	P. R. R.	Monday	Nov.	10
Colon	P. R. R.	Monday	Nov.	17
Advance	P. R. R.	Saturday	Nov.	22
Panama	P. R. R.	Saturday	Nov.	29
Allianca	P. R. R.	Friday	Dec.	5
Colon	P. R. R.	Thursday	Dec.	11
Advance	P. R. R.	Wednesday	Dec.	17
Panama	P. R. R.	Tuesday	Dec.	23
Allianca	P. R. R.	Tuesday	Dec.	30

CRISTOBAL TO NEW YORK.*

Advance	P. R. R.	Sunday	Nov.	9
Panama	P. R. R.	Sunday	Nov.	16
Allianca	P. R. R.	Saturday	Nov.	22
Colon	P. R. R.	Saturday	Nov.	29
Advance	P. R. R.	Friday	Dec.	5
Panama	P .R. R.	Thursday	Dec.	11
Allianca	P. R. R.	Wednesday	Dec.	17
Colon	P. R. R.	Tuesday	Dec.	23
Advance	P. R. R.	Tuesday	Dec.	30

NEW YORK TO COLON.

Pastores	U. F. C.	Saturday	Nov.	1
Carl Schurz	H.-A.	Saturday	Nov.	1
Metapan	U. F. C.	Wednesday	Nov.	5
Prinz August Wilhelm	H.-A.	Saturday	Nov.	8
Tivives	U. F. C.	Saturday	Nov.	8
Oruba	R. M.	Saturday	Nov.	8
Zacapa	U. F. C.	Wednesday	Nov.	12
Emil L. Boas	H.-A.	Saturday	Nov.	15
Tenadores	U. F. C.	Saturday	Nov.	15
Almirante	U. F. C.	Wednesday	Nov.	19
Trent	R. M.	Saturday	Nov.	22
Carrillo	U. F. C.	Saturday	Nov.	22
Santa Marta	U. F. C.	Wednesday	Nov.	26
Pastores	U. F. C.	Saturday	Nov.	29

COLON TO NEW YORK.

Almirante	U. F. C.	Thursday	Nov.	6
Trent	R. M.	Tuesday	Nov.	11
Carrillo	U. F. C.	Tuesday	Nov.	11
Prinz Joachim	H.-A.	Tuesday	Nov.	11
Santa Marta	U. F. C.	Thursday	Nov.	13
Carl Schurz	H.-A.	Tuesday	Nov.	18
Pastores	U. F. C.	Tuesday	Nov.	18
Metapan	U. F. C.	Thursday	Nov.	20
Prinz August Wilhelm	H.-A.	Tuesday	Nov.	25
Tivives	U. F. C.	Tuesday	Nov.	25
Thames	R. M.	Tuesday	Nov.	25
Zacapa	U. F. C.	Thursday	Nov.	27
Emil L. Boas	H.-A.	Tuesday	Dec.	2
Tenadores	U. F. C.	Tuesday	Dec.	2
Almirante	U. F. C.	Thursday	Dec.	4

NEW ORLEANS TO COLON.

Atenas	U. F. C.	Saturday	Nov.	1
Parismina	U. F. C.	Wednesday	Nov.	5
Sixaola	U. F. C.	Saturday	Nov.	8
Cartago	U. F. C.	Wednesday	Nov.	12
Abangarez	U. F. C.	Saturday	Nov.	15

COLON TO NEW ORLEANS.

Turrialba	U. F. C.	Thursday	Nov.	6
Heredia	U. F. C.	Saturday	Nov.	8
Atenas	U. F. C.	Thursday	Nov.	13
Parismina	U. F. C.	Saturday	Nov.	15

*Amended schedule, resulting from temporary withdrawal of the *Allianca* for repairs.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

◆

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending November 15, 1913:

DATE.	High	Low	High	Low
	A.M.	A.M.	P.M.	P.M.
Nov. 9	12.30	6.45	1.07	7.00
Nov. 10	1.18	7.33	1.52	7.44
Nov. 11	1.57	8.12	2.28	8.22
Nov. 12	2.28	8.47	3.00	8.57
Nov. 13	3.00	9.21	3 30	9.31
Nov. 14	3.32	9.55	4.00	10.06
Nov. 15	4.05	10.30	4 33	10.46

75th meridian time.

◆

Married.

CASH–SMITH—On October 12, at the home of the bride's parents, Demorest, Ga., Miss Sarah Ethel Smith to Mr. John H. Cash of Demorest, Ga., the Rev. Joseph Loggins officiating. Canal Zone residence, Empire.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, NOVEMBER 12, 1913. No. 12.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

◆

Canal Equipment Available for Use in Alaska.

The following resolution, which was considered and agreed to, was introduced in the Senate of the United States on August 23, 1913:

> "*Resolved*, That the Isthmian Canal Commission be, and they are hereby, directed to transmit to the Senate information showing as nearly as may be practicable, the amount, character, and value of construction machinery, equipment, and material which will be available on the completion of the Panama Canal, and which it would be possible to transfer to Alaska for use in railroad, and dock construction and coal mining."

A preliminary report of equipment and material available has been prepared under the direction of the Chief Quartermaster, based in part on the list incorporated in the report of the Alaska Railroad Commission.

◆

Progress of Dredging in Culebra Cut.

Excavation by pipeline suction dredges at the foot of Cucaracha slide has been abandoned temporarily on account of the heavy material encountered in the lower part of the slide. Pipeline suction dredges *No. 85*, working on the south side of the slide since October 24, and *No. 86*, on the north side since October 28, were replaced on November 8 by the ladder dredges *Marmot* and *No. 5*, respectively. Dredge *No. 85* was transferred to Miraflores Lake, where the bottom of part of the channel is five feet above final level. and is now excavating at a point about 1,500 feet from the end of the lower approach wall; *No. 86* was towed to Gamboa to join *No. 82* in the removal of material carried into the completed channel by the Chagres River. The spoil from *No. 5* is handled to the dumping grounds near Gorgona in barges, and that from the *Marmot* by clapets *No. 6, 9*, and *11*, dumping near bridge No. 57½ in the old drainage channel at the bottom of the Canal, which is below required level.

The channel through Cucaracha slide is now from 20 to 150 feet wide, averaging about 100 feet for the length of approximately 1,000 feet which the slide has obstructed, and has a depth of from 10 to 20 feet, while the surface of the water is around 75 feet above sealevel. On the north side, beginning at the south side of Gold Hill, the dredges have made a channel about 200 feet wide for a distance of about 250 feet.

The dipper dredges *Mindi* and *Chagres*, working near one another at the bases of the east and west Culebra slides, respectively, are handling the situation at that point without difficulty. Ladder dredge *No. 1* has been transferred from Gamboa to the base of the slide at La Pita point, on the east bank of the Canal, about half a mile north of Empire.

◆

Recreation Hall at Balboa.

The first floor of the lodge hall at Balboa is being converted into reading and recreation rooms, which will be under the management of the Y. M. C. A. The usual papers and periodicals will be supplied the reading room, and there will be space for writing tables and refreshments. Two pool tables will be installed in the recreation room, together with chess and checker games. The upper floor of the building is devoted to lodge meetings, but the Y. M. C. A. will have its use one night a week for entertainments, etc. There are about 430 bachelors quartered in the Balboa district, who, at present, are without means of social diversion.

◆

Sales of Retired Canal Equipment.

Sales of retired Canal equipment have recently been made to the Costa Rica Government, for account of the Pacific Railway of Costa Rica; to the Northern Railway of Costa Rica, and to the United Fruit Company. For the Pacific Railway, there have been purchased six 42-inch dump cars, six 42-inch flat cars, two 42-inch Porter locomotives used in the construction of Pedro Miguel Lock, three 70-ton Bucyrus steamshovels, Nos. 45, 58, and 59; and two 25-ton Lidgerwood unloaders. The Northern Railway of Costa Rica has purchased forty-one 42-inch dump cars, seven 42-inch flat cars, eight 42-inch Porter locomotives, and two 45-ton Bucyrus steamshovels, Nos. 51 and 52. The purchases of the United Fruit Company include two 60-ton Marion steamshovels, Nos. 151 and 153, one Model 20 Marion steamshovel. and, through Mr. H. M. Fields, for use in the Bocas del Toro district, six 36-inch Porter locomotives. This company has also bought 18 tons of second-hand 70-pound rail, and 11,000 second-hand angle bars. The firm of R. W. Hebard and Company, Panama, has purchased two 36-inch electric locomotives, formerly used on the industrial railway at Gatun Locks.

The prices of the equipment were fixed by the Board of Survey and Appraisal in each instance, and its cost to the buyer depended to a large extent on its serviceability, the repairs necessary to put it in condition in case repairs were desired, changing of gage, and the cost of dismantling and crating for shipment.

◆

To Increase Tenth Infantry to 1,500 Men.

At a conference at Camp E. S. Otis, between the Secretary of War, Colonel Goethals, and Colonel Greene, during the recent visit of the Secretary, it was agreed that sufficient quarters would be available at Las Cascadas and would be placed at the disposal of Army authorities to house a sufficient number of enlisted men to bring the strength up to about 1,500 as per Field Service Regulation organization.

The matter of procuring the additional men and equipment is now the subject of correspondence with the War Department, and a decision thereupon is expected soon.

◆

Removal of Sixth Division Offices.

Removal of the office of the Sixth Division from Balboa to Paraiso will be effected within the next few days, and the removal of the office of the same division, now on Dock 13, Cristobal, will follow shortly thereafter, thereby consolidating all of the office work of the division under one roof. The new office at Paraiso will be located in the old storehouse building, which has been altered to accommodate the following: Office of the resident engineer, office of the dredging superintendents, office of the clerical force, drafting room and office of the civil engineers and mechanical draftsmen, property room, subsistence department, and a room for the silver clerks. The office of the resident engineer is 14½ by 31 feet in plan, equipped with shelves and a coat closet; that of the superintendents is similar in size; the office for the white clerks is 46 by 31 feet in plan, provided with a stationery storeroom and a coat closet; the drafting force will occupy a room of the same size furnished with drawer cabinets and a bookcase. The property room is furnished with shelves extending to the ceiling. All the above offices are separated by partitions built part way to the ceiling, but between the drafting room and that set aside for the subsistence department the partition will extend to the ceiling. The room for the subsistence section is 20 by 31 feet in plan, fitted with shelves all the way to the ceiling, and provided with a packing table. It is also provided with an ice box for keeping perishable supplies, entrance to which is gained through a vestibule opening on an unloading platform extending the entire length of the office building.

The greater part of the Pacific dredging force, as well as the shop employes, have already been assigned quarters at Paraiso. The old shop building has been reequipped with the necessary machinery for repairs to the dredging outfit and placed under the Mechanical Division. Shop operations were begun on November 1.

Changes at Pedro Miguel.

The fill on the east side of the Panama railroad at Pedro Miguel for raising the southern part of the townsite above the level of Miraflores Lake, has been completed, except for final grading and arrangement of drainage facilities. The commissary store has been transferred from the west side of the railroad to the old Gorgona commissary building, rebuilt on the east side of the track, near the station. The station is being enlarged by a 40-foot extension of the waiting shed for first-class passengers, and an additional alighting platform has been built on the opposite side of the tracks. The local detachment of police has moved into new quarters in a two-story building east of the railroad station, and the hotel for gold employes has been transferred from the building at the south end of the town to a part of the building formerly devoted to a mess for European laborers, opposite the railroad station. The Commission clubhouse, transferred from Gorgona, is being rebuilt at the eastern limit of the present town, on a hill overlooking an arm of Miraflores Lake. The framework and roof have been completed, and the remaining work will be interior finishing and painting.

Sales of Obsolete Material.

The total value of all material sold, including scrap and obsolete material and equipment, during the months of July, August, and September, was $402,077.98. Of this amount, sales to the Panama railroad and commissaries totaled $308,518.35. Although the latter are classed as sales, they are practically issues of stock, similar to the issues to departments and divisions of the Commission. The value of the sales, however, is reimbursed to the Commission from Panama railroad funds. The remainder of the transactions, amounting to $93,559.63, represent sales to employes and outside individuals and companies, as follows: Sales of obsolete equipment, $24,310.30; sales of obsolete material, $19,593.84; sales of American scrap screening, etc., $10,362.66; sales of old French buildings, $5,538.91; sales of French scrap (collections under French scrap contract), $6,930.87; sales of stock material, including stationery, $26,823.35. The expenses directly chargeable to these sales amounted to $11,462.14, of which $4,297.85 represents expenses at the Mount Hope scrap yard.

Exodus from the Isthmus Continues.

According to the figures of the quarantine service, 2,430 more persons embarked on vessels sailing from the Isthmus for foreign ports during the month of October, than landed, almost equaling the excess of emigration over immigration for September.

The total number of steamship passengers who embarked at Colon and Cristobal for foreign ports during the month was 4,927, consisting of 2,656 cabin, and 2,271 steerage passengers. The number of persons who landed from foreign ports was 2,568, consisting of 1,644 cabin, and 924 steerage passengers. The number of persons who embarked over those who landed at these ports was 2,359. The steerage passenger lists on incoming boats were the smallest in months. The immigration from West Indian ports consisted of 224 cabin and 523 steerage passengers, an increase in cabin, but a considerable decrease in deck passengers, as compared with September. Of the steerage passengers from other countries, Colombia furnished 136, and Costa Rica, 61, while only 97 came from Europe. The number of persons arriving "in transit," practically all tourists, during the month, was 1,787, a decrease of 19, as compared with the previous month.

The number of persons who landed at the ports of Ancon and Panama from foreign ports during the month was 458, consisting of 301 cabin, and 157 steerage passengers. The number of persons who embarked for foreign ports during the same period was 529, consisting of 384 cabin, and 145 steerage passengers. The number of those who embarked over those who landed was 71. The net emigration from the Isthmus during the past three months has been 6,759.

The total number of vessels arriving at Colon during October was 97, and at the port of Ancon, 22.

The "Fram" Relieved from Payment of Harbor Dues.

By authority of the Secretary of War, the Polar ship *Fram*, now at Colon, will be relieved from the payment of all harbor and light dues and wharf charges during its stay there. This action is in line with the exemption from similar payments, which is said to have been made to the ship in every port at which it has called. The *Fram* sailed from Buenos Aires on August 14, and arrived at Colon on October 2, where it expects to stay until an opportunity is afforded for it to continue on its way to San Francisco via the Canal.

Obsolete Material Sold for Cash.

A great many articles in the obsolete storehouse at Mount Hope have been appraised by the Board of Survey and Appraisal and prices thereon approved, so that they can be purchased for cash. Individuals interested in the purchase of any of these articles may obtain full information by applying to the Depot Quartermaster, Mount Hope, Cristobal, C. Z., by letter, or in person.

Tenth Infantry Patrol in Panama.

Acting under instructions from higher authority, the Commanding Officer, Tenth Infantry, has adopted the policy of sending a patrol to the city of Panama at such times as a visit to that city by any considerable number of his command is anticipated. This action is taken with the consent of the Government of Panama, with a view to maintaining good order as far as the men of the Tenth Infantry are concerned, and is intended to prevent possibility of a recurrence of the disorder of September 6, last, which involved sailors and marines from the *U. S. S. Detroit* and a few men of the Tenth Infantry, and which was inspired by the apparently unprovoked stabbing of a member of that ship's crew.

The patrol which has been on duty every night since pay day (Nov. 6), consists of a lieutenant and 7 enlisted men and is stationed at the Panama police station at Cocoa Grove.

◆

Señor Joaquin Miro Quesada has been appointed Consul General and Chargé d'Affaires of the Republic of Peru in Panama.

FILTER GRAVEL AND SAND.

Washed and Separated by Hydraulic Gravity Plants.

The filter medium for the filters being constructed for the new Colon waterworks will consist of layers of selected Chagres River gravel and Punta Chamé sand. The gravel will be placed at the bottom of the filter, in three layers. For the first, or bottom, layer the gravel will be laid 10 inches deep and in size will be that which can be passed through a 1¼-inch screen and held on a ⅝-inch screen; for the second layer, seven inches in depth, the gravel passing through the ⅝-inch screen and held on a ⅜-inch screen; for the top layer, that which can be passed through a ⅜-inch mesh and held on a 3/16-inch screen. On top of this last layer of gravel will be placed 30 inches of washed sand, separated in such a manner as to give a mean effective size, approximately .35 to .44 millimeters in diameter and having a uniformity coefficient of from 1.2 to 1.8.

In order to obtain gravel of the required sizes, a washing and separating plant was constructed at Gatun, at which the gravel has been prepared. The plant consists of a series of 12 by 12-inch sluice boxes, arranged in steps, and discharging at their lower ends against electrically welded wire screens, which are set at an inclination of approximately 30 degrees to the bottom of the flumes. The drop between steps is about three feet. The gravel is shoveled into the washing box at the head of the first flume, and is sluiced down the flume to fall against the first screen. The water and all sizes of gravel smaller than the mesh of the screen pass through it and drop into the second flume. At the foot of this flume the gravel falls on the second screen. That which is too large to pass through, rolls off the screen into a bin; the remainder passes through the screen in the same manner as at first. This process is repeated through the third and fourth screens. In this manner, the three sizes of gravel desired are separated by gravity and fall into three bins.

The preparation of sand for the filters is also effected hydraulically. This is done by emptying the sand into a washing box, 16 feet long, five feet high, and two feet wide, inside measurements, with an inclined bottom along which is a pipe manifold system, made of seven lengths of 3-inch pipe with a number of small holes in its under side. When a workable quantity of sand has been dumped into the box, water is admitted to the pipe manifold at such pressure as to give a constant flow of 10 gallons per square foot of floor area per minute. At the top of the box, with its inner end about 10 feet from the end at which the sand enters the box, is an overflow trough, nine inches wide by 12 feet long, with an incline of five inches in its length. The water from the manifold forces the sand into suspension, and the fine particles and dirt are carried away by the overflow. The sand left in the box is that which is desired for the filters. It is removed from the box through a slot, two by nine inches, at the lower end of the floor, controlled by a sliding door.

The gravel separation plant has developed a capacity of about 25 cubic yards a day, employing six laborers in its operation; and the sand plant, with eight laborers, washes and separates about 50 cubic yards of sand in the 8-hour day.

JOINT LAND COMMISSION.

Rule

in the matter of the claim of the Las Cascadas Estates Company, Limited, for lands at Bohio Soldado and Buena Vista—Under date of September 2, 1913, an award was made by the Joint Land Commission in favor of the Las Cascadas Estates Company, Limited, for property located at Bohio and Buena Vista in the amount of $3,500 U. S. currency.

A motion has been filed by Messrs. Hinckley and Ganson praying that said award be amended by adding thereto a ruling by the Commission in regard to the area for which the said award was made, basing such motion upon the plea that the interests of the Las Cascadas Estates Company, Limited, might be prejudiced in some manner by the omission from the award of the desired statement as to the area covered by the same.

In considering the award to be made to the Las Cascadas Estates Company, Limited, it became necessary to reach a conclusion with regard to the area of the property which rightly belonged to the claimant.

The claimant asserts that its property extends two leagues in depth from the River Chagres, and bases this claim on deeds from Porfirio Melendez. The latter acquired the land in 1891 from Buenaventura Gutierrez and others.

It is admitted by the United States that title to the property was acquired by Porfirio Melendez by this deed of 1891, and the subsequent conveyances to the present claimant are not disputed. It is, however, denied by Counsel for the United States that the deed of 1891 conveyed land two leagues in depth from the River Chagres, because Buenaventura Gutierrez and his predecessors in interest never had title beyond half a league in depth from the River Chagres.

Bohio Soldado lands form a part of the tract known on the Harrison-Arosemena map as Ahorca Legarto y Bohio Soldado. This tract was included in an *in dulto* issued in 1788 to Benegas Arqueche Santillana and de Gracias. In the course of time it became divided up into many tracts which, on the property map are designated, as follows: Ahorca Lagarto, Vamos Vamos, Peñas Blancas Abajo, Peñas Blancas en medio, Peñas Blancas Arriba, Bohio Soldado, Buenavista, and Agua Salud.

In the various instruments the three latter names often appear together. Titles in this area are very much confused. They offer many gaps, and the transition of the property from the original grantees to others who have given deeds in the last thirty years is often obscure. Some deeds go back uninterruptedly (i. e., Peñas Blancas en medio) to the original grantors, and all titles in this area show the original grant as their background.

In this grant of 1788 the whole tract in question is described, as follows:

> "Las tierras en las vegas del rio del Chagres desde la quebrada nombrada Juan Gallegas hasta la de Agua Salud de una y otra banda del dicho Rio, que sera como dos leguas de largo y media legua tierra adentro."

In face of the specific mention of "Media legua tierra adentro," it is manifestly absurd to interpret the phrase, "Que sera como dos leguas de largo," as a measurement of the depth of the estate. It may be noted that this document is voluminous, and gives the original petition and the report of the committee of inspection, as well as the final decree. In the original petition the land to be granted is described in exactly the same terms as those above quoted, with omission of the phrase, "Que sera como dos leguas de largo." The report of the committee of inspection, in designating the lands, uses the language of the original petition and then proceeds to a description of the lands, as follows:

> "Que las espersadas tierras son de terreno firme, fertil a propósito para labranzas y eria de ganados de una y otro banda del rio, aunque por partes no alcanza la tierra firme a la media legua tierra adentro por encontrarse lagunas y pantanos que siguen hasta la montaña;—Que entre los citados linderos habra como dos leguas poco mas ó menos, etc."

This quotation shows how the two league phrase came to be introduced into the original decree and if there were any suspicion that in the decree the "Dos leguas" and the "Media legua" applied to the same measurement, these phrases in the introduction to the decree above quoted would dispel such suspicion. All of the titles to the various sections into which Ahorca Lagarto and Bohio Soldado became divided, go back to this document. The document was recorded in 1887 by none other than Porfirio Melendez, to establish his titles to other tracts in this general area.

The fact that this general area extended only half a league back from the Chagres is recognized in the Harrison-Arosemena map, and was concurred in by Porfirio Melendez in various transactions prior to 1891 in which he or his family acquired title to portions of this estate. In three deeds cited by Counsel for the United States, Porfirio Melendez or his wife appears as purchaser. In each case the depth from the Chagres River is half a league, or three miles.

Concerning the part called Bohio Soldado, specifically, there is a deed of 1867 and an affidavit of 1882. both of which state the interior limits as three miles, Moreover, it may be noted that in the claim before the Commission of Luisa Cerezo, who shows an uninterrupted title back to the original grantees, no claim is made for a depth of two leagues. There is also a series of transactions by which the United States acquired other parts of the same estate—the properties now designated as Ahorca Lagarto, Peñas Blancas Abajo, Buena Vista, and Agua Salud, none of which made any claim to extensions beyond the limits designated on the Harrison-Arosemena map.

In the adjudication of the claim of the Las Cascadas Estates Company, Limited, to the lands of Bohio Soldado and Buena Vista:

The Commission has reached the conclusion, that at the time the deed of 1891 was made, no title existed in the predecessors of Buenaventura Gutierrez to a greater depth of land than that possessed by the owners of the other portions of the estates of Ahorca Lagarto and Bohio Soldado, and that the land beyond the half-league limit was, as indicated in other deeds, "Tierras baldias."

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners.*

September 22, 1913.

Opinion

in the matter of the claim of María E. J. de Bosque Domitila Carmen Paredes de Bosque, and Hilario V. Seixas, for damages by reason of withdrawal of passes on the Panama railroad, docket No. 618—The evidence submitted to the Commission shows that a suit was instituted against the Panama Railroad Company some years ago for damages suffered by the Bosque family, because of the occupancy of certain of their lands by the said railway company for the line of the road, sidings, station, and the removal of stone for ballast.

By public instrument dated May 24, 1884, an agreement was reached by which this suit was compromised, under which agreement General Correoso, María E. J. Bosque, and Domitila Carmen Bosque de Paredes agreed to withdraw the suit and make no further claim for damages, on condition that the railroad company pay to them five thousand dollars, United States currency, and furthermore, that General Correoso, and his wife, and María Jaramillo de Bosque and her son Tomas, should have free passage, with baggage, on the trains of the railroad company.

The rights of the claimants in this case rest entirely on the promise embodied in the agreement of May 27 1884. Any question of damage arising out of the failure of the Panama Railroad Company to execute this agreement is a matter which must be determined by the local tribunals, and does not come within the jurisdiction of this Commission.

The Commission has therefore reached the conclusion that any claim for damages, because of the alleged failure of the Panama Railroad Company to issue passes to these claimants, must be dismissed for lack of jurisdiction, and a rule to this effect is entered accordingly.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners.*

September 15, 1913.

Opinion

in the matter of the status of tenants on that portion of the estate of Matachin situated above the 87-foot contour line—Tenants on that portion of the estate of Matachin situated above the 87-foot contour line were lessees of rural property, and their status is governed by Chapter 6 of the Civil Code.

Although the payment of rental was made monthly, the leases held by these claimants did not specify a fixed time for the termination of the lease. The duration of such leases must, therefore, be governed by the provisions of Article 2043 of the Civil Code, which reads as follows:

> "Article 2043. Should there be no fixed time for the duration of the lease, notice to quit must be given one year in advance, in order to terminate it.
>
> The year shall be understood in the following manner:
>
> The day of the year upon which the delivery of the estate to the tenant was begun, shall be considered as the initial day of the successive years, and the year in advance shall be counted from this initial day, even though notice to quit shall have been served some time before.
>
> The parties may agree on another rule, if they deem it advisable."

These tenants, having acquired an interest in the land under the provision of the Civil Code, must be joined in the present expropriation proceedings. Their tenancy is brought to a close by their eviction from the land. It is clear, therefore, that this eviction works an injury within the contemplation of Article VI of the Treaty between the United States of America and the Republic of Panama, ratified February 26, 1904, and that, in the proper cases, awards will be made for the value of the unexpired leaseholds.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners.*

September 20, 1913.

Dissenting Opinion to Award No. 36.

In the matter of the claim of Leopoldo Cantoral, for property located at Chagresito near Old Frijoles, docket No. 128—In the award made in favor of Leopoldo Cantoral, and signed by a majority of the Commission, the opinion is expressed that the evidence does not support any claim for damages alleged to have been suffered in 1905, and in this finding I concur.

In the award allowed for damages suffered by reason of the rising of the waters of Gatun Lake, I find myself unable to concur for the following reasons:

Cantoral was a tenant of the French Company. Whether his lease terminated or not by the sale of the French lands to the United States, he recognized a position of lessee by the payment of rent in 1905 as shown by the records of the Isthmian Canal Commission. It may also be noted that Cantoral testified to having made a payment for rent in 1906. In any event, he was a lessee of the United States, under the provisions of the Civil Code governing relations of lease, if not under the lease signed with the French Company. His status as a lessee did not give him the right to claim compensation for his improvements on the expiration of this relation. The fact that after 1905 or 1906, he was permitted to occupy the land without the government collecting any rent, especially in view of the notice given to him frequently from time to time that the land occupied by him would be needed for the Canal; though he might stay there till it was actually required for Canal purposes, could not confer upon him rights superior to those which he enjoyed when required to pay rent for the use of the land. In these circumstances it is my opinion that the claim should be dismissed without award, and I cannot concur in the opinion expressed by the majority of the Commission that Leopoldo Cantoral is entitled to compensation under Law 48 of 1882 and Article 739 of the Civil Code, and must dissent from the award made to him.

(Signed) ROLAND P. FALKNER, *Commissioner.*

September 20, 1913.

Certification of Disagreement No. I.

Under the provisions of Article XV of the Treaty between the United States of America and the Republic of Panama ratified February 26, 1904, it is provided:

> "The President of the United States shall nominate two persons and the President of the Republic of Panama shall nominate two persons and they shall proceed to a decision; but in case of disagreement of the Commission (by reason of their being equally divided in conclusion) an umpire shall be appointed by the two Governments who shall render the decision."

Pursuant to the provisions of this article, the Commission desires to bring to the notice of the Governments parties to the Treaty, that the Commission has been unable to reach an agreement on the following question:

> *Do the provisions of Article VI of the Treaty between the United States of America and the Republic of Panama, ratified February 26, 1904, grant a right to compensation to the following class of claimants:*
>
> *Lessees of town lots in Gorgona who held such lots under revocable leases or licenses issued by the Isthmian Canal Commission, and who purchased the buildings located on such lots from persons who, although occupying such lots prior to the abolition of the municipality of Gorgona by the Executive Order of March 13, 1907, accepted, subsequent to such abolition, a revocable lease or license from the Isthmian Canal Commission.*

The Joint Commission herewith certifies this disagreement to the Governments parties to the Treaty, for reference to an umpire, as provided for in Article XV of said Treaty.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER; SAMUEL LEWIS, L. S. ROWE, *Commissioners.*

September 23, 1913.

◆

Ancon Crusher.

Following is a statement of rock crushed at Ancon quarry for the week ending November 8:

DATE.	Hours worked.	Cubic yards.
Nov. 3	....	Holiday
Nov. 4	7.25	1,826
Nov. 5	7.25	2,092
Nov. 6	7.15	2,125
Nov. 7	7.35	1,970
Nov. 8	6.50	1,780
Total	36.30	9,793

FINISHING THE LOCKS.

Summary of Work Remaining October 15, When First Division Took Over Operations.

All the remaining work at the locks of the Canal, with the exception of backfilling and grading, was taken over by the First Division on October 15, as follows:

PEDRO MIGUEL AND MIRAFLORES LOCKS.

1. Finishing lock control houses at both locks.
2. Grading and paving the depressed areas beneath the wicket girders of the emergency dams, the grading for which will be performed by forces of the Fifth Division.
3. Constructing stairway parapets in locations where decking was formerly incomplete, or work inaccessible, at both locks.
4. Closing of the gap in the northeast core wall at Pedro Miguel Lock, through which Central Division trains passed. The tracks at this point were taken up on Monday, October 27, and the work of placing concrete to make the wall continuous has been completed.
5. Erection of crib fender at the end of the south guide wall at Miraflores Locks; also, pile support and crib fender at the end of the north guide wall of the same locks, piles to be driven by floating equipment.
6. Completion of the top of the core wall on the west side of Miraflores Locks. On October 15, this wall had been built to elevation 54⅔ feet and no further work at that point could be done until the removal of the tracks used in the erection of the emergency dams.
7. Footbridges across miter gate sumps, east lock chamber at Miraflores.
8. Installation of snubbing buttons at odd points in Miraflores Locks, inaccessible before.
9. Calking and concreting shrinkage cracks in wall of east chamber, Miraflores Locks.
10. Cross bonding with steel rails the end of the south guide wall at Miraflores, by tying together the tops of the side walls.

GATUN LOCKS.

1. Finishing lock control house.
2. Constructing parapets on upper approach wall.
3. Erection of crib fender at end of south guide wall in Gatun Lake, and driving pile supports for the same, piles to be driven by floating equipment.
4. Finishing calking and shrinkage cracks in the main culverts of the west lower chamber.

A record of the odd amounts of concrete which remain to be placed, in order to complete all work in the locks, will be kept, and when the work is done will be compiled and added to the concrete already placed in the locks as shown in the statement published in THE CANAL RECORD, of October 29. In view of the above, the publication of the concrete tables, which have appeared regularly since the beginning of concrete work at the locks, was discontinued after the above date.

Steamshovel Operations During October.

During the month of October, the total amount of material excavated by the Fourth Division in Culebra Cut was 238,900 cubic yards. Of this amount, 216,000 cubic yards were primary excavation for the Canal and 22,900 cubic yards were classified as "Plant" excavation; 106,515 cubic yards were classified as earth excavation, and 132,385 cubic yards as rock excavation.

In addition thereto, the Fourth Division excavated at Sosa Hill 30,500 cubic yards of rock for use on the Naos Island breakwater. All the yardage handled by this division was excavated by steamshovels.

The Fifth Division of the Chief Engineer's office removed by sluicing at Gold Hill 105,900 cubic yards, 81,900 cubic yards of which were classified as earth, and 24,000 cubic yards, as rock excavation.

SOCIAL LIFE OF THE ZONE.

Church Work.

The ladies' auxiliary to the Empire Christian League held its annual Thanksgiving meeting at the home of Mrs. John H. McLean on Friday afternoon, November 7, when there were present nearly all the members of the organization and a number of invited guests from Culebra, Ancon, and Balboa. Among the reports read was that of the delegate to the Panama missionary society on the question of the federation of church societies in the Canal Zone. The report was received with favor, and it was decided by unanimous vote to cooperate with the Methodist society in the effort to form a federation. The following program was given: Piano selection; hymn, by the auxiliary; devotional, "Thankoffering", by Mrs. McCullough; roll call and response; report of the secretary; report of the Panama missionary meeting, by Mrs. Peak; vocal solo, by Mrs. Roberts; a 10-minute talk on Chinese missions, by Mrs. Stanton; the life story of a Chinese mother-in-law, by Mrs. Goolsby; exercise, Chinese nursery rhymes, and songs, by five little children; vocal solo, by Mrs. Davies; paper on "Our thankoffering", by Mrs. H. A. A. Smith; trio for the piano, by Mrs. McLean, Mrs. Hoffman, and Mrs. Glaw; recitation "Nellie's two mitts," by Carla Smith; offering; closing prayer.

During the absence on special leave of the Rev. H. R. Carson, chaplain of Ancon Hospital and St. Luke's chapel, the charge will be taken over by the Rev. Edward J. Cooper, rector of Christ Church, Colon. Services at St. Luke's chapel for the remainder of the month will be, as follows: November 16 and 30, celebration of the Holy communion at 7 a. m., and morning prayer and sermon at 10 a. m. The Sunday school will be as usual, every Sunday morning at 9 a. m. The chaplain will be in the vestryroom at the chapel on Mondays, Tuesdays, Fridays, and Saturdays, from 9 to 10 a. m., and from 2 to 3 p. m.

Examination by Board of Local Inspectors.

The Board of Local Inspectors will conduct examinations at the Administration Building, Ancon, on Wednesday, November 19, 1913, beginning promptly at 2 p. m., for persons desiring to procure the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for licenses must procure from the Executive Office, Ancon, forms of application and information respecting the filling out of the same, not later than the day previous to the examination. In addition, all persons desiring chauffeurs' licenses must provide themselves with automobiles with which to demonstrate their ability to properly operate the same.

NOTE.—The demonstration test for chauffeurs will be given on Tuesday, the day preceding the regular examination, at 2 p. m., at the Administration Building, Ancon.

W. V. JUDSON,
Chairman, Board of Local Inspectors.

Ancon, C. Z., November 6, 1913.

PERSONAL.

Representatives John J. Fitzgerald of New York, chairman; William P. Borland of Missouri, Frank W. Mondell of Wyoming, and Swagar Sherley of Kentucky. members of the House Committee on Appropriations, sailed from New York on November 8, on the *Cristobal*, for an official visit to the Canal. Accompanying them are Representatives A. J. Barchfield, W. N. Carr, W. S. Vare, and A. H. Walters, all of Pennsylvania, P. P. Campbell of Kansas, Wm. H. Hinebaugh of Illinois, and George White of Ohio.

Lieut.-Col. Chas. F. Mason sailed for Callao, Peru, on Monday, November 3, as a delegate to the sixth annual Pan-American Medical Congress to be held at Lima.

Judge H. A. Gudger returned from his annual leave on the *Panama*, which docked on Sunday, November 9.

Mr. F. S. Dannenberg, assistant engineer at Miraflores Locks, has resigned from the service of the Canal Commission and returned to the United States.

Dedication of Site for Morgan Memorial.

A delegation from the Southern Commercial Congress dedicated, on November 7, a spot on the bluff at the north end of Culebra Cut, between Gamboa stockade and Tower R, as the site for the proposed memorial to the late Senator John T. Morgan. The site was selected by Col. H. F. Hodges and Dr. Clarence J. Owens, managing director of the Congress, with the approval of Senator Morgan's son, Mr. George W. Morgan, who lives in Colon. At the dedication, addresses were made by Commissioner Richard L. Metcalfe, Mr. William Jennings Price, the American Minister to Panama, Miss Louise Lindsley of Nashville, representing the women's auxiliary of the Southern Commercial Congress, and Dr. Owens.

Steamshovel and Dredge Men.

Local No. 19, I. B. of S. S. and D. M., will hold its next meeting at Empire, C. Z., on Sunday, November 16, at 12.30 p. m. All members are requested to be present.

J. I. MAJOR, *Secretary.*

Empire, C. Z., November 9, 1913.

Isthmian Marine Association.

The next regular meeting of the Isthmian Marine Association will be held at Ancon Hall on Sunday, November 16, at 7 p. m. Matters of importance will come up for discussion.

LEO. FOLK,
Recording Secretary.

Cristobal C. Z., November 10, 1913.

Dr. F. R. Brumby, the Commission dentist at Culebra, returned from his vacation on the *Heredia* on Monday, November 3, and will be found at his office during regular office hours.

STEAMSHIP SERVICE.

Increased Regular Connections, and Special Cruises during Dry Season.

Travel to the Isthmus during the coming dry season is likely to exceed that during any previous equal period in the Canal operations. The regular passenger service has been augmented since last season by two ships a week from the United States, to which will be added a weekly service from Boston after January 1, and at least 35 special vessels, carrying tourists, will reach the Isthmus between that date and the first of May.

Following is a schedule of arrivals and departures of the special vessels during the coming season:

Steamship.	*Line.*	*Arrive.*	*Depart.*
Evangeline	C., A. & P.	Jan. 10	Jan. 14
Megantic	W. S.	Jan. 15	Jan. 16
Grosser Kurfürst	N. G. L.	Jan. 23	Jan. 24
Steamer	U. F. C.	Jan. 23	Jan. 24
Victoria Luise	H.-A.	Jan. 26	Jan. 26
Laurentic	W. S.	Jan. 28	Jan. 29
Evangeline	C., A. & P.	Jan. 31	Feb. 1
Fürst Bismarck	H.-A.	Jan. 31	Feb. 1
Lapland	W. S.	Feb. 4	Feb. 5
Steamer	U. F. C.	Feb. 6	Feb. 7
Steamer	U. F. C.	Feb. 9	Feb. 10
Megantic	W. S.	Feb. 11	Feb. 12
Steamer	U. F. C.	Feb. 16	Feb. 17
Evangeline	C., A. & P.	Feb. 18	Feb. 19
Laurentic	W. S.	Feb. 18	Feb. 19
Fürst Bismarck	H.-A.	Feb. 19	Feb. 20
Victoria Luise	H.-A.	Feb. 21	Feb. 21
Steamer	U. F. C.	Feb. 23	Feb. 24
Grosser Kurfürst	N. G. L.	Feb. 24	Feb. 24
Amerika	H.-A.	Feb. 26	Feb. 26
Steamer	U. F. C.	Mar. 6	Mar. 7
Kronprinzessin Cecilie	H.-A.	Mar. 7	Mar. 8
Lapland	R. S.	Mar. 9	Mar. 10
Evangeline	C., A. & P.	Mar. 9	Mar. 10
Megantic	W. S.	Mar. 16	Mar. 17
Kronprinzessin Cecilie	H. A.	Mar. 24	Mar. 25
Victoria Luise	H.-A.	Mar. 25	Mar. 25
Laurentic	W. S.	Mar. 26	Mar. 27
Evangeline	C., A. & P.	Mar. 26	Mar. 27
Grosser Kurfürst	N. G. L.	Mar. 28	Mar. 29
Amerika	H.-A.	Apr. 1	Apr. 1
Megantic	W. S.	Apr. 11	Apr. 12
Evangeline	C., A. & P.	Apr. 13	Apr. 14
Victoria Luise	H.-A.	Apr. 19	Apr. 20
Evangeline	C., A. & P.	May 1	May 2

The regular service to and from the Isthmus, as maintained the year around, is in three parts: Connecting with Atlantic ports of the United States, Central and South America and all ports of the West Indies; with Pacific ports of North and South America, and with ports of Europe. Altogether, from 70 to 75 regular passenger steamers arrive and depart from the two terminals of the Panama railroad each month. The number of passengers disembarking from them on the Isthmus is normally about 4,000 per month; this includes persons connected with the Canal work, immigrants to Panama, passengers enroute to foreign ports, and approximately 1,800 tourists to the Canal Zone.

The service from Atlantic ports of the United States, Central and South America and all ports in the West Indies, is the heaviest of the three parts. It brings at least 95 per cent of the tourists, and an aggregate of cabin passengers of beween 3,000 and 3,500, in from 25 to 30 steamers. Regular sailings from New York to the Isthmus are maintained by the Panama Railroad Steamship Line, every five days; the Royal Mail Steam Packet Company, fortnightly; the Hamburg-American Line, weekly; and the United Fruit Company, semiweekly. United Fruit Company also operates semiweekly connections with New Orleans.

Connection with Pacific ports is maintained by the Pacific Mail Steamship Company, with three sailings a month between San Francisco and Balboa; the Pacific Steam Navigation Company, fortnightly to Callao, three times a month to Guayaquil direct, and fortnightly to Guayaquil, via intermediate ports; the Peruvian Steamship Company, weekly sailings between Callao and Balboa; and the Compañia Sud America de Vapores (Chilean Line) twice a month between Valparaiso, via intermediate ports, and Balboa. From 12 to 15 passenger steamers come to Balboa each month, with between 400 and 600 cabin passengers, most of whom are in transit to Atlantic ports of the United States or to Europe.

From nine to 12 passenger steamers from Europe arrive at Colon each month, disembarking there approximately 200 passengers. These vessels are in the service of the Hamburg-American Line, fortnightly from Hamburg; the Compagnie Generale Transatlantique, monthly from Bordeaux and monthly from St. Nazaire; the Compañia Trasatlantica, monthly from Genoa, via Barcelona; La Veloce, an Italian line, monthly from Genoa; and the Royal Mail Steam Packet Company, fortnightly from Southampton. The Leyland and Harrison Lines together maintain a service every ten days from Liverpool; on the homeward trips, their vessels sail to some Gulf port of the United States, thence to Liverpool.

Special tours to the Isthmus during the coming dry season, separate from the foregoing sailings, will be conducted from United States ports by the North German Lloyd, the International Mercantile Marine, the Canada, Atlantic and Plant Steamship Company, the Hamburg-American Line, and the United Fruit Company.

The North German Lloyd, which conducted its first tours through the Caribbean last dry season, will duplicate that service by sending the *Grosser Kurfürst*, of 13,102 tons, on three cruises from New York, leaving in January, February, and March.

The International Mercantile Marine will operate nine tours, all from New York, using the *Laurentic*, 14,892 tons, of the White Star Line, for three trips; the *Megantic*, 14,878 tons, of the same line, for four; and the *Lapland*, 18,694 tons, of the Red Star Line, for two. This will be the third Caribbean season for the *Laurentic*, the second for the *Megantic*, and the first for the *Lapland*.

The Canada, Atlantic and Plant Steamship Company will operate the steamer *Evangeline*, 5,650 tons, in seven tours to the Isthmus. This vessel was operated last year by the Peninsular and Occidental Steamship Company in trips from Key West to Colon, making the passage down in 72 hours, and it is probable that it will be conducted in the same manner during this season. The Panama Railroad Company, which is the Isthmian agent for the company, has not yet been advised of details of the service.

The Hamburg-American Line will conduct 10 special tours, six from New York, and four from New Orleans. The vessels sailing from New York will be the *Victoria Luise*, 16,500 tons, on four cruises, and the *Amerika*, 22,620 tons, on two. The *Amerika* will be the largest vessel that has ever visited Isthmian waters. Two tours from New Orleans will be made in the *Kronprinzessin Cecilie*, 8,700 tons, which made two tours from that port to Colon last season, and is a sister ship to the *Fürst Bismarck*, which will also make two tours from New Orleans.

The United Fruit Company, in addition to inaugurating a regular weekly connection with Boston, beginning January 1, will conduct a variety of special tours. Special cruises for tourists will be conducted from New York on the *Pastores*, *Tenadores*, and *Calamares*, 9,000 tons each. Four special cruises from New Orleans are scheduled, two in January, and two in February. A number of associations will visit the Isthmus in group, by means of this company's service from New Orleans, including the Laundrymen's National Association, sailing November 8; the Louisville Commercial Club, sailing November 12; the Birmingham Chamber of Commerce, sailing January 21; and the Memphis Business Men's Club, on special schedule, sailing February 4. Steamers to sail from New Orleans on February 18 and March 4, have been reserved by a travel service bureau.

Train Collision on Bas Obispo-Panama Line.

Passenger train No. 51, which is due to leave Bas Obispo at 10.55 p. m., daily, except Sunday, and to arrive at Paraiso Junction at 11.27 p. m., collided with a work train, consisting of a locomotive and Lidgerwood car, headed in the opposite direction, on the Panama-Bas Obispo branch of the Panama railroad, on Friday, November 7, resulting in the death of six persons, two Americans, and four West Indians, and injuries to five others. The accident occurred at a point about half a mile north of bridge No. 57½ over the Canal.

The dead are: J. H. Wilkins, American conductor of the work train, living at Empire; E. Logan, American, engineer of locomotive No. 203, pushing the work train; also, a resident of Empire; Stephen Hunt, Barbadian, an employe of the Mechanical Department, living at Empire; William Rollins, Barbadian, check No. 52062, an employe of the transportation department, living at Empire; Alonso Yearwood, Barbadian, an employe of the Mechanical Department, living at Empire; William Webster, Jamaican, check No. 21411, an employe of the transportation department, living at Las Cascadas. The injured are: W. C. Chester, American, engineer of locomotive No. 656 pulling the passenger train, who lives in Panama; W. D. McFeeley, American, machinist, living at Empire; James Anderson, Jamaican, check No. 86500, a locomotive fireman on the Panama railroad, with residence at Panama; A. Straker, Barbadian, check No. 146499, an I. C. C. brakeman, living at Las Cascadas; Richard Jones, Jamaican, check No. 21029, an I. C. C. fireman, living at Empire.

The locomotive of the passenger train was running backward, as is the custom on the return trip from Bas Obispo. The engine of the work train was pushing the Lidgerwood car, so that when the impact occurred, this car and the tender of the engine pushing it were upended and completely overturned. Both engines were badly damaged, and the forward trucks of the first passenger coach were driven out of position. There were only a few passenger in this coach at the time, and although considerably shaken, no one was hurt.

A coroner's jury, consisting of Lieutenant Kennedy of the Empire police station, J. W. Tannehill, postmaster at Ancon, G. W. Green of the Division of Municipal Engineering, and E. F. Quimby of the Department of Sanitation, has been empaneled, and began the taking of testimony on Monday, November 10.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The standing of the chess clubs in the all-Isthmian tournament is, as follows: Culebra, 27½ points; Empire, 21½; Cristobal, 16; Gatun, 15.

The standing of the teams in the basketball league on November 10, was, as follows:

Team.	*Won.*	*Lost.*	*P. C.*
Empire	7	0	1.000
Cristobal	3	3	.500
Camp Elliott	5	3	.625
Gatun	3	2	.667
Culebra	2	5	.286
Corozal	0	7	.000

The standing of the teams in the bowling league on November 10, was, as follows:

Team.	*Won.*	*Lost.*	*P. C.*
Cristobal	10	2	.833
Corozal	10	5	.667
Empire	9	6	.600
Culebra	8	7	.533
Gatun	2	10	.167
Camp Elliott	0	9	.000

COROZAL.

Corozal defeated Ancon in basketball on Thursday, November 6. The game ended 24 to 24 and the tie was played off; Corozal made the first basket, resulting in a total of 26 to 24.

On Friday night, in addition to regular moving pictures, Pablo, a magician, appeared at the clubhouse, and performed some feats in magic, including "Trip to Spookville," "Enchanted table," "Noah's ark," handcuff, foot-iron and straight-jacket escapes.

Moving pictures of the play, "Quo Vadis?" will be shown on Thursday, November 13.

CULEBRA.

Two hundred people attended the exhibition of the special moving picture reels of "Quo Vadis?" on Friday night, November 7. Mr. Pearsall furnished music.

On Sunday night, at the regular service, Mr. J. F. Warner spoke, his subject being, "A river of pure water, clear as a crystal." There was a good attendance.

On Saturday night, November 8, the Cristobal chess club team played the local Y. M. C. A. team, and was defeated by the score of 5 to 3, as follows:

Cristobal.	*Won.*	*Culebra.*	*Won.*
Wilson	1	Dubois	0
Verner	1	McClure	1
Tuttle	1	Warner, A. M	2
Forfeited	2	Warner, J. F.	2

EMPIRE.

The regular meeting of the Empire debating society will be held on Friday, November 14. Mr. W. W. Warwick, who is now on the Isthmus, will be the speaker of the evening. The public is invited to attend.

About 350 people attended the special moving picture show held on Thursday, November 6, when the "Custer" films were shown.

The basketball game scheduled between Empire and Cristobal has been postponed, but will be played some time before November 22.

GATUN.

An invitation aquatic meet will be held on Thanksgiving day, at Gatun Locks, in the east lower forebay. This meet is open to all Americans on the Isthmus. It is to be a championship meet to determine the aquatic champions of the Isthmus. The list and order of events is, as follows: Twenty-five yard dash for men; 25-yard back swim for men; 50-yard dash for men; fancy diving from 12-foot spring board for men; diving for ladies from low spring board; relay race for 200 yards (four-men teams); plunge for distance; 100-yard dash for men; mile race for men; 50-yard dash for boys under 14 years; 50-yard dash for girls and ladies; obstacle race, 50 yards for men; underwater swim for men; 440-yard race. The events will begin at 2 p. m., on Thanksgiving day. The entry fee is 50 cents for each event. Gold and silver medals will be given as prizes for all events, except the obstacle race, which is open to all who have entered some other event. For further information about the meet, address the secretary or assistant secretary of any of the clubhouses.

On Saturday morning, November 8, the Cristobal boys played the Gatun boys at basketball, and at bowling, winning in basketball by a score of 9 to 2, and taking two games out of three in bowling. In the evening, the junior team of Cristobal played the local team, Cristobal again winning by a score of 25 to 9.

Saturday evening, the Corozal bowling team took two games out of three from the Gatun team. The scores were: Corozal, 828, 799, 834; Gatun, 744, 827, 747.

Mr. A. N. Kjellander, the newly appointed assistant secretary and physical director for the Gatun clubhouse, arrived on November 9 on the *Panama*.

CRISTOBAL.

On Monday afternoon, November 3, Cristobal defeated Camp Elliott in basketball by the score of 21 to 15. Mathues scored five field goals for Cristobal. Line-up—*Camp Elliott*—Harper and Smith, forwards; Murry, center; McElroy and Day, guards. *Cristobal*—Mathues and Luce, forwards; A. Fraser, center; Taylor and Jaeger, guards.

On Thursday evening, the lecture delivered by Capt. Thorvald Nilsen filled the entertainment hall to capacity. The commander gave a realistic account of Amundsen's dash for the South Pole. He illustrated his lecture with blackboard maps of the journey, and exhibited a dog sledge, skees, cooking box, and clothing that were used by the party.

Lieut.-Col. Eugene T. Wilson, subsistence officer, will address the discussion club on Thursday, November 20 on "Tolls and traffic of the Panama Canal."

On Saturday morning, November 8, the Cristobal midget basketball team defeated the Gatun midget team, by a score of 9 to 2.

Cristobal defeated Culebra in the all-Isthmian bowling tournament on November 8. Scores follow:

Culebra.				*Cristobal.*			
Case	158	193	169	Barrett	174	141	147
Cushing	155	183	182	Barnum	178	157	159
Herrington	145	138	158	Collins	163	155	184
Chadbourne	170	157	159	Barte	173	213	178
Dougherty	164	169	151	Bullard	182	232	169
Totals	792	840	819		870	898	837

Gatun bowls Cristobal Saturday night, November 15, at Cristobal.

A single folks' tournament will be held on Monday, November 24. Persons desiring to enter this contest are requested to submit their names at once.

On Friday night, November 14, the "Quo Vadis?" films will be shown at the Cristobal clubhouse.

Indications are that between two and three hundred men will be in attendance at the camp fire banquet to be held on Thanksgiving eve, November 26, at the Hotel Washington. This banquet is being given for the benefit of Cristobal men, but outsiders are welcome to attend.

Because of the large increase of the girls' gymnasium class it has been divided. The younger girls will meet on Monday at 3.30 p. m., and the older girls on Friday at 3.30 p. m.

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Supplies for the Canal.

The following steamers with supplies for the Isthmian Canal Commission and Panama Railroad Company arrived at the ports of Balboa, Colon, and Cristobal during two weeks ending November 8.

Tenadores,October 26, from New York, with 6,891 pieces conduit, 763 packages structural material, for First Division; 28 packages fittings, for fortifications; 102 pieces galvanized pipe, for Mechanical Division; 200 cases linseed oil, 8 bales rubber hose, for stock.

Damara, October 26, from Columbia River, with 3,802,509 feet Douglas fir lumber, 224 pieces piling, for stock.

Emil Boas, October 27, from New York, with 224 barrels asphalt, 32 crates paper, for fortifications; 728 bales hay, for stock.

Cartago, October 27, from New Orleans, with 50 pieces piling, for Atlantic Division; 777 barrels paving brick, for Second Division; 45 pieces lumber, 700 cases oil, 593 bales hay, for stock.

Lewis Luckenbach, October 28, from San Francisco, with one case oil burner parts, for Panama Railroad Company; two cases oil burner parts, for Sixth Division.

Colon, October 28, from New York, with 38 boxes lamps, 8 crates electrical machinery, 7 reels cable, 103 cases electrical machinery, 334 pieces structural material, 15 reels cable, 255 bundles steel bars, for First Division; 237 pieces electrical machinery, 14 boxes fire brick, for Mechanical Division; 13 cases pumping apparatus, for Fifth Division; 8 cases dredging sleeves, for Sixth Division; 42 rolls wire fencing, for Panama railroad; 43 pieces pipe and fittings, 5,403 bundles steel bars for Division of Municipal Engineering; 56 pieces material, for fortifications; 4,227 pieces steel bars, for administration building; 461 pieces galvanized pipe, 66 cases water coolers, 22 cases valves and parts, 96 barrels coal tar, 23 reels wire rope, for stock; and a miscellaneous cargo, the whole consisting of 11,721 pieces, weighing 642 tons.

Almirante, October 29, from New York, with 1,393 pieces reinforcing bars, for administration building; 355 pieces pipe, for Mechanical Division; 208 barrels enameled brick, for hydroelectric station; 20 cases washers, for stock.

Turrialba, October 30, from New Orleans, with 141 pieces lumber, 334 bales straw, 380 sacks feed, 746 bales hay, for stock.

City of Sidney, October 30, from San Francisco, with 114 coils manila rope, for stock.

Director, October 31, from Liverpool, with 5 bucket links, 3 reels wire rope, for Sixth Division.

Carrillo, November 2, from New York, with 43 boxes soap, for stock; 22 cases copper nails, for Administration Building; 11 cases electrical machinery, 826 pieces structural material, for First Division, 692 pieces conduit, for Panama Railroad Company.

Prinz Joachim, November 4, from New York, with 100 barrels avenarius carbolineum, for First Division; 122 pieces pipe, for Second Division; 102 cases paper, 362 bales hay, for stock.

Heredia, November 4, from New Orleans, with 78 pieces piling, for Atlantic Division; 102 pieces lumber, for stock.

Advance, November 4, from New York with 58 cases electric lamps, 36 pieces transformer material, for Mechanical Division; 29 cases signal material, 34 reels copper wire, 58 rolls wire fencing, for Panama Railroad Company; 39 pieces structural material, for fortifications; 193 bundles pipe, for Administration Building; 103 cases electrical machinery, for First Division; 48 bags cork, 15 cases lampblack, 324 kegs bolts and rivets, 21 barrels plumbing material, 20 barrels paint, for stock; and a miscellaneous cargo, the whole consisting of 1,337 packages, weighing 116 tons.

Ancon, November 5, from New York, with 595 pieces structural steel, for First Division; 18 pieces electric crane, for Mechanical Division; one road roller, for Second Division; 59,946 bags cement, 300 bundles galvanized sheets, 169 pieces structural steel, 319 packages steel plates, 20 reels wire rope, 250 kegs spikes, 188 kegs rivets, for stock; and a miscellaneous cargo, the whole consisting of 1,857 pieces, weighing 619 tons.

Santa Marta, November 5, from New York, with 75 packages wheelbarrows, 300 cases linseed oil, 16 cases miscellaneous material, for stock.

Atenas, November 6, from New Orleans, with 102 pieces pipe, for Division of Municipal Engineering; 164 pieces piling, for Atlantic Division; 228 bales hay, for stock.

Lyra, November 8, from San Francisco, with eight spud timbers, for Sixth Division; 61 cases soap, 4,000 cases Trojan powder, 43 bales rubber hose, for stock.

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Rainfall, Nov. 1 to Nov. 8, 1913, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	1.88	7	3.48
Balboa	1.65	7	2.87
*Miraflores	......	......	......
Pedro Miguel	1.53	2	4.65
Rio Grande	1.52	8	3.46
Central Section—			
Culebra	1.75	4	4.34
*Camacho	2.31	8	3.80
Empire	1.69	8	4.43
Gamboa	2.20	8	4.88
*Juan Mina	2.57	8	6.22
Alhajuela	2.92	8	6.82
*El Vigia	2.41	8	6.83
*Frijoles	3.82	8	4.66
*Monte Lirio	1.80	5	3.70
Atlantic Section—			
Gatun	1.89	8	4 62
*Brazos Brook	2.72	8	6.99
Colon	2.57	8	4.85
†Porto Bello	2.57	7	3.15

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—value midnight to midnight. †To 5 p. m., November 7.

◆

Stages of the Chagres River and Gatun and Miraflores Lakes.

Maximum heights of the Chagres River, Gatun and Miraflores Lakes for the week ending midnight, Saturday, November 8, 1913. All heights are in feet above mean sealevel:

DAY AND DATE.	STATIONS.					
	Vigia.	Alhajuela	Gamboa.	Frijoles	Gatun Lake*	Miraflores Lake
Sun., Nov. 2	128.4	94.7	72.6	72.6	72.7	45.7
Mon., Nov. 3	131.1	96.1	92.9	72.9	73.0	46.6
Tues., Nov. 4	129 6	96.1	73.1	73.1	73.2	47.2
Wed., Nov. 5	129.4	95.0	73.3	73.3	73.4	47.5
Thurs. Nov. 6	132.0	96.6	73.5	73.5	73.6	47.7
Fri., Nov. 7	129.4	95.4	73.7	73.7	73.8	48.0
Sat., Nov. 8	137.3	100.3	74.7	74.7	74.8	49.9
Height of low water nearest ft.	125.0	91.0	44.0			

*Sluice gates in spillway at Gatun were closed on June 27, 1913, with surface of lake at elevation 48.25.

◆

Launch Service to Taboga.

The steam launch *Sanidad* leaves the dredge landing at Balboa at 9 o'clock, Tuesday, Thursday, and Saturday mornings. On the return trip it arrives at Balboa about 4 p. m., in time to make connection with the evening trains.

OFFICIAL CIRCULARS.

Thanksgiving Day.

CULEBRA, C. Z., November 6, 1913.

CIRCULAR No. 511:

Thanksgiving Day, Thursday, November 27, 1913, will be observed as a holiday in the Canal Zone, and as far as practicable all public business will be suspended on that day.

GEO. W. GOETHALS,
Chairman.

Rules Governing Design and Construction of Docks, etc.

CULEBRA, C. Z., November 11, 1913.

CIRCULAR No. 512:

In order to secure ratproof construction, the following rules shall hereafter govern the design and construction of all piers, wharves, quay walls, docks, etc., in the Canal Zone:

First—All new structures, and all extensions of existing structures, shall be of concrete or other approved ratproof construction.

Second—Repairs of wood to existing wooden structures, shall be permitted only to the extent of replacing wornout or decayed timber.

Third—On or before January 1, 1919, all wooden structures must be either destroyed or replaced by concrete or other approved ratproof construction, except as may be otherwise permitted with the approval of the Chief Sanitary Officer.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Use of Nylo Car Oil.

CULEBRA, C. Z., November 4, 1913.

CIRCULAR No. 314-M:

Paragraph 1 of Circular No. 314-K, of September 1, 1913, is hereby amended to specify the use of Nylo car oil for use as a standard lubricant for crank cases of Westinghouse vertical compound and other engines.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Appointment on Board of Local Inspectors.

CULEBRA, C. Z., November 6, 1913.

CAPT. LUDWIG A. HELLIKSEN,
Balboa, C. Z.

Sir—Under authority conferred upon me by Executive Order of the President, No. 1131, dated October 2, 1909, you are hereby appointed a member of the Board of Local Inspectors, vice Capt. C. J. Anderson, resigned.

GEO. W. GOETHALS,
Chairman.

Work Performed for Chicago House Wrecking Company.

CULEBRA, C. Z., November 11, 1913.

CIRCULAR No. 426-D:

No work or service will hereafter be performed for the Chicago House Wrecking Company, except upon written request from that company authorizing charge for same.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Amendment to Circular 229 Z-4.

CULEBRA, C. Z., November 11, 1913.

CIRCULAR No. 229-Z-5:

Circular No. 229-z-4 is hereby amended to cover all silver employes in the transportation service, effective November 17, 1913.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Transfer of Gold Employes.

CULEBRA, C. Z., November 10, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

In the future, when a gold employe is transferred from one department or division to another, in addition to issuing a regular transfer slip, the employe's file, accompanied by his card, or cards, containing his record as to the date of his employment, promotions, reductions, absences, with or without pay, sick leave, injury leave, etc., will be sent to the department or division to which he is transferred.

This procedure will not apply, however, to a transfer from the First Division, Second Division (exclusive of the gold force employed on the Balboa terminals and in the transportation service), Fourth Division, or the Fortification Division of the Chief Engineer's office. When a gold employe is transferred from these divisions a transfer slip will be issued and the file retained in this office.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Accommodations at Colon Hospital Reduced.

DEPARTMENT OF SANITATION,
OFFICE OF THE CHIEF SANITARY OFFICER,
ANCON, C. Z., October 31, 1913.

TO ALL CONCERNED:

Effective November 16, 1913, Colon Hospital will be reduced to a 50-bed hospital, where only male employes, white and colored, will be treated. All other patients will be sent to Ancon Hospital, except emergencies that cannot bear transportation across the line. Under no curcumstances shall the number of beds, 50, be exceeded at Colon Hospital.

All employes injured in line of duty (no fault), now carried in Ancon and Colon Hospitals, and requiring no further hospital treatment, will be required to make application for admission to the Corozal Farm. In the event they refuse or neglect to do this on or before the 5th day of November, they will be discharged from hospital.

All "Chronics" now being taken care of in Ancon and Colon Hospitals, who are not eligible for admission to the Corozal Farm, and who require no further hospital treatment, will be discharged from hospital, and transferred to wards at Colon Hospital set aside for that purpose, where they will be maintained separately from the regular Colon Hospital organization.

Patients, residents of the municipality of Colon, and not employes, or members of families of employes, of the Isthmian Canal Commission, the Panama railroad, or contractors having hospital privileges with the Commission, and sent to Colon Hospital by the Alcalde of Colon, and for whom the Republic of Panama pays 75 cents a day while in Commission hospitals, will be sent to Santo Tomas Hospital, Panama, in the hospital car, and the superintendent of that institution notified by telephone. Emergency cases from this source not able to stand transportation across the line will be treated at Colon Hospital until such time as they are able to travel, when they will be transferred to Santo Tomas.

JOHN L. PHILLIPS,
Acting Chief Sanitary Officer.

Approved:
GEO. W. GOETHALS,
Chairman.

Notice to Water Users.

DIVISION OF MUNICIPAL ENGINEERING.
GATUN, C. Z., November, 11, 1913.

TO ALL CONCERNED:

The water will be shut off from all points north of Mount Hope pump station on Sunday, November 16, from 8 a. m. to 5 p. m., on account of the lowering of the water main near Mount Hope.

GEO. M. WELLS,
Resident Engineer.

Sailing of the "Ancon."

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., November 7, 1913.

CIRCULAR No. 265:

All Concerned—The sailing date of the steamship *Ancon* has been set for Friday, November 14, 1913, at 3 p. m., from pier No. 11, Cristobal, Canal Zone.

F. MEARS,
Acting General Superintendent.

Sending of Edibles by Mail.

ANCON, C. Z., November 6, 1913.

CIRCULAR No. 182:

To All Postmasters—The postmaster at Cristobal reports that parcels post packages addressed to the West Indies, containing cake, are frequently partially destroyed while being held in his office, by ants, which also infest other mail in the despatch. You are hereby advised that parcels containing cake, sweets, and other edibles shall be regarded as "Perishable," and should not be accepted for mailing, unless enclosed in sealed tins, in order that they may be insect proof.

TOM M. COOKE,
Director of Posts.

Holiday in the Schools.

DEPARTMENT OF CIVIL ADMINISTRATION,
DIVISION OF SCHOOLS.
ANCON, C. Z., November 7, 1913.

TO ALL PRINCIPALS AND TEACHERS:

Thursday, November 27 (Thanksgiving Day), is a holiday in the Canal Zone, and you are, therefore, authorized to close your school on that day and the day following, Friday, November 28.

A. R. LANG,
Superintendent of Schools.

Changes in Mechanical Division.

To All Concerned—Effective November 6, Mr. A. J. Sweet is appointed assistant general foreman of Empire shops, vice Mr. S. G. Shearer, transferred to Balboa.

Effective November 6, Mr. R. A. Compton is appointed night general foreman of Empire shops, and will assume the duties formerly performed by Mr. Sweet.

J. H. MORIARITY,
General Foreman, Empire Shops.

Married.

JONES-WEIGOLD—In the Union Church, Cristobal, on Wednesday, November 5, Elizabeth Georgian Weigold of Paterson N. J., to William A. Jones of Marshall, Texas, the Rev. Carl H. Elliott officiating. Canal Zone residence, Las Cascadas.

LOST—Gold hat pin in Empire, between the Panama railroad depot and Disbursing Office, November 7. Finder please notify box No. 358, Hotel Tivoli, Ancon.

FOUND—A sum of money, on Saturday evening, November 8. Address S. A. Benninger, Box 12, Empire, C. Z.

October Rainfall for Three Years.

STATIONS.	1911	1912	1913	Station Av.	Years of record	Rai'y days, '13
Pacific Section—						
Ancon	10.90	17.89	8.30	10.77	17	24
Balboa	8.47	15.75	10.33	9.60	15	26
Miraflores	9.71	15.44	10.28	12.54	5	22
Pedro Miguel	12.92	10.48	12.07	12.46	6	21
Rio Grande	16.65	9.46	7.03	12.43	9	25
Central Section—						
Culebra	17.06	10.15	6.08	11.32	25	21
Camacho	18.81	11.57	7.78	13.34	8	22
Empire	14.97	12.44	7.25	13.29	9	21
Gamboa	12.75	13.60	8.71	12.67	31	22
Juan Mina	12.26	12.71	7.90	11.29	4	24
Alhajuela	13.39	13.52	6.41	13.05	15	22
El Vigia	14.13	14.85	8.26	14.81	6	22
Frijoles	......	19.20	14.52	15.86	2	23
Trinidad	15.56	16.80	11.86	14.62	6	24
Monte Lirio	18.46	21.17	14.90	16.32	6	23
Atlantic Section—						
Gatun	16.92	14.52	15.17	16.45	9	21
Brazos Brook	14.56	17.97	17.85	15.52	8	22
Colon	16.53	17.65	18.63	14.38	44	21
Porto Bello	13.78	17.01	18.85	12.53	6	24

WEATHER CONDITIONS, CANAL ZONE, OCTOBER, 1913.

Rainfall was below normal during October at all stations except Balboa, Brazos Brook, Colon, and Porto Bello. The deficiencies were greatest in the central section and over the upper Chagres basin. The rainfall over the Isthmus was especially light during the last week of the month. The monthly totals ranged from 6.08 inches at Culebra to 18.85 inches at Porto Bello. The maximum precipitation recorded in one day was 5.50 inches at Brazos Brook on the 20th. Heavy general rains occurred on the 5th, 11th, 19th, and 20th.

Air temperatures and wind movement were generally slightly above the October averages, while the relative humidity and atmospheric pressure were approximately normal.

The wind at Colon reached a maximum velocity of 36 miles an hour from the north on the 20th during a rain squall.

The usual conditions of night and early morning fogginess prevailed at the interior stations. Fifty-five per cent of the fogs observed were dissipated by 6.30 a. m., 73 per cent by 7.30 a. m., and 91 per cent by 8.30 a. m.

The following table summarizes the weather conditions for the month:

STATIONS.	Press're (reduc'd to mean of 24 hours.)	Temperature.					Mean relative humidity.	Precipitation.			Wind.				
		Mean.	Maximum.	Date.	Minimum.	Date.		Total inches.	Station average.	Number of rainy days.	Total movement (in miles).	Prevailing direction.	Max. velocity (in miles).	Direction.	Date.
Colon	29,858	79.5	88	Oct. 18	72	Oct. 20	88	18.63	14.38	21	5.627	S. E.	36	N.	Oct. 20
Culebra	29.844	78.9	90	Oct. 19	69	Oct. 9	95	6.08	11.32	21	3,845	N. W.	30	N. E.	Oct. 11
Ancon	29.836	79.5	92	Oct. 16	70	Oct. 31	92	8.30	10.77	24	4,276	N. W.	22	N.	Oct. 11

COMMISSARY DEPARTMENT.

The commissary stores are open during the following hours:

Cristobal, 8 a. m., to 12.30 p. m., and 2 to 7 p. m.
Balboa, 8 a. m. to 12.30 p. m., and 2.30 to 7 p. m.
Ancon, 8 a. m. to 1 p. m., and 3 to 6 p. m.
All others, 8 a. m. to 1 p. m., and 3 to 7 p. m.

Retail prices of cold storage provisions for the week beginning November 11, 1913:

FRESH MEATS.	*Price.*
Mutton—Stewing, per pound	6
Shoulder, neck trimmed off (4 pounds and over), per pound	9
Entire forequarter (not trimmed, 10 pounds and over), per pound	8
Legs (8 to 10 pounds), per pound	17
Cutlets, per pound	†18
Short cut chops, per pound	20
Lamb—Stewing, per pound	6
Entire forequarter, neck trimmed off, per pound	9
Legs (5 to 8 pounds), per pound	20
Chops, per pound	24
Cutlets, per pound	24
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	12½
Chops, shoulder, per pound	17
Chops, per pound	26
Loin, for roasting, per pound	26
Cutlets, per pound	30
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	8
Plate, per pound	9
Corned, No. 1, per pound	14
Corned, No. 2, per pound	12
Chuck roast, 3 lbs., and over, per pound.	12
Rib roast, second cut (not under 3½ pounds), per pound	16
Rib roast, first cut (not under 3 pounds), per pound	18
Pot roast, per pound	19
Rump roast, per pound	19
Porterhouse roast, per pound	20
Steak, Chuck, per pound	12½
Round, per pound	13
Rib, per pound	18
Sirloin, per pound	19
Rump, per pound	19
Porterhouse (not less than 1½ pounds), per pound	20
Tenderloin (Western), per pound.	30
Pork—Loin chops or roast, per pound	17
Hams, fresh, per pound	§20
Shoulders, fresh, per pound	§17
Spare ribs, per pound	15
Backbones, per pound	15
Pigs' feet, each	7
Pigs' head, ½-head	60
Sausage, homemade, per pound	20

MISCELLANEOUS.	
Livers—Beef, per pound	11
Calf, each	60
Half, each	30
Steak, Hamburger, package	13
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Devonshire Farm, per pound	20
Sweetbread, beef, per pound	34
Eggs, fresh, per dozen	†38
per ½-dozen	†19
Bluefish, per pound	12
Halibut, fresh, per pound	15
Salmon, per pound	15
Roe shad, each	75
Shad roes, pair	40
Oysters, per quart	35

POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, large each..	1.40
Fancy roasting, milk fed, med., each.	1.10
Fancy roasting, corn fed, about 5½ pounds, each	1.25
Fancy roasting, corn fed, about 4½ pounds each	1.00
Fowls, each ††60, 70, 80, 90, and	1.00
Ducks, Western (about 4½ pounds), each	1.25
Capons, each	2.00
Broilers, milk fed, each	70
Broilers, corn fed, each	60
Turkeys, per pound	28
Squabs, each	50
Rabbits, skinned, each	30
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30

CURED AND PICKLED MEATS.	
Ham—Real York and Cumberland	.37
Genuine Westphalia, per pound	40
Sugar cured, per pound	20
Sliced, per pound	22
Half, for boiling, per pound	21
Boiled, per pound	28
Hocks, per pound	‡8
Beef, salt, family, per pound	12
Bacon—Breakfast, whole piece, per pound	25
Sliced, per pound	26
Ham, lunch, per pound	32
Pork, salt, family, per pound	14
Ox tongues, each	1.00
Pigs' feet, per pound	7
Tongues, per pound	18

DAIRY PRODUCTS.	*Price.*
Butter—Creamery, special, per pound	36
Sheffield Farms, extra fancy, per lb	46
Cheese—Philadelphia cream, cake	10
Roquefort, per pound	35
Yound America, per pound	22
Swiss, per pound	28
Edam, each	1.00
Edam, tin	25
Parmesan, per pound	35
Gouda, per pound	30
Snappy, per cake	10
Milk (certified), per quart	**.20
Fer-mil-lac, bottle	**.20
Ice cream, quart	‡25
½-gallon	‡50

VEGETABLES AND FRUITS.	
Beets, per pound	3
Celery, per head	6
Cabbage, per pound	3½
Cucumbers, per pound	†10
Carrots, per pound	3
Egg plant, per pound	†10
Lettuce, per pound	14
Onions, per pound	3
Potatoes, white, per pound	3
sweet, per pound	2
Parsley, bunch	5
Squash, per pound	3
Turnips, per pound	3
Tomatoes, per pound	5
Yams, per pound	3
Apples, per pound	5
Grapes, Malaga and Tokay, per pound	12
Grape fruits, each	4
Lemons, per dozen	24
Limes, per hundred	80
Pears, per pound	7
Oranges, Jamaican, per dozen	18

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

††Fowls weigh each, about as follows: 3, 3½, 4, 4½, and 5 pounds. Prices are based accordingly; when size ordered is not in stock, next lightest weight is supplied and refund note sent for difference.

‡Sold only from commissaries; no orders taken for delivery.

§Not less than half of a fresh ham or shoulder will be sold.

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Misdirected Letters.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressees:

Aaron, E.
Burger, Lester E.
Carty, Samuel E.
Davis, Mrs. Charlotte
Eaton, Mrs. Harold
Evers, H. E.
Fill, Joseph T.
Hall, G.
Hecter, Alexander T.
Hensler, Otto
Holtzclaw, Howard C.
Knowles, F. R.
Kuckler, Fred
Lillcrop, R. A.
Mackenzie, Alex.
Mandrew, William
Mench, Ralph
Mitge, Mrs. Ida
Neal, A. L.
Patrick, Jack
Phalon, D.
Roy, N. J.
Runyon, Edward E.
Scheibe, Gustav
Saunders, Mrs. Ada
Schmitt, George W.
Socussion, Capt. Chas.
Spencer, A. B.
Stewart, Mrs. Gilbert H.
Syringer, James
Vidal, F.
Voth, Geo.
Vults, Mrs. N. P.
Wantz, William
Wells, J. J.
Wheeler, W. R.
White, William S.
Wilkes, R. H.
Williams, A.
Wolff, Chas.
Wood, Harold R.
Peirson, Charles

LETTERS UNCALLED FOR NOVEMBER 5.

Anderson, Uriah
Barton, L. G. (pkg.)
Basehore, A.
Cragie, J. B.
Gomey, W. G.
Holbrook, A. E.
Hull, Miss Ianthy
Illwitzer, R. G.
Lemontine, N.
MacGowan, David
Medder, Aaron U.
McLean, William
Meyer, Paul (2)
Pettit, Mrs. John
Samuels, Miss Louise
Shoemaker, Mrs. Anna
Story, Erno
Stress, Fred
Vookes, Geo.
Wright, Thos. E.

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Proposals for Construction of Earth Dike.

OFFICE OF CHIEF QUARTERMASTER,
CULEBRA, C. Z., October 29, 1913.

Sealed proposals will be received at this office until 3 p. m., Thursday, November 20, 1913, and then opened, for the construction of an earth dike, or embankment, containing approximately 71,500 cubic yards of material, at Caño saddle, No. 4, separating Gatun Lake from the drainage area of the Lagarto River. Full information, including plans and specifications, can be secured upon application to this office. Bids must be accompanied by cash, certified check, or post-office money order for five per cent (5%) of amount bid. Proposals should be marked "Proposal for construction of earth dike," and addressed to Captain R. E. Wood, Chief Quartermaster, Culebra, Canal Zone.

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line.

NEW YORK TO CRISTOBAL.*

Allianca	P. R. R.	Monday	Nov.	10
Colon	P. R. R.	Monday	Nov.	17
Advance	P. R. R.	Saturday	Nov.	22
Panama	P. R. R.	Saturday	Nov.	29
Allianca	P. R. R.	Friday	Dec.	5
Colon	P. R. R.	Thursday	Dec.	11
Advance	P. R. R.	Wednesday	Dec.	17
Panama	P. R. R.	Tuesday	Dec.	23
Allianca	P. R. R.	Tuesday	Dec.	30

CRISTOBAL TO NEW YORK.*

Ancon	P. R. R.	Friday	Nov.	14
Panama	P. R. R.	Sunday	Nov.	16
Allianca	P. R. R.	Saturday	Nov.	22
Colon	P. R. R.	Saturday	Nov.	29
Advance	P. R. R.	Friday	Dec.	5
Panama	P .R. R.	Thursday	Dec.	11
Allianca	P. R. R.	Wednesday	Dec.	17
Colon	P. R. R.	Tuesday	Dec.	23

NEW YORK TO COLON.

Metapan	U. F. C.	Wednesday	Nov.	5
Prinz August Wilhelm	H.-A.	Saturday	Nov.	8
Tivives	U. F. C.	Saturday	Nov.	8
Oruba	R. M.	Saturday	Nov.	8
Zacapa	U. F. C.	Wednesday	Nov.	12
Emil L. Boas	H.-A.	Saturday	Nov.	15
Tenadores	U. F. C.	Saturday	Nov.	15
Almirante	U. F. C.	Wednesday	Nov.	19
Trent	R. M.	Saturday	Nov.	22
Prinz Joachim	H.-A.	Saturday	Nov.	22
Carrillo	U. F. C.	Saturday	Nov.	22

COLON TO NEW YORK.

Santa Marta	U. F. C.	Thursday	Nov.	13
Carl Schurz	H.-A.	Tuesday	Nov.	18
Pastores	U. F. C.	Tuesday	Nov.	18
Metapan	U. F. C.	Thursday	Nov.	20
Prinz August Wilhelm	H.-A.	Tuesday	Nov.	25
Tivives	U. F. C.	Tuesday	Nov.	25
Thames	R. M.	Tuesday	Nov.	25
Zacapa	U. F. C.	Thursday	Nov.	27
Emil L. Boas	H.-A.	Tuesday	Dec.	2
Tenadores	U. F. C.	Tuesday	Dec.	2
Almirante	U. F. C.	Thursday	Dec.	4

NEW ORLEANS TO COLON.

Sixaola	U. F. C.	Saturday	Nov.	8
Cartago	U. F. C.	Wednesday	Nov.	12
Abangarez	U. F. C.	Saturday	Nov.	15
Heredia	U. F. C.	Wednesday	Nov.	19
Atenas	U. F. C.	Saturday	Nov.	22
Parismina	U. F. C.	Wednesday	Nov.	26

COLON TO NEW ORLEANS.

Atenas	U. F. C.	Thursday	Nov.	13
Parismina	U. F. C.	Saturday	Nov.	15
Sixaola	U. F. C.	Thursday	Nov.	20
Cartago	U. F. C.	Saturday	Nov.	22
Abangarez	U. F. C.	Thursday	Nov.	27

*Amended schedule, resulting from temporary withdrawal of the *Allianca* for repairs.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 2 p. m.; for Southampton on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays and Saturdays at 3 p. m.; ships for New York via Kingston, on Tuesdays at 1.30 p. m. and Thursdays at 1.30 p. m.; for Bocas del Toro, on Mondays at 5 p. m.; for Limon, via Bocas del Toro, on Tuesdays at 5 p. m.; and for Limon direct, Tuesdays at 3 p. m.

Hamburg-American steamers sail for New York, via Kingston and Santiago de Cuba, on Tuesdays at 2 p. m.

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Tide Table.

The following table shows the time of high and low tides at Panama for the week ending November 22, 1913. (75th meridian time):

Date.	Low	High	Low	High	Low
	A.M.	A.M.	A.M.	P.M.	P.M.
November 16...	......	4.40	11.06	5.10	11.20
November 17...	......	5.18	11.46	5.50	......
			P.M.		
November 18...	12.02	6.00	12.28	6.32	......
November 19...	12.50	6.45	1.15	7.22	......
November 20...	1.43	7.37	2.08	8.19	......
November 21...	2.43	8.37	3 09	9.23	......
November 22...	3.52	9.48	4.17	10.32	......

75th meridian time.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, NOVEMBER 19, 1913. No. 13.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Stability Attained in Naos Island Breakwater.

Railroad communication with Naos Island, over the breakwater fill, was established on November 6, 1912. Since that time, however, it has been broken frequently by slips in the fill, which caused the track to sink and be flooded at high tide. One section, approximately the first quarter of a mile of the 5,400 feet of narrow embankment connecting the island with the outer end of the triangular fill off East Balboa, has proved especially difficult. Dumping heavy pieces of rock from a borrow quarry opened on the west side of Sosa Hill, near the site of the dry dock, on October 7, 1913, along this section, has made the fill stable; the superintendent in charge of the work has expressed the opinion that it requires only a continuance of this procedure to bring the breakwater to full height and width. The resident engineer in charge of the Fourth Division is now preparing plans and estimates to determine just what elevation, width, and slope appear most desirable.

The two steamshovels excavating at the Sosa Hill quarry have supplied to date for the breakwater, approximately 55,000 cubic yards of rock. The rock is a hard columnar basalt, most of which comes out in large pieces, weighing from three to 20 tons, and recently one piece of 30 tons was handled. This heavy material, settling in the earth spoil previously dumped on both sides of the breakwater, forms a firm ridge with sufficient firmness to withstand the forces which have caused the lighter fills to slip. Levels run on November 11 between the triangular dump and Naos Island, a distance of 5,400 feet, showed a marked improvement in the barrier since the similar survey of September 17; the fill has been raised from one to four feet throughout the distance, and widened considerably at the base.

Another 5-yard shovel was set at work at the Sosa Hill quarry on Monday, November 17, and a fourth will be added in a short time, so that the monthly output will approximate 100,000 cubic yards. Excavation in the quarry is carried down to the same level as that made nearby for tracks and highway, and will be useful as a building site.

◆

Congressional Party Taken Through Gatun Locks.

Clapet *No. 4*, was lifted through the west flight of Gatun Locks on Tuesday, November 18, with the House Committee on Appropriations and accompanying party on board. The lockage began at 8.54 a. m., and was completed in 54 minutes, the least time required to date for a passage through Gatun Locks. The clapet returned shortly afterward to the Atlantic entrance and the Congressional party inspected Gatun Dam and Spillway, and was taken on a cruise through Gatun Lake in the afternoon, on the tug *Bohio*.

◆

Abandonment of Central Division Office Building.

The old Central Division office building at Empire was abandoned on November 17, when all the maps, profiles, records, etc., accumulated in the operations of that division, which had not been previously transferred to the office of the Fourth Division at Culebra, in charge of steamshovel work, were moved to the new office of the Sixth Division at Paraiso. With the records were moved also a lot of surveying and drafting instruments, office supplies, and furniture. The headquarters of the Sixth Division were formally transferred to Paraiso from Balboa on November 15, a subordinate office being retained at Balboa for the immediate administration of vessels operating in the Pacific entrance channel and the inner harbor at Balboa.

◆

New Building for United Fruit Company.

Work on the United Fruit Company's new office building, to occupy a site on the fill recently made on the Cristobal water front between the fire station and the land end of the mole for the new terminals, was begun on November 7 by forces of the Central American Construction Company. The building will be of reinforced concrete, two stories high, with a concrete roof, and surrounded with a veranda, 11 feet wide. The total length, including the veranda, will be 89 feet six inches, and the depth 66 feet six inches. The ground floor will be occupied by the office forces in the passenger, freight, auditing, and wireless telegraph services of the company, and the second floor will be devoted to apartments for the general agent. The building is to cost between $40,000 and $50,000 and be completed in about six months.

◆

Class 601 and Class 201 locomotives will be substituted for all Class 101 locomotives in the Canal service. There are 24 Class 101 locomotives in the transportation service of the Canal Commission, and these will be permanently retired and sold.

RISE OF GATUN LAKE.

Surface on November 17, Was Within Six and a Half Feet of Normal Level.

The rise of Gatun Lake during the first 17 days of November almost equalled the increase in height during any one month since the closing of the Gatun spillway gates. This was due to copious rains which have fallen over the watersheds drained by the Rio Pequení; one of the principal tributaries of the Chagres, and the Gatun and Trinidad Rivers. These rains, on Monday, November 10, caused a 14-foot rise in the Chagres River, the water height at El Vigia on that date registering 141.9 feet, and at Alhajuela, 103.8 feet, making it the greatest freshet since last May. The velocity of the flow at Gamboa bridge at 5.10 p. m., on November 10, was 2.60 miles per hour; at Juan Grande and Mamei, at 6 and 6.20 p. m., respectively, 1.04 miles per hour. The maximum discharge at Alhajuela was 36,000 second-feet at 4 p. m., on the 10th. Another rise in the Chagres to 137.4 feet at El Vigia was recorded on the 12th. On November 1, the lake level was at 72.5 feet; at midnight, Monday, November 17, it was at 78.5 feet, a rise of exactly six feet for the 17-day period. The rise by months since the closing of the spillway gates at Gatun on June 27, when the lake level was at 48.25 feet, is given below:

PERIOD.	*Feet.*
June 27 to July 1, inclusive	.5
July	5.6
August	6.1
September	5.6
October	6.5
November 1 to 17, inclusive	6.0
Total	30.3

The last week in October was unusually dry, and the lake during that time only rose .8 of a foot, but rains earlier in the month brought the total for the 31-day period higher than any preceding month. On November 17, the lake lacked 6.50 feet of its normal height of 85 feet, and it is expected that this figure will be attained by the end of the year. Higher than 85 feet, it cannot go at the present time, although the storage level is 87 feet, due to the low Caño saddle, No. 4, which dips to 87.4 feet at the lowest point. Plans are being made to raise this saddle, and bids for the work will be opened on November 20.

Miraflores Lake would have been filled to its normal level of $54\frac{2}{3}$ feet by this time had it not been found necessary to keep it for the present below the 52-foot line. When the level reached 51.2 feet on November 10, the lake was lowered by allowing the water to waste into the sealevel channel by means of the culvert in the west side wall of Miraflores Locks. The spillway could not be used, as the channel below it is being enlarged by steamshovel. Since November 10, the lake level has been kept around the 51-foot mark. During the month of October, 36,000,000 gallons of water were pumped from the lake at the Miraflores temporary pump station into the mains of the water system for the Pacific end.

The maximum heights of the Chagres River, Gatun Lake, and Miraflores Lake for the nine days ending Monday, November 17, at midnight, follows:

DAY AND DATE.	STATIONS.					
	Vigia.	Alhajueia	Gamboa	Frijoles	Gatun Lake*	Miraflores Lake
Sun., Nov. 9 ...	130.0	95.8	75.1	75.2	75.2	50.8
Mon., Nov. 10.	141.9	103.8	76.2	76.1	76.1	51.2
Tues., Nov. 11.	132.4	98.1	76.4	76.5	76.5	50.9
Wed., Nov. 12.	137.4	100.7	76.9	76.9	77.0	51.1
Thurs. Nov. 13.	133.1	98.0	77.3	77.3	77.3	50.9
Fri., Nov. 14 ...	134.3	98.8	77.7	77.7	77.7	50.7
Sat., Nov. 15 ..	129.8	95.5	78.8	78.0	78.1	50.9
Sun., Nov. 16..	130.2	95.8	78.2	78.2	78.3	51.1
Mon. Nov. 17..	129.3	95.0	78.4	78.4	78.5	51.2
Height of low water nearest ft.	125.0	91.0	44.0			

Record of Seismic Movements.

The only seismic disturbance recorded at the Ancon seismograph station during the period between November 1 and 18, inclusive, occurred at 6.54:05 a. m., on Thursday, November 13, and continued, as far as individual perceptibility is concerned, for about five seconds. It was classed as Intensity III, measured by the Rossi-Forel scale, I to X, the maximum amplitude registered being considerably less than that of the heavy shock on the night of October 1. No after shocks followed as has been the case with most of the more pronounced movements theretofore. The location, as indicated by the instruments, was more or less identical with the others in the present series—a point about 115 miles from Ancon, probably southwest. A total of 39 movements was recorded at the Ancon station during the month of October, and, counting the one on November 13, the total is 40 to date.

Case of Smallpox on the "Pachitea."

Juan Piguisman, a member of the crew of the Peruvian steamship *Pachitea*, which arrived off the Culebra quarantine station on Monday, November 10, developed a case of smallpox on Saturday morning, November 15, and was removed to the isolation ward in Santo Tomas hospital. The period of incubation in the case of smallpox is about 14 days therefore, the 7-day period which must elapse from the time a ship leaves an infected port and the time it is released here under the existing Isthmian quarantine regulations, does not protect against this disease. The patient on arrival at quarantine did not show any signs of illness. The usual precautions were taken, all the members of the crew submitting to vaccination. All persons coming through quarantine at Cristobal, Colon, and Balboa and who are to remain on the Isthmus, are vaccinated at quarantine, unless they can show evidence of recent successful vaccination.

Cancellation of Revocable Licenses.

All revocable licenses in the town of Las Cascadas will be cancelled, and all houses there under license will be required to be removed prior to January 1, 1914. All the native houses in this village are covered by revocable license, with the exception of three. All remaining occupants on the lands of Matachin will also be required to vacate the land and remove therefrom before January 1.

In connection with the buildings still remaining in the native section of the former town of Gorgona, the request made of the Commission that the old owners of these houses be granted free transportation by rail or water for the material in them, has been denied. An exception has been made in cases where the former owners have already prepared the material for shipment. To others, a rate of $2.25 a ton has been made for the railroad haul, and a special rate for the water haul. No authorization, however, will be granted for the removal of any material at this point in the houses now standing, which can be made use of by the Commission.

Report of Railroad Wreck of November 6.

The coroner's jury empaneled to inquire into the circumstances and causes of the collision between train No. 51 of the Panama railroad, and a work train of the Isthmian Canal Commission, between Paraiso Junction and Summit Cabin, at about 11.21 p. m., on November 6, has submitted the following report:

VERDICT OF THE JURY.

We, the undersigned coroner's jury, duly empaneled, having viewed the bodies and heard the statements of witnesses, find, as follows:

That the deaths of John M. Wilkins, Jr., white American, Orren Logan, white American, William Webster, black Jamaican, William Hollins, black Barbadian, Stephen Hunt, black Barbadian, and Alonzo Yearwood, black Barbadian, which occurred about 11.21 p. m., November 6, 1913, resulted from injuries received in the wreck caused by Panama railroad passenger train No. 51, engine No. 656, colliding with work train, I. C. C. engine No. 203, at the hour and date stated. The collision and wreck occurred on the Panama railroad main line track about 100 yards north of "Pacific spur," Cartagenita, between Paraiso Junction and Summit Cabin. A careful consideration of all the evidence submitted causes the jury to believe that the responsibility for the accident rested with the crew of train Engine No. 203, entering upon the track, time, and right-of-way of passenger train No. 51, engine No. 656, and that this action on the part of train crew of engine No. 203, occurred, because they for the moment overlooked the presence of train No. 51, and its position and movements on the road.

(Signed) FREDERICK QUIMBY, GEORGE W GREEN, J. W. TANNEHILL, *Jurors.*

Dated at Ancon, Canal Zone, this 14th day of November, 1913.

(Signed) ARTHUR W. KENNEDY, Lieutenant No. 3, Zone Police, *Deputy Coroner.* C. W. BARBER, *Coroner.*

Accompanying the report, the coroner's jury appended the following recommendations:

In summing up the evidence submitted, we, the coroner's jury are of the opinion that if the block system was maintained for the full 24-hour day, and the responsibility of all trains entering or leaving blocks was placed in the hands of the despatcher or operators, we feel that accidents of this nature can be avoided. Also, the question of long daily service of train crews should be taken into consideration and that no crews should be allowed to work longer at one time than the regular established hours of service, except in cases of emergency.

(Signed) FREDERICK QUIMBY, GEORGE W. Green, J. W. TANNEHILL, *Jurors.*

Upon the recommendation of the acting superintendent of the Panama railroad, the installation of an automatic signal system between Paraiso Junction and Summit Cabin has been authorized, at an estimated cost of $12,000. The superintendent of signal apparatus and telegraph and telephone service for the railroad has begun a survey in carrying out this provision.

Damage to Rolling Stock in Wreck.

Locomotives Nos. 656 and 203, damaged in the wreck of November 6, are undergoing repairs at Empire shops. Damage to No. 656 was principally in the tender, which was practically demolished, the oil-burning mechanism, the rear drivers and rear portion of frame broken; to No. 203, in the trucks of the tender, the cab and all cab fixtures, and the reversing mechanism. Following is the estimated cost of repairs and replacement of all the rolling stock damaged in the wreck: Locomotive No. 656, $1,800; locomotive No. 203, $1,250; first-class passenger coach No. 114, $250; second-class passenger coach No. 210, $30; 50-ton steel flat No. 466, $700; total, $4,030.

Obituary.

John M. Wilkins, Jr., the conductor in the Second Division transportation service, who was killed in the railroad accident on the Panama-Bas Obispo line on the night of November 6, was 39 years of age, married, and had been on the Isthmus since October 27, 1907. The body was shipped to his former home at Bowling Green, Ky.

Orren Logan, the locomotive engineer in the Second Division transportation service, who met death in the same accident, was 33 years of age, and had been on the Isthmus since July 25, 1906, coming here from Fort Wayne, Ind. He is survived by his wife and two children. His mother, Mrs. E. M. Logan, resides at No. 1009 High Street, Fort Wayne.

A Correction.

Seattle, Wash., October 21, 1913.

THE CANAL RECORD:

In THE CANAL RECORD of October 1, I find the following, referring to the passage of a tug through Gatun Locks:

> "The filling of the lock chambers occupied a longer time than normally, because of the small displacement of the tug; in the case of large vessel, much less water would have been used."

Is this correct? Does the size of the vessel make any difference in the quantity of water let into or run out of the lock chamber during the change of level? Would any more water be required with no vessel at all than for a vessel that completely filled the lock chamber? If so, my education in this respect has been in vain. H. M. CHITTENDEN.

[Gen. Chittenden is right. The statement referred to is incorrect.]

Singer Sewing Machine Company Wants Men for Latin-America.

The Singer Sewing Machine Company, through its agent in Panama City, has advised the Chairman of the Isthmian Canal Commission that, in view of the extension of its organization throughout Latin America, it is in a position to offer opportunities to men of high character and ability, who can furnish first-class references. A knowledge of Spanish is indispensable. All communications should be addressed to Mr. Edward Nadro, agent, Singer Sewing Machine Company, Panama, R. P.

Ancon Crusher.

Following is a statement of rock crushed at Ancon quarry for the week ending November 15:

DATE.	Hours worked.	Cubic yards.
Nov. 10	6 50	1,902
Nov. 11	6 15	1,111
Nov. 12	6 20	1,807
Nov. 13	7 10	1,472
Nov. 14	6 40	1,641
Nov. 15	6 25	2,229
Total	39.40	10,162

WORK AT CUCARACHA SLIDE.

Dipper Dredge Replaces Ladder Dredge—Sluicing in the Rear of Slide.

The dipper dredge *Mindi* took the place of ladder dredge *No. 5* last week in excavating on the north side of Cucaracha slide, and *No. 5* was transferred to Gamboa dike. The *Mindi* had been working from October 24 to November 12 at the base of the east Culebra or Gold Hill slide; the dipper dredge *Chagres* continues at the base of the west Culebra slide. On the south side of Cucaracha slide, the ladder dredge *Marmot* has been engaged steadily since November 8, when it supplanted pipeline suction dredge *No. 85*, transferred to Miraflores Lake.

To November 18, the dredges working on the north side of Cucaracha slide had advanced a channel 50 to 150 feet wide and about 20 feet deep at the contemporary level of Gatun Lake, from the northern limit of the slide at Gold Hill, station No. 1805, to station No. 1811, a distance of 600 feet. Beyond this the barrier bulks largest in the channel, and along most of the site of the drainage ditch through which water was passed into the south end of the Cut, a distance of about 100 feet, the present clearance is scarcely more than 20 feet wide, with a depth of approximately 16 feet. South of this for 100 feet, the obtrusion of the slide is less and the water broadens into an elliptical lagoon, about 200 feet wide and 400 feet long. Dredge *Marmot* has advanced from station No. 1820 to station No. 1815, plus 50 feet, through the southern end of the slide and ditch breaking into this lagoon, making a channel about 100 feet wide. The dredges are now about 450 feet apart.

Some of the discharge pipe which was installed on the 95-foot berm on the west bank, below Contractor's Hill, and above, in the valley of the Rio Grande, beyond the booster pump station, is being taken up and transferred to the present sites of operation of dredges *No. 85* and *No. 86*. A small, soggy slide has developed immediately north of the relay station, but it is being handled by sluicing with 3-inch pipe and hose, connected with the Rio Grande pumping station. The greater part of the discharge pipe will be kept where laid, in readiness for future operations with the pipeline dredges.

Attacking the Slide from the Rear.

The hydraulic excavating system which has been sluicing material from the top of the slide north of Gold Hill back into the valley to the east, away from the Canal, since June 16, has been extended, so that the monitors may cut through a saddle south of Gold Hill and assist in handling some of the material involved in Cucaracha slide. A relay station on the southeast slope of Gold Hill at elevation 425 feet above sealevel, was placed in trial operation on November 6 and has since been supplying a monitor on the east slope of the saddle with water at a pressure of 150 pounds to the square inch. The booster pump in this station is direct-connected to a 350-horsepower induction motor, to which current is supplied from Miraflores power station through a transformer station along the Canal south of Gold Hill, which transforms the current from its transmission voltage of 11,000 to 2,300 volts. A second similar relay pump is now being installed at the station to allow the operation of another monitor; and at the source of water supply, near New Culebra passenger station, a third 7,500-gallon pumping unit operated by a 24-inch triple expansion Worthington horizontal engine, is being installed alongside the two already transferred there from the old Agua Dulce plant, south of Miraflores Locks.

The flume from the Cucaracha saddle disposes of the spoil in a valley with a general elevation of about 250 feet above sealevel. The outer edge of the slide at this point is about 565 feet above sealevel, 1,800 feet east of the center line of the Canal, and it is estimated that between 1,000,000 and 1,500,000 cubic yards of material can be sluiced away from the Cucaracha slide area. After the limit of practicable outward sluicing has been reached, the equipment may be used to wash material from the face of the slide down into the Canal, to be handled by pipeline suction dredges, and clean away the moving earth until a firm face of rock is exposed.

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Construction of Seawall at Cristobal.

Forces of the Panama railroad are engaged in building a concrete seawall along the front of the fill recently made between the Cristobal fire station and the land end of the mole for the new piers, to be occupied by steamship companies' buildings. The wall is made of cubes of concrete, one yard on the side, formerly used for riprapping the waterfront along Roosevelt avenue, which are laid in brick style, two and three tiers deep, and faced above the water line with a wall of concrete, one foot thick. The wall is surmounted by a concrete coping, 18 inches wide and six inches thick, with its top five feet above mean sealevel, the same elevation as the top of the seawall extending from the Colon passenger station to Cristobal. Its total length will be about 350 feet. Material for backfilling is supplied from the excavation for the United Fruit Company's building.

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Canal Excavation in October.

The grand total of Canal excavation to November 1 was 212,625,216 cubic yards, leaving to be excavated under the revised estimate of July 1, 1913, 19,727,784 cubic yards.

The total excavation for October was 1,642,851 cubic yards. The wet excavation for the month was 1,263,181 cubic yards, and the dry excavation 379,670 cubic yards.

In the Atlantic section, the total excavation for October was 419,873 cubic yards. Of this amount all but 1,383 cubic yards was wet excavation, and consisted of material dredged from the Atlantic entrance to the Canal, the slip alongside the new east breakwater dock, and at the Cristobal terminal, by forces of the Sixth Division.

The total excavation in the Central Division was 539,833 cubic yards, 238,900 cubic yards of which were classified as dry excavation, and 300,933 cubic yards as wet excavation. The dry excavation was wholly confined to taking material from the banks of Culebra Cut in the zone of slides by forces of the Fourth Division. The wet excavation was divided between dredging in Culebra Cut at the toes of Cucaracha slide and opposite the east and west Culebra slides, 62,330 cubic yards; dredging operations in the lake channel near Gamboa, 132,703 cubic yards, all by forces of the Sixth Division; and hydraulic work at Gold Hill, 105,900 cubic yards, by Fifth Division forces.

In the Pacific section, operations by the Sixth Division resulted in the removal by dredges of 543,758 cubic yards, 433,098 cubic yards from the Pacific approach to Miraflores Locks, and 110,660 cubic yards at the Balboa terminal site. Excavation by steamshovels around Balboa amounted to 139,387 cubic yards, 122,241 cubic yards of which were taken from the dry dock site.

A detailed statement of excavation, and a summary of the work on the locks and dams, follow:

ATLANTIC DIVISION.

Locality.	"Work" Excavation.	"Plant" Excavation.	Total Excavation.
Dry excavation—	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
Locks, dam, and spillway	1,383	....	1,383
Mindi	....	....	....
Terminal	....	....	....
Total	1,383	....	1,383
Wet excavation—			
Atlantic entrance	288,760	....	288,760
Dock at East breakwater	....	30,807	30,807
Terminal	98,923	....	98,923
Total	387,683	30,807	418,490
Total wet and dry excavation	389,066	30,807	419,873

CENTRAL DIVISION.

Dry excavation—			
Culebra Cut	216,000	22,900	238,900
Wet excavation—			
Culebra Cut, dredging	60,370	1,960	62,330
Chagres Section, dredging	132,703	....	132,703
Hydraulic excavation			
Culebra Section	105,900	....	105,900
Total	298,973	1,960	300,933
Total wet and dry excavation	514,973	24,860	539,833

PACIFIC DIVISION.

Dry excavation—			
Locks, dams, and spillway	....	....	....
Terminals	6,980	....	6,980
Prism	122,241	10,166	132,407
Total	129,221	10,166	139,387
Wet excavation—			
Pacific entrance	433,098	....	433,098
Miraflores Locks	....	....	....
Diversions	....	....	....
Terminals	110,660	....	110,660
Total	543,758	....	543,758
Total wet and dry excavation	672,979	10,166	683,145

TOTAL CANAL EXCAVATION.

Dry excavation	346,604	33,066	379,670
Wet excavation	1,230,414	32,767	1,263,181
Total	1,577,018	65,833	1,642,851

LOCKS AND DAMS.

Material.	Atlantic.	Pacific.	Total.
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*
Concrete placed in locks	174	1,564	1,738
Concrete placed in dams and spillways	570	751	1,321
Fill placed in dams	24,871	4,305	29,176

Mean rainfall along Canal (nine stations), 11.09 inches.

By "Work" excavation is meant excavation actually made for one of the constituent parts of the Canal, such as prism, diversions, or locks, etc., that is, it represents material taken from the area to be occupied by the Canal and constitutes excavation useful for the completed Canal.

By "Plant" excavation is meant excavation outside any of the constituent parts of the Canal, such as prism, diversions, or locks, etc. It includes material necessary to be excavated for construction purposes only, and is chargeable against the particular plant item for which it is performed, such as prism, diversions, locks, etc.

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United Spanish War Veterans.

Chagres Camp will hold a meeting in the lodge hall, Cristobal, on Saturday, November 22, at 8 p. m.

RECORD OF CANAL WORK SINCE AMERICAN OCCUPATION.

TOTALS BY CUBIC YARDS OF EXCAVATION AND LOCK AND DAM CONSTRUCTION.

[All figures are of work useful for the completed Canal.]

DRY EXCAVATION.

CENTRAL DIVISION.

M'THS.	Culebra Section.*								Chagres Section.**				
	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1909.	1910.	1911.	1912.	1913.
Jan.....	120,990	566,750	1,227,022	1,150,249	1,323,693	1,356,394	1,416,035	1,135,580	389,399	175,802	255,385	28,357	......
Feb....	168,410	639,112	1,248,265	1,194,454	1,259,173	1,409,338	1,349,569	996,800	450,182	286,309	219,550	66,145	....
March.	239,178	815,270	1,290,885	1,434,597	1,509,728	1,728,748	1,539,618	1,183,900	619,491	484,846	297,339	172,607	....
April..	213,177	879,527	1,242,574	1,272,746	1,288,845	1,414,336	1,455.216	1,178,000	510,020	428,777	102,103	171,731	....
May....	196,209	690,365	960,840	1,126,963	1,099,279	1,299,100	1,405,760	921,000	386,170	248,974	29,783	12,524	....
June...	212,623	624,586	1,134,032	1,242,134	1,305,141	1,401,016	1,348,780	865,283	275,900	164,389	32,288	8,424	....
July...	159,789	770,570	1,121.325	1,200,828	1,153,810	1,337,833	1,335,590	1,037,700	233,897	166,106	22,284	776	....
August	244,823	786,866	1,171,927	1,173,370	1,377,714	1,442,402	1,094,132	893,300	231,543	234,404	21,892	....	....
Sept...	291,452	753,468	1,122,860	1,235,978	1,339,948	1,340,173	922,712	448.200	235,818	234,290	21,272	....	....
Oct...	327,009	834,499	1,160,101	1,302,901	1,320,314	1,306,971	1,113,420	382,270	221,409	271,409	12,216	....	132,703
Nov....	221,642	790,632	1,022,576	1,070,792	1,209,554	1,209,498	973,071	....	93,619	260,882	12,248	....	....
Dec....	307,689	1,025,485	1,210,046	1,152,022	1,211,400	1,351,082	1,074,510	....	105,044	197,481	10,809	....	....
Totals	2,702,991	9,177,130	13,912,453	14,557,034	15,398.599	16,596,891	15,028.413	9.042,033	3,752,492	3,153,669	1,037,169	460,564	132,703

Mos.	ATLANTIC DIVISION.†					PACIFIC DIVISION.¶										
	Gatun Locks, Dam and Spillway.††					Pedro Miguel Locks and Dams.‡					Miraflores Locks, Dams and Spillway.‡‡					Balboa T'm'n'ls §
	1909.	1910.	1911.	1912.	1913.	1909.	1910.	1911.	1912.	1913.	1909.	1910.	1911.	1912.	1913.	1913.
Jan..	102,690	125,011	65,889	1,330	46,773	83.726	27,320	15,690	24,969	1,147	61,202	31,479	48,744	95,609	26,483	54,114
Feb..	95,031	123,738	50,511	1,228	11,241	58,242	9,486	6,809	18,480	448	53.689	15,300	12,936	47,426	12,532	32,743
Mar..	90,051	132,007	51,431	254	35.705	95,624	6,784	674	1,777	800	51,417	18,184	72,739	28,352	28,700	51,387
Apl..	70,009	103,243	12,548	27,134	29,649	101,365	9,129	255	13,269	620	60,060	12,148	79,751	29,094	23.255	68 296
May..	52,786	82,958	17,677	24,280	1,829	57,523	10,405	5,905	26 018	127	47,588	20,250	57,975	13.096	3,778	53,215
June.	36,556	88,088	4,840	19,605	388	70,971	8,420	7,454	7,794	936	55,653	21,994	38,023	7,906	....	100.991
July..	39,058	95,503	6,897	1,974	17,756	77,503	4,410	6,273	4.412	....	50,999	11,990	97,884	4,532	....	87,230
Aug..	40,346	99,737	22,558	....	2,161	58,025	12,789	220	4,866	....	35,446	17,548	102,249	7,120	....	90,134
Sept..	49,945	103,040	3,489	1,025	1,091	48,825	10,405	3,472	1,613	....	31,803	8,590	96,112	5,192	....	69,432
Oct..	57,321	118,327	112	1,700	1.383	39,002	7,433	5,365	1,257	....	25,349	9,850	107,790	14,107	6,980	122,241
Nov..	63,452	94,552	....	2,203	....	20,207	10,636	12,962	2,408	......	18,644	9.400	84,894	27,728	....	....
Dec..	96,590	72.030	....	16,677	....	28,342	11,195	17,320	3,176	....	20,083	17,906	79,480	30,319	....	....
Tot'ls	793,835	1,238,234	235,952	97,410	147,976	739,355	28.412	82.399	110,039	4,078	511.933	194.639	878.577	310,481	101,728	729,783

*Total to Nov. 1, 1913, 97,573,270 c. yds. Excavated 1904, 243,472 cu, yds; 1905, 914,254; by sluicing, 509,674 c. yds.; by dredging, 60,370 c, yds.

**Total to Nov, 1, 1913, 12,517,358 cu. yds. 1907, 192,769 cu. yds; 1908, 4,819,797 cu. yds.; by sluicing, 188,239 cu. yds. by dredging, 132,703 c.yds.

†Dry excavation Mindi Hills 1907-1912, 2,196,198 cubic yards

¶Excavated various points in prism to Nov. 1, 1913, 4,819 797 cu. yds.; Balboa Locks and Dams, 1907, 78,233 cu. yds.; Outside prism 1908, 172 cu. yds,

††Total to Nov. 1, 1913, 6.654,778 cubic yards; including 26,628 cu. yds in 1906; 1,340,179 cu, yds, in 1907; 2,774,561 cu. yds. in 1908.

‡Total to Nov. 1 1913, 1.321,063 cubic yards; including 256,780 cu. yds. in 1908.

‡‡Total to Nov. 1, 1913, 2.844,278 cubic yards; including 846.920 cu. yds in 1908

§Total to Nov. 1, 1913, 1,048.514 cubic yards; including 318,731 cu. yds in 1912,

WET EXCAVATION.

Mos.	ATLANTIC DIVISION.†						PACIFIC DIVISION.††								
	Atlantic Entrance.§						A'l'tic T'nals *	Pacific Entrance.§§						Balboa Terminals**	
	1908.	1909.	1910.	1911.	1912.	1913.		1908.	1909.	1910.	1911.	1912.	1913.	1912.	1913.
Jan..	490,701	521,050	510,055	520,181	520,228	508,338	....	460,250	469,529	518,936	379,810	334,735	215,025	77,383	216,540
Feb..	427,722	444,910	493,448	455,318	581,399	303,949	....	663,519	671,477	285,791	386,866	432,796	239 032	....	175,225
Mar..	546,886	461,208	412,325	391,736	103,373	380,243	....	783,281	865,696	462,588	639,761	404,939	379,845	....	166,800
Apl...	496,366	470,635	190,574	492,579	134,261	436,605	....	676,539	731,767	534,322	439,622	383,995	356,942	....	182,125
May..	564,386	315,370	447,578	514,178	229,626	685,163	....	530,466	720,753	484,509	548,047	388,310	369,703	....	194.510
June.	572,749	182,575	458,021	452,098	343,804	814,592	....	656,621	844,685	475,486	576,100	338,006	604.080	28,668	31.179
July.	625,497	348,451	423,092	425,195	495,398	921 948	....	696,170	733,181	515,782	520,692	392,511	756,930	89,618	231,105
Aug..	638,217	422,846	508,829	367,456	429,415	512,089	....	737,774	623,263	506,969	630,241	441,644	726,256	131,111	286,127
Sept..	624,776	410,574	451,873	420,434	372.302	478,689	36,338	750,080	662,976	473,585	534,667	455,059	581,958	14,257	178.579
Oct..	505,260	314,778	549,788	470,400	572,783	288,760	98,923	762,276	720,920	467,873	329,224	435,726	433,098	....	110,660
Nov..	570,832	457,889	600,708	742,242	670,247	....	....	609,089	627,791	425.870	346,089	534,273	....	13,809	....
Dec..	679,604	489,121	482,370	533,409	814,373	....	....	729,960	727,460	387,034	141,189	349,747	....	191,968	....
Tot'ls	6,742,996	4,839,407	5,528,661	5,785,226	5,267,209	5,330,376	135,261	8,056,025	8,399,498	5,538,745	5,472,308	4,891.741	4,662,869	546,814	1,772,850

†Dredging, Gatun Dam, 1907, 38,425 cu. yds.; Gatun Locks, 1908-13, 1,776,791 cubic yards.

††Miraflores Locks and Dam, 1909-12, 652,246 cu. yds.; total to Nov. 1. 1913, 652,246 cu. yds.

§Total to Nov. 1, 1913, 37,543,254 cu. yds.; including 4,049,379 cu. yds. in 1905-07.

§§Total to Nov. 1, 1913 40.841,361 cu. yds.; including 3,820,175 cu. yds. in 1905-07.

**Total to Nov. 1, 1913, 2,584,220 cu. yds., including 246,556 cu. yds, in 1911,

*Total to Nov. 1, 1913, 135,261 cu. yds.

CONCRETE IN LOCKS AND DAMS.*

Months.	Gatun Locks.†			Pedro Miguel Locks.††			Miraflores Locks.‡		
	1911.	1912.	1913.	1911.	1912.	1913.	1911.	1912.	1913.
Jan	72,919	34,983	28,085	38,513	15,003	4,652	24,018	48,416	50,456
Feb............	72,103	26,664	30,780	37,011	12,639	4,294	20,896	63,893	34,979
March.........	86,884	27,532	48,180	44,716	9,331	13,412	31,173	83,706	21,030
April..........	67,361	11,600	22,732	28,635	9,460	2.145	38,758	97,735	13,266
May...........	67,844	7,746	13,046	19,135	10,736	1,144	36,154	92,095	6,956
June	55,305	6,095	5,509	18,243	10,061	773	26,536	68,398	3,836
July............	71,046	8,093	3,431	19,906	11,480	1,829	32,840	66,026	3,810
Aug............	66,928	6,855	6,258	20,736	5,995	1,884	57,003	75,388	3,643
Sept...........	57,298	3,162	442	15,379	3,039	1,144	56,083	46,122	1,907
Oct.............	53,636	3,252	174	25,637	6,587	412	60,873	54,790	1,152
Nov............	43,907	6,029	....	19,622	7,972	....	41,726	39,874	....
Dec............	43,590	5,697	....	14,360	6,958	....	48,772	46,746	....
Total........	758,821	147,708	158,637	301,893	109.261	31.689	474,832	783.189	141,035

*Concrete in dams to Nov. 1, 1913—Gatun spillway, 231,410 cu. yds.; Miraflores dam and spillway, 79,001 cu. yds.; Pedro Miguel dam, 1,289 cu. yds.

†1,002,523 cu. yds, in 1909 and 1910. ††478,803 cu. yds. in 1909 and 1910. ‡97,603 cu, yds. in 1909 and 1910.

FILL PLACED IN DAMS—1906-1913.

Year.	Gatun.		Pedro Miguel	Miraflores.	
	Wet	Dry	Dry	Wet	Dry
	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.
To January 1, 1911................	5,833,076	6,128.105	260,852	294,712	609,863
1911..............................	3,493,388	2,613,066	57,669	366,336	460,514
1912..............................	1,402,501	2.499,092	352,159	....	418,042
1913..............................	..........,	849,354	25,258	....	224,525
Totals........................	10,728,965	12,089,617	695,938	661,048	1,712,944

CANAL EXCAVATION TO DATE.

By French Companies..........................		78,146,960
French excavation useful to present Canal..........		29,908,000
By Americans—		
Dry excavation..........................	128,162,672	
Dredges..........................	84,462,544	
Total..........................		212,625,216
May 4 to December 31, 1904..........................	243,472	
January 1 to December 31, 1905..........................	1,799,227	
January 1 to December 31, 1906..........................	4,948,497	
Jauuary 1 to December 31, 1907..........................	15,765,290	
January 1 to December 31, 1908..........................	37,116,735	
January 1 to December 31, 1909..........................	35,096,166	
January 1 to December 31, 1910..........................	31,437,677	
January 1 to December 31, 1911..........................	31,603,899	
January 1 to December 31, 1912..........................	30,269,349	
January 1 to November 1, 1913..........................	24,344,904	

Totals by Divisions and Amount to be Excavated.

Divisions.	Amount excavated.		Remaining to be excavated,	
Atlantic—				
Dry excavation..........................	8,850,973	48,344,704	4.027	4 822,296
Wet..........................	39,493,731		4,818,269	
Central—				
Culebra Cut..........................	97,573,270	110,090,628	7,438,730	7,606,372
All other points..........................	12,517,358		167,642	
Pacific—				
Dry excavation..........................	10,112,057	54,189,884	675,943	7,299,116
Wet..........................	44,077,827		6,623,173	
Grand total..........................		212,625,216		19,727,784

CONCRETE TILE BLOCKS.

Operation of Plant for Manufacture of Material For Permanent Structures Begun.

Operations at the new factory for the manufacture of hollow concrete tile blocks designed for use in some of the permanent structures of the Canal, but primarily for the new Administration Building at Balboa, were begun on Monday, November 10. The plant is located under the same roof as the new cement shed, situated on the west side of the railroad track at Corozal. The process is the invention of A. A. Pauley, and is known as the "Wet," or "Steam" method in contradistinction to what is ordinarily called the "Dry" process. The exclusive right of manufacture on the Isthmus was acquired by the Canal Commission, and the inventor personally supervised the installation of the moulding machinery.

Concrete for the blocks is mixed in the following proportions: Four and a half parts of Punta Chamé sand; six parts of screenings from Ancon quarry, and three parts of cement. The materials are hoisted by an elevator to a platform at the top of the building and dumped into a $\frac{1}{2}$-cubic yard concrete mixer. This mixer discharges by means of a 2-way chute into two wooden troughs, each served by a agitator, consisting of an iron rod to which are attached a series of blades. The agitators move forward and backward horizontally, the passing of the blades through the mixture serving to keep it constantly stirred up. The object of the agitators is to prevent the concrete from stiffening and to give it the proper age. The agitator troughs are provided with valves, one to each of the 12 moulding machines. These machines are arranged in two rows, six machines on each side of the agitator troughs, and are capable of producing blocks of the following sizes: 12 by 12 by 18 inches, for foundations, or walls; 8 by 12 by 12 inches, for main walls; 8 by 8 by 16 inches, for corners; 6 by 12 by 12 inches and 4 by 12 by 12 inches, for partitions; and 3 by 12 by 12 inches, for interior columns.

Each moulding machine is of cast steel construction; they are raised a short distance, thus placing the top of all machines on a level line 65 inches above the floor, and are capable of turning out four blocks at a single operation, except the 12 by 12 by 18-inch machines, which turn out three blocks per operation. The forms are enclosed within a double cast steel lining with a space between for the admission of steam. In moulding a block, the first step is to insert a cast iron frame, called a palette, having the shape of the solid portion of the required block, at the bottom of the mould; this acts as a base and support for the block. The valve in the agitator trough is then opened, and the concrete is allowed to flow down a short chute to the top of the mould. The workman in charge of the machine, using a trowel, then diverts the thin or wet concrete into the crevices around the forms until all are filled level with the top. Steam which may be graduated to the desired pressure by a series of valves located beneath the machine, is then turned on for a period of four minutes. The steam causes the mixture to heat until a sufficient amount of moisture is evaporated and the thin concrete stiffened so that it will stand alone, when it is turned out of the mould by means of a crank, which pushes the palette, and the block which rests upon it, upward until they are in the clear above the top of the machine. Careful handling at this stage is necessary, the blocks being lifted from the mould and transferred to short lengths of wooden planking placed on receiving racks, or elevators, by means of a wooden device which clamps the sides of the block closely and also fits beneath the palette. There are six of these receiving racks or elevators, so constructed that when the first plank or shelf is loaded with tile, the turning of a crank lowers the shelf about 20 inches and another plank is placed, for loading, on the angle iron brackets which automatically appear at the top of the rack; this result is obtained by spacing brackets, at equal distances of $19\frac{5}{8}$ inches, along four endless chains which pass over sprockets actuated by the crank. Each elevator has a capacity of four loaded shelves. The elevators are set with the top shelf on a level with the top of the tile-making machinery, and each elevator serves two machines. The blocks are removed from the elevator to the curing rooms, or alleys, by a special truck provided with arms, which, when extended under the elevator shelves, and raised by means of a lever on the truck, remove the planks and their loads, from the elevator, the same resting securely on the arms of the truck.

The curing rooms consist of 24 galvanized iron compartments, each about 45 feet long, four feet wide and eight feet high, entirely enclosed, and equipped with racks in tiers. Twelve of these compartments are situated on one side of the plant, and 12 on the other. In these rooms, the blocks are given their perfecting treatment, which consists of a combined steam and water-dripping process, calculated to facilitate the setting up and hardening of the blocks, so that within a period of 48 hours, they are ready to be removed to the storage yard.

Each mould is attended by one man, with a helper for each two machines. The men now employed are all new to the work, and have not yet attained proficiency. It is proposed to place a double shift in effect shortly, one shift working from 7 a. m., to 3.30 p. m., with a half hour for lunch, and the other shift working from 3.30 p. m., until midnight, with a half hour for supper. Under this arrangement, with the plant operated at its maximum capacity, it is estimated that about 5,000 blocks can be produced during the 16 hours of labor. The loss in defective output is expected not to exceed .02 per cent.

The storage yard consists of a large space adjacent to the plant on the west, which has been leveled off, with trucking ways concreted through it. A railroad track for loading the blocks on cars extends along the outer side of the yard.

Each unit of the machinery is operated by individual electric motors, the power being furnished from the Miraflores station. Steam is generated by two boilers located in a shed outside the plant. One of these boilers was taken from the old carpenter shop at Gorgona, and the other from stock in disuse at Mount Hope.

The plant is under the general charge of Mr. Frank Holmes, the resident engineer, permanent buildings, Quartermaster's Department, and is under the direct charge of Mr. C. E. White.

COMMISSION CHAPLAINS.

Only Two Retained Dating from November 15—Others Appointed to Honorary Positions.

A reduction in the number of chaplains in the service of the Isthmian Canal Commission became effective on Saturday, November 15, the order applying to the following: Rev. Harry Compton, pastor of the seawall Methodist church, Panama; Rev. J. L. Wise, superintendent of the Baptist Mission under the Southern Baptist Convention; Rev. S. Moss Loveridge of Culebra; Rev. Carl H. Elliott, pastor of the Union Church, Cristobal; Rev. Charles O. Purdy, pastor of the undenominational work at Gatun; Rev. Edward J. Cooper, rector of Christ Church, Colon; and two priests of the Roman Catholic missions, Father Ferdinand Allot of Empire, and Father P. José Volk of Colon.

In view of the services performed by the above chaplains, the Chairman decided to permit their reemployment on the following day in the positions of honorary chaplains, which positions will carry no compensation, but will entitle the holder to all privileges and allowances of an employe on the gold roll drawing $1,200 a year. The services of the above chaplains are to be regarded as continuous in respect to quarters.

The executive council of the Union Church of Cristobal has decided to maintain the church work as usual, retaining the services of the pastor, the Rev. Carl H. Elliott. Mr. Elliott will also continue to hold services at Corozal as recently organized. The Rev. Charles O. Purdy will leave on Decmber 1; until that time the services at the chapel will be held as usual. The Baptist mission work will be continued as heretofore, being maintained by the mission board of the Southern Baptist Convention. The mission owns two dwelling houses for its missionaries, one at Gatun, and one at Empire, and holds a lease on the house of the pastor at Culebra. No change will be made in the work of the Roman Catholic missions at Empire, under the Rev. Father Allot, and the Church of the Immaculate Concepción, Colon, under Father Volk, will continue as usual. At present the chaplaincies of Ancon Hospital are held by the Rev. Father Quijano, Roman Catholic priest, and the Rev. H. R. Carson, Episcopal clergyman. During the absence of the latter on special leave, the work of Ancon Hospital and St. Luke's hospital chapel is maintained by the Rev. Edward J. Cooper of Christ Church, Colon, who is dividing this duty with that of his own church.

Balboa Sand Service.

A report of sand shipped from Balboa during the month of October, follows:

DESTINATION.	Number cars.	Cubic yards.
Fifth Division	927	16,277
Panama railroad	58	1,436
Central Division	41	815
Fortifications	287	5,409
First Division	7	105
Division of Municipal Enginering	88	1,922
Panama Tramways Company	1	25
Quartermaster's Department	6	138
Republic of Panama	2	46
Total	1,417	26,123

◆

Colonel Hodges, Lieutenant-Colonel Dickson, and Capt. R. E. Wood have been appointed a committee to consider the question of providing suitable storage at some convenient point for repair parts, supplies, etc., for the lock gate operating force.

SOCIAL LIFE OF THE ZONE.

Woman's Clubs.

There will be a third meeting of the Cristobal Woman's Club on Wednesday afternoon, November 26, when Miss Mary E. Woolley, president of Mount Holyoke College, will be the speaker. This meeting will take the place of the regular meeting scheduled for December 3. There will be only one meeting in December, the date of which will be announced later. The Cristobal Woman's Club wishes to state that no invitations to join their organization are given. Women wishing to become members will be welcomed at any time and it is necessary only to send the name to the secretary, Mrs. E. G. Whitney. Upon election to membership, the new member is asked to subscribe to the club pledge which is, as follows:

> "Holding worthy of unfailing loyalty my membership in the Cristobal Woman's Club, I will sustain its good work and guard its reputation."

There will be no meeting of the Ancon Study Club on Thursday, November 27, Thanksgiving Day. The regular meetings will be resumed on the following Thursday, December 4.

The American Bible Society.

In the general article on the work of the American Bible Society published in THE CANAL RECORD of November 5, the statement that the report covered the work of the society in Central America, Colombia, and Panama was incorrect. The agent who is temporarily living in the new Baptist parsonage at Cristobal has charge of the work in the Republic of Panama and the Canal Zone. The sales of books for the entire district by the society's agent for the period between February and November, 1913, in Panama and the Canal Zone, amounted to nearly 9,000.

Church Work.

The monthly meeting of the Isthmian Ministers' Association was held in the Union Church, Cristobal, on Monday afternoon, November 10. The subject for discussion was the evangelization of the world in this generation, which is the slogan of the student volunteer movement. Those taking part were the Rev. C. G. Hardwick, pastor of the Wesleyan Methodist Church, Panama, and head of the mission for the Isthmus, the Rev. S. Moss Loveridge, of Culebra, the Rev. Carl H. Elliott, of the Union Church, Cristobal, and the Rev. Charles O. Purdy of Gatun. The association has circulated a letter among ministers and others in the Canal Zone urging the holding of services on Thanksgiving day in which special reference is to be made to the practical completion of the Panama Canal.

At the meeting of the Ladies' Aid Society of the Union Church, Cristobal, held in the church on Tuesday afternoon, November 11, Mr. Lum, a Chinese merchant of Colon, was the speaker. He delivered his address in English, and told of the early history of China, the religions, the dress for men and women, marriage customs, and domestic life. At the close of the program, tea was served, Mrs. Lum, the wife of the speaker, presiding at a table decorated with flags and the Chinese colors, over which Chinese lanterns were suspended.

The Wesleyan Methodist Church in the Canal Zone and Panama celebrated the centenary of the founding of the mission of the church during the week beginning November 3. Public meetings were held at the various stations, which are located at Colon, Gatun, Frijoles, and Panama. The mission was established on the Isthmus in 1882.

Christ Church, Colon beach, will hold its annual anniversary services on Sunday, November 23. The parish communion will be at 7.30 a. m.; eucharist, with special music, at 10.30 a. m.; a flower service will be held at 4 p. m., and choral evensong will be at 7.30 p. m. On Thanksgiving Day, there will be a service at 9 a. m.

The Elysisus James Fund.

The Elysisus James education committee held a meeting in the Hotel Tivoli on Monday, November 10, for the purpose of receiving the reports on the progress of the 200-dollar fund to complete the payment for the education of the blind boy in the Perkins Institute at Boston. The result of the committee's work far exceeded the expectations of the members; enough money has been subscribed not only to complete the payment for the current year in the institute, but to leave a deposit of $50 at the school to pay the expenses of his return to the Isthmus and to keep an amount of money here in trust which will be used for his immediate expenses after the close of the school year in June. The two years of study will place the boy on a self-supporting basis; he will be able to take up chair caning, and basketry, and will be sufficiently schooled to write a good letter, work in mathematics, and read such books as may be procured for him. He will also have a knowledge of the rudiments of music. The reports from the institute show that he has done unusually well in all his work.

The committee has decided to carry on the philanthropy of sending a Christmas box to the inmates of the Government leper asylum at Palo Seco, which was a special work of the Canal Zone Federation of Women's Clubs for six years, from 1907 to 1912. Contributions in money for the purchase of the articles, which consist of a personal gift for each inmate, and one general gift, an outdoor game, which may be enjoyed by all, may be forwarded to the treasurer, Mrs. J. E. Westberg, Empire. They should reach Mrs. Westberg not later than December 1.

New Principal of Canal Zone High Schools.

Miss Jessie E. Daniels, formerly principal of the Canal Zone high school at Gatun, has been appointed principal of the consolidated high schools with regular duty at Ancon, vice A. R. Lang who was appointed superintendent of schools on October 18. Miss Daniels has been a member of the teaching staff of the Canal Zone schools since November, 1908. She is a native of Canton, Ohio, and a graduate of the Western Reserve University.

Changes in the Salvation Army.

Adjutant E. C. Grimes has been called from headquarters at Jamaica to take charge of the work of the Salvation Army in Panama and the Canal Zone in the place of Adjutant Catlin, who has been recalled for assignment to duty elsewhere. Adjutant Grimes arrived on the Isthmus recently, and is looking over the work with a view to being prepared for emergencies in the increase of calls for assistance as the work on the Canal approaches an end. The territorial commander, Colonel Charles Rothwell, spent a few days on the Isthmus last week in the course of a visit to Barbados and other islands of the West Indies. He will proceed to England, and return in January to spend a short time here. Arrangements have been made for the visit of one of the traveling evangelists of the Salvation Army, Colonel John Roberts. He will arrive about February 1, and conduct a 17 days' mission in the Canal Zone. The army has opened a new hall with officers' quarters in the Guachipali district, Panama City. The hall was dedicated on Sunday, September 28.

PERSONAL.

Mr. John Purroy Mitchel, mayor-elect of New York City, accompanied by Mrs. Mitchel and a party of six, will arrive at Colon on Sunday, November 23, on the *Tenadores* of the United Fruit Company's service, on a visit to the Canal.

Mr. Robert Bacon, representative of the Carnegie Endowment in the interests of international peace, arrived on the Isthmus on the steamship *Mantaro* of the Peruvian Line, on Tuesday, November 18, from Lima. He has been engaged in delivering a series of lectures in the interest of the peace movement in various parts of South America. He visited the Canal work and was given an audience by President Porras on Wednesday, November 19. He will sail for the United States on Thursday, November 20.

Railroad Telegraphers.

The Order of Railroad Telegraphers, Panama Railroad System Division, No. 158, recently instituted, held an election of officers at a meeting in the lodge hall at Paraiso on November 15, as follows: Frank Kinsman, chief telegrapher; J. F. Stahl, general secretary and treasurer; C. S. Baber, first vice-chief telegrapher; H. J. Linde, second vice-chief telegrapher; E. I. Barnard, past chief telegrapher; P. L. Malone, marshal; Earl Orr, inside sentinel; J. N. Fuller, outside sentinel. Meetings are subject to the call of the general chairman, Frank Kinsman.

St. Mary's, Star of the Sea.

Mass is celebrated at the church of St. Mary, Star of the Sea, Balboa, at 9 a. m., on Sundays; Sunday school at 8.30 a. m. Father Pouget, the pastor, is at home to visitors on Wednesdays, afternoon and evening, and holds services on Thursdays at 8 a. m.

V. PEREZ, *Assistant Priest.*

Balboa, C. Z., November 17, 1913.

Concrete Work at the Locks.

The following is a statement of the concrete laid in the Canal locks and auxiliary works up to November 1, 1913:

Gatun Locks	2,050,193.20
Gatun Spillway	230,443.00
Gatun hydroelectric station	7,295.00
Gatun duct line	1,919.00
Pedro Miguel Lock	911,851.10
Miraflores Locks	1,487.650.10
Miraflores Spillway	73,497.00
Pedro Miguel–Miraflores duct line	4,616.00
Total	4,767,464.40

◆

Orchid Chapter, No. 1, Order of the Eastern Star, has adopted a resolution memorializing the death of Martha Wilson, which will become part of the records of the order. The committee signing the document is, as follows: Annie L. Calvit, P. W. M., Stephen E. Calvit, Minnie H. Kosier, and Katherine R. Casey.

OFFICIAL CIRCULARS.

◆

Board of Survey and Appraisal Abolished.

CULEBRA, C. Z., November 12, 1913.

CIRCULAR No. 399-D:

Effective at once, the Board of Survey and Appraisal created by Circular No. 399-C, dated September 10, 1913, is abolished and the duties of that board, as outlined in Paragraph 5 of Circular No. 399-B and subsequent instructions, will be assumed by the Chief Quartermaster, with the exception that:

The surveying officer and the assistant surveying officer will continue to pass on all surveys of public property presented to them, and, in general, perform the duties assigned to them prior to the creation of the board of appraisal, except that they will not fix or recommend prices on any item of material, supplies, and equipment for sale.

In the future, prices on all second-hand, surplus, or obsolete material, supplies, and equipment of the Isthmian Canal Commission and of the Panama Railroad Company available for sale, will be fixed by the Chief Quartermaster, and after such prices have been approved by the Chairman, the Chief Quartermaster may proceed to effect sale to the best interests of the Government without further authority, except in such cases as may be required to be submitted to the Secretary of War for approval.

The Chief Quartermaster will be required to keep proper and detailed records showing the manner and basis on which all prices are fixed, and full information as to all sales effected. He will, at the close of each month, submit to the Chairman a complete report of all sales made during that month.

The Chief Quartermaster is authorized to call upon the Mechanical Division, or any official or employe of the Commission or Panama Railroad, for any necessary data or assistance in connection with fixing prices on material and equipment.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

◆

Encroachments on P. R. R. Right-of-Way.

CULEBRA, C. Z., November 8, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

Your attention is invited to circular No. 182, dated June 15, 1908, reading, as follows:

> "No encroachment of any kind by employes of the Commission will be allowed on the right-of-way, station grounds, or tracks of the Panama railroad, until after same has been duly authorized by the general manager of the Panama railroad.
>
> 'Right-of-way' shall be understood to cover a strip of ground 25 feet in width, measured from the center line of the nearest track and on both sides of the center line.
>
> 'Station grounds' is intended to cover all land between switches, irrespective of its width.
>
> 'Tracks' cover all tracks or sidings of the Panama railroad over which trains and switch engines may operate.
>
> Any work that may interfere with the trains or switching service of the Panama railroad, whether adjacent to, or crossing tracks, will be performed by employes of the Panama railroad after receipt of properly signed work order; or, if requested by the Panama railroad, may be performed by the Commission under the general direction of the Panama railroad."

It has been brought to my attention that the instructions contained in the above circular are not being strictly adhered to. Please issue the necessary instructions to all concerned.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission.
President, Panama Railroad Company.

◆

Rates for Use of Cristobal Dry Dock.

CULEBRA, C. Z., November 1, 1913.

CIRCULAR No. 169-O:

Effective November 1, 1913, the following rates will be charged for use of the Cristobal dry dock:

FOR COMMISSION EQUIPMENT.

$40.00 for first day.
$15.00 per day thereafter.

FOR INDIVIDUALS AND COMPANIES.

Alone—
$75.00 for first day.
$25.00 per day thereafter.

With another vessel—
$50.00 for first day.
$18.00 per day thereafter.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

◆

Panama Railroad Passenger Terminal in Panama.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., November 14, 1913.

G. S. BULLETIN No. 18:

To All Concerned—The south end of the new Panama station building will be put into service on Sunday morning, the 16th instant, and will be used for first-class passengers. The ticket seller now occupying the temporary booth on the alighting platform, will be moved to his regular place in the station building and serve both first and second-class passengers.

F. MEARS,
Acting General Superintendent.

◆

Sailing of the "Cristobal."

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., November 18, 1913.

CIRCULAR No. 280:

To All Concerned—The sailing date of the steamship *Cristobal* has been set for 12 o'clock noon, Saturday, November 22, 1913, from Pier 11, Cristobal.

F. MEARS,
Acting General Superintendent.

◆

Rainfall, Nov. 1 to Nov. 15, 1913, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	1.88	7	6.78
Balboa	1.65	7	6.56
*Miraflores	1.37	7	5.37
Pedro Miguel	1.53	2	6.69
Rio Grande	1.52	8	6.17
Central Section—			
Culebra	1.75	4	7.28
*Camacho	2.31	8	7.15
Empire	1.69	8	7.54
Gamboa	2.20	8	9.16
*Juan Mina	2.57	8	9.75
Alhajuela	2.92	8	10.65
*El Vigia	2.41	8	9.87
*Frijoles	3.82	8	9.85
*Monte Lirio	2.60	10	9.44
Atlantic Section—			
Gatun	2.43	10	10.67
*Brazos Brook	3.40	10	14.83
Colon	2.66	10	12.99
†Porto Bello	5.13	8	20.29

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight. †To 5 p. m., November 14.

◆

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending November 29, 1913.

DATE.	High	Low	High	Low	High
	A.M.	A.M.	A.M.	P.M.	P.M.
November 23...	......	5.01	11.03	5.25	11.40
November 24...			P.M.	6.30	......
	......	6.06	12.15		
November 25...	12.42	7.05	1.19	7.27	......
November 26...	1.37	7.59	2.14	8.20	......
November 27...	2.28	8.49	3.05	9.10	......
November 28...	3.17	9.37	3.52	9.57	......
November 29...	4.02	10.23	4.37	10.43	......

75th meridian time.

◆

Supplies for the Canal.

The following steamers, with supplies for the Isthmian Canal Commission and Panama Railroad Company arrived at the ports of Colon and Cristobal during the week ending November 15:

Panama, November 9, from New York, with 28 cases solder, 368 pieces structural steel, First Division; 10 crates metal caging, 6,723 bundles steel bars, 450 pieces concrete steel, Second Division; 100 pieces pipe, Sixth Division; one road roller, Division of Municipal Engineering, 25 bundles steel bars, Administration Building, 30 boxes varnish, 534 bundles galvanized sheets, 11 bundles lubricating grease, 50 cases lubricating grease, 19 drums lubricating oil, 18 pieces steel plates, for stock;and a miscellaneous cargo, the whole consisting of 8,654 pieces weighing 839 tons.

St. Andrew, November 8, from Baltimore, with 1,386 pieces structural material, Second Division; 59 cases castings, 40,500 pieces clay conduit, First Division; 48 pieces dredge parts, Sixth Division; 601 pieces steel, fortifications; 400 pieces sewer pipe branches, 5,884 pieces pipe and fittings, Division of Municipal Engineering; 50 car wheels, Mechanical Division; 102 cedar logs, Lighthouse Division; 691 cases gasoline, 29 cases blasting material, 1,413 barrels sulphate ammonia, 30,000 arch brick, 8,800 pieces vitrified tile, 250 cases turpentine, 163 pieces sewer pipe, 83 boxes window glass,155 boxes window glass, 413 cases paint, 903 bales hay, 38 barrels gasoline, 50 cases lard oil, 30 cases benzine, for stock.

Pastores, November 9, from New York, with four reels copper cable, 40 cases electrical machinery, First Division; 59 cases electrical machinery, Mechanical Division; 1,100 galvanized water pails, 60 cases paint, for stock.

Carl Schurz, November 10, from New York, with 184 pieces pipe, Second Division; 140 cases paper, 19 kegs bolts and nuts, stock.

Parismina, November 10, from New Orleans, with 90 pieces pipe and fittings, Mechanical Division; 120 sacks dairy feed, 563 bales hay, 62 pieces pipe-fittings, for stock.

Nessian, November 11, from Liverpool, with five dredge bucket lips, Sixth Division; 155 barrels crude carbolic acid, for stock.

Metapan, November 12,.from New York, with 1,655 crates insulators, 545 pieces structural material, First Division; 22 pieces structural material, fortifications.

Sixaola, November 13, from New Orleans, with 180 pieces piling, Atlantic Division; 108 pieces oak timbers, Sixth Division; 334 boxes paste, 154 bales rice straw, 11,726 pieces lumber, for stock.

◆

Red Cross Finances.

The financial statement of the Canal Zone Chapter, American National Red Cross, for the month of October, 1913, follows:

RECEIPTS.

October	1, On hand	$2,809.79	
	27, Received on account of Red Cross ball	67.25	$2,677.04

DISBURSEMENTS.

October	2, Relief of Chilean family stranded at Panama	$10.00	
	6, Services, Hotel Tivoli, account of Red Cross ball	32.00	
	15, Relief of patient, Ancon Hospital	3.00	
	17, Printing account of ball	65.47	
	17, Use of rooms, Hotel Tivoli, for ball	4.00	
	21, Deportation of patient, Colon Hospital	10.00	
	23, Relief of American family at Ancon	35.00	
	28, Relief of American from South America	35.00	
	28, Printing badges for ball	5.61	
	31, Relief of destitute ex-employe, Ancon	2.00	
			$ 202.08
October	31, Balance on hand		$2,674.96

JOHN L. PHILLIPS,
Treasurer.

Approved:
EDW. SCHILDHAUER,
Chairman.

◆

Married.

CLINE-BURDETTE—In the Union Church, Cristobal, on November 11, Gail Gordon Burdette of Atlanta, Ga., to William Joseph Cline of Malden, Mass., the Rev. Carl H. Elliott officiating.

RANDOLPH-LAYLAND—At Christ Church, Colon beach, on Saturday, November 8, Eleanor Dorothy Matilda, daughter of Captain and Mrs. Sydney Layland of London, England, to Edward Sydney Randolph of New Orleans, Louisiana, the Rev. Edward J. Cooper officiating. Canal Zone residence, Culebra.

BEVERLY-SNABLEY—At Christ Church, Colon beach, on Tuesday, November 11, Pearl Lorenc Snabley of Palestine, Texas, to Mr. Robert Beverly of Virginia, the Rev. Edward J. Cooper officiating. Canal Zone residence, Colon.

◆

Cold Storage Prices.

Prices of cold storage supplies sold at the commissaries, as listed in THE CANAL RECORD of November 12, remain unchanged with the following exceptions: Cucumbers, advanced to 14 cents a pound; Jamaican oranges reduced to 14 cents a dozen; rabbits, unskinned, at 30 cents each, added to stock.

◆

Sale of Cows at Ancon Hospital.

ANCON, C. Z., November 11, 1913.

There will be sold at public action at the Ancon Hospital dairy on Saturday morning at 10 o'clock, November 29, five cows. The right to reject any and all bids is reserved.

A. B. HERRICK,
Acting Superintendent.

◆

LOST—In Colon, or Cristobal, one gold watch, hunting case, initials F. E. H. engraved on back. Gold locket on fob engraved in same way. Finder please return to office of Division of Municipal Engineering, Cristobal.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The standing in the all-Isthmian chess tournament on November 17 was, as follows: Culebra had won 32½ points, Empire, 21½. Gatun, 17, Cristobal, 16.

The standing of the teams in the basketball league on November 17 was, as follows:

Team.	Won	Lost	P.C.
Empire	8	0	1.000
Camp Elliott	7	3	.700
Gatun	6	3	.667
Cristobal	3	4	.429
Culebra	2	7	.222
Corozal	0	8	.000

The standing of the teams in the all-Isthmian bowling league on November 17 was, as follows:

Team.	*Won*	*Lost*	*P. C.*
Cristobal	13	2	.857
Empire	12	6	.667
Culebra	11	7	.611
Corozal	10	8	.556
Gatun	2	13	.133
Camp Elliott	0	12	.000

COROZAL.

Over 300 were present on Thursday night to see the photo-play, "Quo Vadis?" The regular weekly moving picture show was given on Tuesday.

The Corozal basketball team defeated the Ancon team for the second time on Friday by a score of 40 to 18. Fifteen-minute halves were played.

CULEBRA.

Through the courtesy of Mr. H. H. Buckwalter, seven reels of moving pictures of the Canal and Panama were exhibited on Thursday night, November 13. There were 250 people present.

On Saturday night, November 15, the Gatun chess team was defeated by the score of 5 to 2, as follows:

Gatun.	*Won*	*Culebra.*	*Won*
Brown	0	Strong	0
Logan	1	McClure	1
Boni	1	Warner, A. M	2
Marquand	0	Warner, J. F	2

One game was postponed.

At the regular service on Sunday night, pictures of the Yellowstone National Park were shown. Mr. Wilson read accompanying descriptions. There were 67 present. On Sunday night, November 23, Mr. W. W. Warwick, assistant comptroller of the Treasury, will speak. All are invited to attend.

On Friday night, November 21, Captain Thorvald Nilsen of the steamer *Fram* will speak of his experiences in the Antarctic regions. All are invited to attend and no admission fee will be charged.

On Wednesady night, November 26, there will be "open house" at the schoolbuilding. All interested in checkers, chess, dominoes, etc. and other games are invited to attend. There will be music and refreshments, including pumpkin pie. The entertainment will be purely local. All grown-ups are invited to be present.

On Thursday night, November 13, the Corozal bowling team was defeated on the local alleys, by the following scores:

Corozal.				*Culebra.*			
Davis	142	185	174	Case	160	170	151
Taylor	120	153	144	Cushing	177	153	160
Louch	190	198	179	Herrington	172	191	160
Parkis	202	180	185	Chadbourne	121	164	141
Edwards	127	...	125	Dougherty	176	204	218
Ziller	...	120	...				
	781	836	807		806	882	830

High scores in tenpins for the week were, as follows: Case, 213; Perkins, 205; in duckpins: Gassman, 111; Kronmiller, 114; Kierman, 111; Jefferies, 101.

EMPIRE.

Four hundred people attended the "Quo Vadis?" moving picture show which was given in ten reels on Wednesday, November 12. Mr. Shubert sang several solos at the beginning of the performance.

At the regular meeting of the Empire debating society held on Friday, Mr. W. W. Warwick was the speaker of the evening. He explained the new currency bill which is now before Congress, and a general discussion followed. About 50 men attended. The next meeting will be on Friday, November 28.

Empire took three straight games from the Camp Elliott team in the Isthmian tournament games rolled on Saturday night, November 15. Empire will bowl the Culebra team at Empire on Saturday, November 22.

The Thanksgiving championship bowling tournament will be held at the Empire clubhouse this year. The tournament will be for singles and doubles in tenpins; prizes for first, second, and third in each event, and a prize for the high single score. All entries should be sent into Empire by noon of Wednesday, November 26.

GATUN.

The rubber-band duckpin tournament is holding the attention of the bowlers at present. The tournament closes on November 30.

The winners of the married folks' tournament on Thursday evening, November 13, were Mr. and Mrs. Grover, their score being 564. Those taking first place in the mixed tournament were Mrs. Walsh and Edward Walsh, with a score of 611; second place in this tournament was won by Mrs. Leitch and Mr. Coleman, their score being 576.

Regular gymnasium classes will be held twice a week from now on, in the evening, for the men; also, twice a week for the boys. If enough men desire gymnastic work at noon, a special class will be held from 11.15 to 11.45 a. m., on Tuesdays and Thursdays.

"Open house" on Thursday evening, November 20, was enjoyed by a large crowd of men. The Guatemalan orchestra furnished music.

The basketball game at Empire on Saturday nigh will close the basketball schedule for this season.

On Wednesday evening, November 12, the basketball team went to Bas Obispo by launch to play the Marines. A group of rooters went along with the team and enjoyed the ride and the game. The local team lost to the Marines, which places Gatun in third place in the league.

CRISTOBAL.

Twenty-two men are entered in the local French pool tournament.

Quite a number of new faces were noticeable in the line-up in the married folks' bowling tournament on Monday, November 10. Totals were, as follows: Mr. and Mrs. Bell, 512; Mr. and Mrs. Cotton, 463; Mr. and Mrs. Sloan, 456; Mr. and Mrs. McNulty, 443; Mr. and Mrs. Lucas, 428; Mr. and Mrs. Huff, 408; Mr. and Mrs. Mason, 382; Mr. and Mrs. Simonson, 365.

A single folks' duckpin tournament will be held on Monday, November 24. It will be limited to ten couples.

Cristobal took all three games from Gatun in the all-Isthmian bowling tournament on Saturday, November 15. Scores were, as follows:

Cristobal.				*Gatun.*			
Barnum	190	159	138	O'Meara	144	168	150
Russell	152	145	156	Otto	196	150	181
Collins	193	180	160	Sherrard	191	168	131
Barte	206	157	193	Schandler	131	112	...
Bullard	167	190	193	Kyes	121	...	...
				Hodges	...	150	174
				Grover	...	...	125
Totals	908	831	840		783	748	761

Cristobal will bowl at Corozal on Saturday, November 22.

Mr. E. J. Rall of the Sanitary Department, Ancon, will give a number of humorous monologues at the discussion club meeting on Thursday, November 20. Because of the next regular date of the discussion club falling on Thanksgiving Day, there will be no meeting next week.

Twenty-four men, 18 boys, and 32 girls are now enrolled in gymnasium classes under Mr. Brittin, the physical director.

The Guatemalan orchestra furnished music for a concert on Tuesday, November 18.

A four-men team pool match between Corozal and Cristobal will be played at Cristobal on Saturday night, November 22. The play will be 100 balls, straight pool. A return match will be played at Corozal on the following Saturday night.

A basketball game between the second teams of Gatun and Cristobal will be played at Cristobal on Friday night, November 21.

Family Quarters.

Applications for married quarters on file on October 31, were, as follows:

District.	List No. 1.	List No. 2.
Ancon	17 (12)	119 (34)
Ancon Hospital	1	5
Balboa	1 (1)	59 (7)
Corozal	5 (5)	144 (18)
Cristobal	....	120 (4)
Culebra	1......	53 (8)
Empire	....	62 (10)
Gatun	....	63 (3)
Pedro Miguel	2 (2)	102 (15)
Porto Bello	1 (1)	9 (8)
Toro Point	....	2
Total	28 (21)	738 (107)

NOTE—The figures in parentheses show the number of applicants already occupying regular or nonhousekeeping family quarters at stations other than those at which applications are filed.

LOST—One ladies' coral cameo ring left in the retiring room of the Hotel Tivoli at 7 p. m., on Sunday, November 16. Valued as keepsake. Finder please return to P. O. Box 166, Ancon.

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line and of the United Fruit Company's Line.

NEW YORK TO CRISTOBAL.*

Colon	P. R. R.	Monday	Nov.	17
Advance	P. R. R.	Saturday	Nov.	22
Panama	P. R. R.	Saturday	Nov.	29
Allianca	P. R. R.	Friday	Dec.	5
Colon	P. R. R.	Thursday	Dec.	11
Advance	P. R. R.	Wednesday	Dec.	17
Panama	P. R. R.	Tuesday	Dec.	23
Allianca	P. R. R.	Tuesday	Dec.	30

CRISTOBAL TO NEW YORK.*

Allianca	P. R. R.	Saturday	Nov.	22
Colon	P. R. R.	Saturday	Nov.	29
Advance	P. R. R.	Friday	Dec.	5
Panama	P. R. R.	Thursday	Dec.	11
Allianca	P. R. R.	Wednesday	Dec.	17
Colon	P. R. R.	Tuesday	Dec.	23

NEW YORK TO COLON.

Zacapa	U. F. C.	Wednesday	Nov.	12
Emil L. Boas	H.-A.	Saturday	Nov.	15
Tenadores	U. F. C.	Saturday	Nov.	15
Almirante	U. F. C.	Wednesday	Nov.	19
Trent	R. M.	Saturday	Nov.	22
Prinz Joachim	H.-A.	Saturday	Nov.	22
Carrillo	U. F. C.	Saturday	Nov.	22
Santa Marta	U. F. C.	Wednesday	Nov.	26
Carl Schurz	H.-A.	Saturday	Nov.	29
Pastores	U. F. C.	Saturday	Nov.	29
Metapan	U. F. C.	Wednesday	Dec.	3
Thames	R. M.	Saturday	Dec.	6
Tivives	U. F. C.	Saturday	Dec.	6
Prinz August Wilhelm	H.-A.	Saturday	Dec.	6

COLON TO NEW YORK.

Metapan	U. F. C.	Thursday	Nov.	20
Prinz August Wilhelm	H.-A.	Tuesday	Nov.	25
Tivives	U. F. C.	Tuesday	Nov.	25
Thames	R. M.	Tuesday	Nov.	25
Zacapa	U. F. C.	Thursday	Nov.	27
Emil L. Boas	H.-A.	Tuesday	Dec.	2
Tenadores	U. F. C.	Tuesday	Dec.	2
Almirante	U. F. C.	Thursday	Dec.	4
Prinz Joachim	H.-A.	Tuesday	Dec.	9
Carrillo	U. F. C.	Tuesday	Dec.	9
Magdalena	R. M.	Tuesday	Dec.	9
Santa Marta	U. F. C.	Thursday	Dec.	11
Carl Schurz	H.-A.	Tuesday	Dec.	16
Pastores	U. F. C.	Tuesday	Dec.	16

NEW ORLEANS TO COLON.

Abangarez	U. F. C.	Saturday	Nov.	15
Heredia	U. F. C.	Wednesday	Nov.	19
Atenas	U. F. C.	Saturday	Nov.	22
Parismina	U. F. C.	Wednesday	Nov.	26

COLON TO NEW ORLEANS.

Sixaola	U. F. C.	Thursday	Nov.	20
Cartago	U. F. C.	Saturday	Nov.	22
Abangarez	U. F. C.	Thursday	Nov.	27
Heredia	U. F. C.	Saturday	Nov.	29

*Amended schedule, resulting from temporary withdrawal of the *Allianca* for repairs.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 2 p. m.; for Southampton on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays and Saturdays at 3 p. m.; ships for New York via Kingston, on Tuesdays at 1.30 p. m. and Thursdays at 1.30 p. m.; for Bocas del Toro, on Mondays at 5 p. m.; for Limon, via Bocas del Toro, on Tuesdays at 5 p. m.; and for Limon direct, Tuesdays at 3 p. m.

Hamburg-American steamers sail for New York, via Kingston, Santiago de Cuba, and Fortune Island on Tuesdays; the *Prinz August Wilhelm* and the *Prinz Joachim* at 10 a. m.; the *Carl Schurz* and the *Emil L. Boas* at 2 p. m. (Effective November 25.)

Misdirected Letters.

The following insufficiently addressed letters originating in the United States and its possessions, have been received in the office of the director of posts, and may be procured upon request of the addressees:

Baker, J. S.
Baker, Jas. S.
Ellman, Charles
Gouldstone, Arthur
Jones, Mrs. Wm. A.
Kistler, J.
Palmer, Harlon E.
Sharples, Joseph
Sinclair, J. McDonald
Snapp, B. M.
Walker, Richard H.
Weed, Mrs. C. E.
Williams, F. A.
Wise, John

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, NOVEMBER 26, 1913. No. 14.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Progress of Dredging in Culebra Cut.

No transfers of dredges engaged in Culebra Cut have been made during the past week. At Cucaracha slide, a movement on Thursday, November 22, pushed material forward where the channel was narrowest and raised a barrier with an average elevation of 10 feet above the surface of the water, for a distance of 100 feet, between stations No. 1811 and No. 1812. The movement is believed to have been local, and caused by undermining during excavation. Cross-sections taken after the dredges show that all elevations on the material above water, in the prism, are constantly changing, generally, a lowering of the material, but sometimes an elevation.

The dipper dredge *Mindi* and the ladder dredge *Marmot*, excavating respectively, from the north and the south sides of the slide, have come within 200 feet of each other, leaving in their wakes clear channels about 150 feet and approximately 22 feet deep at present level of the water in the Cut. The *Mindi* is removing mostly broken rock, and the *Marmot*, red clay and broken rock.

A movement in the east Culebra slide, north of Gold Hill, also on November 22, set in motion about 150,000 cubic yards of material, of which about 50,000 cubic yards have entered the Canal chanel. One of the spuds of the dipper dredge *Chagres*, excavating at the base of the slide, was broken by the movement of material. This has been repaired and the dredge is now at work in the center of the channel, opposite the north end of Culebra village.

Basin in Miraflores Spillway Discharge Channel.

The discharge channel of Miraflores Spillway is to contain a broad basin, instead of baffle piers, to break the force of the mass of water dropping down the ogee of the spillway dam, and rushing toward the outlet. The basin is to be the full width of the spillway discharge channel, 432 feet, and about 200 feet across, and its bottom is to be about 15 feet below mean sealevel. It is believed that the large body of water contained in the basin will absorb the momentum of the discharge and prevent serious washing of the bottom of the channel, which will not be protected, as at Gatun, by concrete paving. The earth on either side of the discharge will be protected for 250 feet from the spillway dam by the concrete wing, or retaining walls.

Steamshovel No. 126 is engaged in excavating the basin, and has removed about 30 per cent of a total of 30,000 cubic yards to be taken out. A dike was thrown across the channel of the Rio Grande to protect the pit against flooding by the tidal waters in the river bed. There is scarcely any leakage of lake water through the spillway gates, which are now under almost the maximum head to which they are to be subjected; a considerable quantity of water gets into the basin through the weep holes in the retaining walls on either side, but is handled without difficulty by one 12-inch electric pump.

Backfilling at Miraflores Locks.

Spoil obtained from a borrow pit on the west side of the Panama railroad, opposite the Corozal corral, is being used for backfilling the northeast wing wall of Miraflores Locks. The space to be filled lies between the wing wall and the 134-foot core wall extending from the spillway dam to the side wall of the locks, at the juncture of the wing wall. The spoil is being dumped at present from a track built on the concrete corbels of the wing wall, which are later to support the track for towing locomotives. About 60,000 cubic yards will be required for this fill, and approximately 30 per cent of it has been placed to date.

On the west side of the locks, the completion of the backfill consists in filling the spaces at the upper end of the locks which were occupied, until the first of October, by construction buildings and railway tracks. This involved a considerable amount of filling back of the northwest wing wall, and connecting the west dam with the locks backfill proper. Both are almost completed, using spoil supplied by a single shovel in a borrow pit on the northwest side of Cocoli Hill, at the south end of the Miraflores dam.

Steamshovel Operations in Culebra Cut.

Six steamshovels are operating on the upper levels of the slides at Culebra, to reduce the pressure at the top and lessen the excavation required of the dredges. Two of these are on the west bank of the Canal, and will continue excavation until the middle of December. The four engaged on the east bank, north of Gold Hill, are to continue indefinitely, their operations depending principally on the dumps to be completed, and the possible development of slides. Except for a portion of the spoil from the shovels on the east bank, which is wasted on dumps No. 1, right, and No. 1, left, just north of Gamboa station of the Panama railroad, the material excavated is all being hauled to the Naos Island dumps. Spoil from this excavation will also be used to complete dumps at Ancon and the Balboa town site, and for the Sanitary Department. By the time dump No. 1, right, and No. 1, left, north of Gamboa station, are completed, it is anticipated, a new dump will be provided off the present Cotton Tree dump, near the recently erected engine house, opposite Culebra. A 1,200-foot trestle for this purpose is now being built, and will be ready for use about December 15. This dump will afford a short haul and relieve congestion on the main line of the Panama railroad.

These operations, as well as those in connection with the completion of the Naos Island breakwater, and the construction of approaches and concrete piers for the pontoon bridge at Paraiso, are in charge of the Fourth Division of the Chief Engineer's office, under Mr. A. S. Zinn, resident engineer, who was acting division engineer of the Central Division at the time it was abolished, at the close of business, October 10.

Approaches to Pontoon for Crossing Canal.

Concrete piers have been built in recesses on both banks of the Canal at Paraiso, to be used in connection with the pontoon bridge which will afford a means of crossing the Canal by rail after bridge No. 57½ has been removed. The piers are approximately 12 feet by 19 feet six inches in plan, and their tops are now at elevation 94 feet, or 54 feet above the bottom of the Canal. When completed, they will be about 19 feet higher, and contain, in rooms formed within the portion to be added, a part of the machinery for operating the bridge. No machinery has as yet been installed, but the pier on the east bank now holds, at the southeast corner, a steel pipe 18 inches in diameter and 24 feet long, which will form the pin of the massive hinge about which the pontoon will revolve. The pontoon will be 378 feet long, and 55 feet wide; and will swing across the Canal like a gate. The recess on the east bank has been made large enough to contain the pontoon without any portion of it encroaching on the fairway, so that when the crossing is opened there will be a 300-foot allowance for vessels.

Railway approaches are being laid to both piers to connect with the present line of the Panama railroad beyond the ends of bridge No. 57½. On the west side, the new track leaves the old line 2,100 feet from the west end of the bridge. Swinging over a 6-degree curve for 755 feet, it then runs straight 450 feet to the west pier, at station No. 1887 on the Canal. The grade is slightly less than one per cent. The 350 feet nearest the Canal are on an embankment raised from 10 to 20 feet above the natural surface of the ground.

On the east side, the approach has required a cut about 600 feet long, grading down to the pier, with a maximum depth of 12 feet. The cut runs through the former site of the highway into Paraiso, and has necessitated rebuilding part of the road to the east, for which considerable excavation was required at the base of a hill skirted by the road. A steamshovel is now engaged in making a cut on the west side of the hill, just north of Paraiso station, to extend the new line to the station. The new track on the east side will be about 1,500 feet long. Two old spur tracks in Paraiso yard have been connected at both ends to the track leading to the pontoon bridge, thereby increasing the yard capacity to 60 cars.

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The American Consul at Barranquilla, Colombia, has informed the Office of the Chairman that there is absolutely no demand for white labor in Colombia, and that it is useless for white employes to go that country seeking employment.

LABOR FORCE AND QUARTERS IN OCTOBER.

The force report for October 29 shows the actual working force of the Canal Commission to be 29,717; of the Panama railroad, 5,061, and of the contractors, 1,648, a total effective working force of 36,426, a decrease of 3,356 as compared with the statement for September. The gold force on the Canal work, composed almost exclusively of white Americans, was 3,685, a decrease of 101, as compared with the previous month. A statement of the Canal force by divisions, follows:

DEPARTMENT OR DIVISION.	SILVER EMPLOYES*													Total silver.	Total gold.	Grand total
	Artisans.						European laborers.		West Indian laborers.							
	Monthly	44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents.	7 cents.			
Construction & Engineering..	3,763	9	11	362	1,298	3,535	2,681	558	109	354	5,620	2,183	300	20,783	2,661	23,444
Civil Admin....	142	..	..	...	.....	.....	......	......	...	...	.....	....	....	142	317	459
Sanitation	682	..	..	3	3	5	......	......	...	...	8	349	14	1,064	323	1,387
Quartermaster's	908	..	..	214	460	340	27	1	...	...	358	1,006	25	3,339	223	3,562
Subsistence	665	..	..	2	2	1	......	......	...	...	.....	....	23	693	49	742
Disbursements..	7	..	..	..	.....	.....	......	......	...	...	.....	....	....	7	18	25
Examination of Accounts	4	..	..	...	.....	.....	......	......	...	...	.....	....	....	4	94	98
Total......	6,171	9	11	581	1,763	3,881	2,708	559	109	354	5,986	3,538	†362	26,032	3,685	29,717
Month previous.	6,528	8	8	551	1,749	4,299	2,985	745	77	434	6,966	3,855	‡275	28,480	3,786	32,266

I. C. C. force, 29,717; Panama railroad force, 3,657; Panama railroad commissary force, 1,404. Total, 34,778.
*All wages specified are in gold. †Includes 17 at five cents. ‡Includes six at five cents.

The force report of the Department of Construction and Engineering, including the employes of contractors, as of October 29, was, as follows:

DIVISION.	SILVER EMPLOYES*													Total silver.	Total gold.	Grand total.
	Artisans.						European laborers.		West Indian laborers.							
	Monthly	44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents.	7 cents			
Chief Engineer.	3,106	..	..	298	1,065	2,771	2,134	374	109	354	4,032	1,952	209	16,404	1,745	18,149
Mechanical Div.	178	9	9	40	86	358	15	1	...	...	1,209	48	15	1,968	729	2,697
Atlantic Div..	479	..	2	24	147	406	532	183	...	...	379	183	76	2,411	187	2,598
U. S. Steel Products Co......	......	..	..	...	.....	.....	......	......	..	...	.....	....	....	212	186	398
Chicago House Wrecking Co.	......	..	..	...	.....	.....	......	.....	...	...	.....	....	....	15	4	19
McClintic-Marshall Co.....	......	..	..	...	.....	.....	......	......	...	...	.....	....	....	1,099	132	1,231
Total.....	3,763	9	11	362	1,298	3,535	2,681	558	109	354	5,620	2,183	†300	20,783	2,661	23,444
Month previous	4,173	8	8	342	1,360	3,777	2,954	734	77	434	6,561	2,462	‡234	23,133	2,817	25,950

*All wages specified are in gold. †Includes four at five cents. ‡Includes three at five cents.

QUARTERS.

A report of Commission and Panama railroad quarters occupied on October 31, follows:

PLACE.	Gold.			Europeans.			West Indians.		
	Men	*Women*	*Children*	*Men*	*Women*	*Children*	*Men*	*Women*	*Children*
Ancon[1]	623	315	237	6	....	....	984	7	5
Balboa	507	32	42	512	7	10	929	18	27
Bas Obispo[3]	91	39	40	44	10	15	308	40	63
Corozal	797	233	184	630	....	....	536[2]	8	3
Cristobal[5]	845	398	447	144	....	....	1,207[6]	231	377
Culebra	351	142	150	186	44	86	345	98	150
Empire	749	253	286	348	46	77	490	154	243
Gatun[4]	555	193	190	722	20	24	1,081	20	12
Las Cascadas	116	75	84	14	9	16	220	121	171
Miraflores	3	....	....	....	....	....	83	4	4
Paraiso	215	79	85	182	5	14	265	108	162
Pedro Miguel	226	80	92	156	....	....	300	....	......
Porto Bello	67	23	18	122[7]	1	2	289	2	4
Toro Point	48	13	15	98	......	....	323	....	......
Total	5,193	1,875	1,870	3,164	142	244	7,360	811	1,221

(1) Includes Sabanas police station, Taboga Island, Culebra Island, Palo Seco, and Naos Island. (2) Includes 68 Panamanians. (3) Includes Gamboa. (4) Includes Frijoles, and Monte Lirio. (5) Includes Colon Beach and Colon Hospital. (6) Includes 47 East Indians, 9 American citizens and, 55 Panamanians. (7) Includes 23 Asiatics. Gold force of contractors (included above), 29 families, and 377 bachelors.

GATUN RIVER BRIDGE.

Installation of Bascule Span at Monte Lirio.—Protective Arrangements.

The bascule bridge north of Monte Lirio, known as bridge No. 140, is now complete with the exception of electrical connections for the operating current and such changes in the signal circuits as will become necessary when the actual operation of the bridge, by power, begins.

This bridge provides a channel with unobstructed overhead clearance whose width will be eighty feet, and a depth that will be 45 feet with the lake at its normal level. This opening gives the required entrance to the upper Gatun River valley.

The reinforced concrete piers were constructed during the first three months of 1911. The three girder spans used were taken from the Barbacoas bridge when the old line was abandoned on February 15, 1912, and placed in their present position by the engineering department of the Panama railroad. The bridge was opened for service on October 26, 1912. During the period of erection the main track was carried on a temporary trestle located on the west side of the bridge.

The lift span is of the heel trunnion type, designed by the Straus Bascule Bridge Company of Chicago, and was erected, under traffic, by the bridge and building department of the Panama railroad. The Penn Bridge Company of Beaver Falls, Pa., furnished the requisite material, for the sum of $24,390, and such supervision as was necessary to install the special devices used on the bridge. As soon as current is available from the high tension line, the necessary transformer will be installed and alternating current furnished to the locking and operating motors at a potential of 220 volts. At the present time, the manipulations of the bridge could be made by hand power if an emergency made such an opening necessary.

All the switchboards and controlling devices for electrical operation are located in the interlocking cabin at the south end of the bridge. This cabin is built of hollow tile and concrete and fullfils the combined functions of control house, interlocking cabin, and telegraph office. The present telegraph office and signals at Monte Lirio station will be moved to this point after the bridge is placed in operating service.

The interlocking features will work in conjunction with the automatic signals in such a way that a train, when approaching the bridge from either direction, will lock up the plant and make it impossible to open the bridge. As soon as the train has passed over the bridge the electrical locking device will automatically release. It will then be necessary to place the semiautomatic home signals at their stop positions, and open the derails before the controlling devices for the bridge-operating machinery can be brought into use.

This insures that the bridge will not be opened in front of an approaching train, and that the bridge and open span will be protected by derails should the stop position of the home signals be disregarded in any manner while the bridge is open or in motion.

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One of the cottages on Diablo Hill has been dismantled to make way for the steamshovel operations at that point. It will be reerected in Corozal village.

EXECUTIVE ORDERS.

Fixing the Rate of Interest on Money.

By virtue of the authority vested in me I hereby establish the following Executive Order for the Canal Zone:

Section I. No rate of interest shall be allowed in excess of six percentum per annum upon any contract for the use or detention of money, unless the same is in writing and the interest agreed upon must not exceed twelve percentum per annum.

Section II. All contracts whatsoever which may in any way, directly or indirectly, violate the preceding section by stipulating for a greater rate of interest than twelve percentum per annum, shall be void and of no effect for the amount or value of the interest only, but the principal sum of money or value of the contract may be received and recovered.

Section III. When the interest received or collected for the use or detention of money exceeds the rate of twelve percentum per annum, it shall be deemed to be usurious, and the person or persons paying the same, or their legal representatives, may recover from the person, firm, or corporation receiving such interest, the amount of the interest so received or collected, in any court of competent jurisdiction, within two years from the date of the payment of such interest.

Section IV. No evidence of usury shall be received on the trial of any case unless the same shall be pleaded and verified by the affidavit of the party wishing to avail himself of such defense.

Section V. This Order shall take effect thirty days from and after its publication in The Canal Record.

Woodrow Wilson.

The White House,
November 11, 1913.
[No. 1860.]

To Regulate the Carrying of Arms.

By virtue of the authority vested in me, I hereby establish the following Order for the Canal Zone:

Section 1. Any one who carries on or about his person any firearm, dirk, dagger, or other knife manufactured or sold for the purpose of offence or defence, or any slungshot, sword-cane, or any knuckles made of metal or other hard substance, shall be punished by fine of not less than Five Dollars nor more than Twenty-five Dollars, or by imprisonment in jail of not less than five days nor more than thirty days, or by both such fine or imprisonment in the discretion of the court, and during such time of imprisonment such offender may be put to work upon any public work in the Canal Zone.

In addition to the punishment herein prescribed for unlawfully carrying arms, the court shall adjudge the seizure and confiscation of the arms unlawfully carried by the offending party and the same shall be disposed of in such a manner as the Head of the Department of Civil Administration shall determine.

Section 2. The preceding section shall not apply to a person engaged in the military or naval service of the United States, or as a peace officer or officer authorized to execute judicial process of the United States or the Canal Zone, or in carrying mail or engaged in the collection or custody of funds of the United States or the Canal Zone, nor to a member of a gun or pistol club for the promotion of target practice, a certified copy of the constitution and by-laws of which have been approved by the Head of the Department of Civil Administration, and filed with the Collector of Revenues, when such member is going to or from a target range, and engaged in practice at the target range. For the purposes of this Order, a certificate of membership in the gun or pistol club shall be issued by the organization and approved by the Head of the Department of Civil Administration, and shall entitle the holder to carry firearms as provided for in this section.

Neither shall the preceding section apply to any person authorized to have or carry arms by permit granted under the terms and conditions named in Section 3 hereof.

Section 3. The Head of the Department of Civil Administration may authorize the granting of permits to have and carry arms, as follows:

1. To hunt upon the public lands of the Canal Zone, or upon the lands of private persons when authorized by the latter.
2. To have arms in residences, offices, business places and plantations; and to watchmen or overseers of plantations, factories, warehouses, docks, or piers.

Applications for such permits shall be made to the Head of the Department of Civil Administration and shall state the full name, residence, and occupation of the applicant, and if the applicant is a minor it shall not be granted without the written consent of his parent or guardian.

The Head of the Department of Civil Administration shall satisfy himself by due inquiry that the applicant is a proper person to have a permit to keep or carry arms, and he may grant or deny the application as to him may seem proper.

When an application is granted by the Head of the Department of Civil Administration for a permit to hunt he shall file the application, with his approval endorsed thereon, with the Collector of Revenues, who shall issue a permit to the applicant upon his paying the Collector of Revenues a fee of one dollar, to be covered into the Treasury of the Canal Zone Government.

The hunting permits issued by virtue of this Order shall authorize the holders thereof to have, use, or carry a gun, rifle, or other similar long arm for hunting purposes during the fiscal year for which the permit is issued, provided, however, that such permit may be revoked at any time for cause by the Head of the Department of Civil Administration.

Section 4. Any one who engages in hunting without first obtaining the permit provided for in this Order shall be subject to a fine not exceeding Twenty-five Dollars, or imprisonment in jail not exceeding ten days, provided, however, that persons engaged in the land or naval forces of the United States shall not be required to obtain a permit to hunt upon the public lands of the Canal Zone.

Section 5. Penalties for infringements of this Order imposed upon intoxicated or disorderly persons shall be in addition to the punishments authorized by law for such intoxicated or disorderly conduct.

Section 6. Sections 449 to 460, both inclusive, of the Penal Code, the Executive Order of December 1, 1909, issued by the Secretary of War by authority of the President, amending Sections 450 and 456 of the Penal Code, and the Executive Order of the Secretary of War, issued by authority of the President, dated November 3, 1911, amending Section 456 of the Penal Code as amended by the Executive Order above mentioned, and all other laws, orders, and decrees in conflict with this Order are hereby repealed.

Section 7. This Order shall take effect thirty days from and after its publication in The Canal Record.

Woodrow Wilson.

The White House,
November 7, 1913.
[No. 1857.]

PERSONAL.

Mr. Henry Goldmark sailed for New York on the steamship *Panama*, on Sunday, November 16, on his annual leave of absence.

Mr. H. P. Warren, superintendent of the fortification work at the Pacific entrance to the Canal, has resigned, effective at the close of business on Wednesday, December 3. He will become chief engineer for a company which is opening up a new asphalt field for the Barber Asphalt Company in the Lake Maracaibo district in Venezuela, an enterprise with which Mr A. L. Robinson, formerly superintendent of the Mechanical Division of the Canal Commission, is now associated. Mr. Warren entered the employ of the Commission in April, 1905. Six months later, he was transferred to the Panama railroad, first as assistant engineer, and afterward as engineer of maintenance, and engineer of construction, successively. In May, 1912, on completion of the relocated line, he was again transferred to the Canal service and placed in charge of the fortification work on the islands in Panama Bay. He will sail for Venezuela on December 7, and will have his headquarters at Maracaibo.

Swimming Through the Canal.

Mr. Alfred Brown, a professional swimmer from the United States, swam from Gatun Locks, through the Canal channel, to a point about a mile from Balboa, where he left the water on account of the interference of weeds, between 5.20 a. m. and 6.15 p. m., on November 22. The distance covered was approximately 22 miles. On November 24, being prevented by the regulations from swimming in Culebra Cut, north of Cucaracha slide, he resumed the water journey at the south side of the slide, at 10 a. m. He arrived in the forebay af Pedro Miguel Lock at 10.50 a. m., left Pedro Miguel at 11.05, and arrived at Miraflores Locks at 11.55. Leaving Miraflores Locks at 12.30, he reached Balboa at 2.30 p. m. The total distance by water in the two days was approximately 30 miles. traversed in 16 hours and 35 minutes of swimming time.

Obituary.

William Telfer, an employe of the Panama Railroad Company, living at Colon, died at Ancon Hospital on Sunday, November 16. He was 63 years of age, a widower, and had been on the Isthmus for eight years. A niece, Mrs. Edna Telfer, resides at No. 643 McLaren street, Ottawa, Canada.

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Capt. Thorvald Nilsen of the Polar ship *Fram* will deliver a lecture at Ancon Hall on Tuesday evening, December 2.

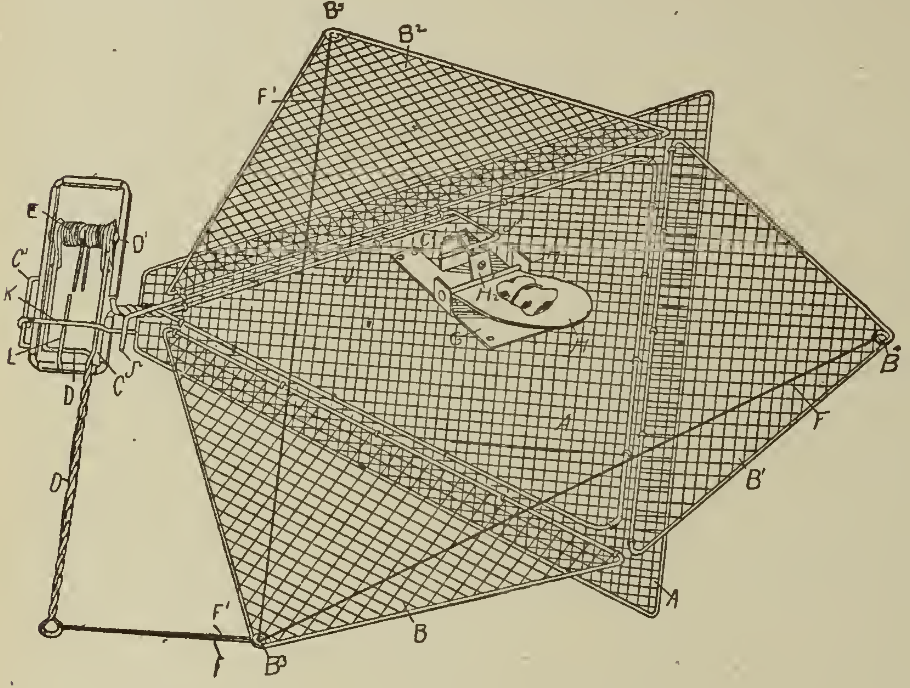
The second regular dance of the Tivoli Club for December will not be held, but instead, a dance will be given on Christmas Eve, December 24.

TRAPPING ANIMALS ALIVE.

S. P. Verner of Cristobal Has Invented a Device for this Purpose.

The Patent Office at Washington announces the issue on October 14 of patent No. 1,075,954, to Mr. S. P. Verner, an inspector in the Colon Health Office, for an animal trap of improved design. It was primarily devised to catch rats alive in the work of preventing bubonic plague, but its construction admits of the capture of any kind of mammal, bird, or fish, according to the size of the trap.

The essential feature of the invention is, that when closed, it forms a cage of the shape of a 3-sided pyramid; when open, of a flat equilateral triangle. The base is an equilateral triangle, to the three sides of which are hinged three equilateral triangles of the same size as the base. When these three outer triangular "Wings" are closed, they make a peaked cage over the base, entirely enclosing the animal in case of capture. A pan in the center is baited, and so attached by levers to springs, which actuate the movement of the wings, that the latter fly up when the game tries to get the bait, or steps on the pan. A method of operating the trap with mechanism entirely inside the cage is also used. The accompanying sketch shows the trap when set and ready for service.



LEGEND.

A.—BOTTOM OF TRAP.
B. (1-5)—SIDES OF TRAP.
C.—SPRING PLATFORM.
D.—LEVER OF SPRING PLATFORM.
E.—SPRING.
F.—WIRE OR STRINGS.
G.—BASE FOR PAN.
H.—PAN FOR BAIT.
J-K-L—THROWING LEVERS.

The claims for this style of trap are mainly, as follows:

1. That it captures the game alive and without injury, and protects it from attack by other animals; food and water may even be placed in it in case of animals of value, where some time might elapse before the trap is visited.

2. A high degree of efficiency, since the wings intercept escape in all directions simultaneously.

3. Its capacity for concealment, as it is flat when open and set, and may be easily covered.

4. Its simplicity of manufacture and operation, and the accessibility of the bait to the game in every direction, except under the base.

The inventor regards the trap as especially valuable in capturing rats alive. The fleas on rats, which constitute the rat-infecting agent in plague, and which are annoying even when not infected, leave the rat soon after it dies. If a rat is killed near another animal, or near a human being, the fleas will seek one or the other as a new host. Herein lies the advantage of capturing the rat alive, in order to destroy the fleas with it. The ordinary traps, it is claimed, often fail in their mission, as after a few captures the rats become cunning enough to avoid them.

The invention presents an entirely new principle in game traps and went through the Patent Office without question. The inventor was assisted in his labors by Dr. W. T. Hornaday, Director of the New York Zoological Gardens, as well as by the publishers of the *Scientific American.*

Railroad Transportation of Coal.

A number of changes will be made in the present method of supplying and transporting coal used on the Canal work. The practice in vogue of ordering coal by the carload will be discontinued, and, in future, orders will be placed on the ton basis only. This is expected to eliminate any possibility of shortage on account of variance in car capacities. A standard order is to be placed to cover all coal destined for Gold Hill, Paraiso, Las Cascadas, Corozal, and Balboa, including the Ancon quarry, which will be shipped out daily, except Sunday. In addition, a 24-hours' supply will be maintained at each engine house. In case any modifications in an order are desired, such as an increase, or decrease, the chief clerk of the coal-handling plant will be notified direct.

To maintain the new service, it is estimated that 25 converted Rodgers ballast cars, fifty 19-yard Oliver dump cars, with a capacity of 12 tons each, and 100 gondola cars will be required. The ballast cars are now undergoing the necessary alterations, and, together with the 50 dump cars, will be stencilled to indicate that they are to be used in the coal service only. The gondola cars will probably have to be used from time to time for commercial purposes. It is planned to retire permanently the 10- yard cars now in the service as soon as the 19-yard cars are available. The smaller cars have a capacity of only about eight tons of coal each, and are expensive to handle.

The amount of coal consumed on the Canal work in October was less than in any preceding month in years; its value was about $50,000 less than for the same month a year ago.

Peg Legs May Be Furnished Free.

The following resolution has been adopted by the Isthmian Canal Commission:

"*Resolved,* That Section 4 of Subdivision A of the regulations governing the treatment of persons in the hospitals of the Isthmian Canal Commission, adopted at the 124th meeting of the Commission, is amended to read, as follows:

> "Any employe furnished any special appliance or apparatus, such as spectacles, etc., shall be required to pay the cost thereof plus 10 per cent, unless such special appliance or apparatus is made necessary by injury sustained or illness contracted in the performance of his duty.
>
> "*Provided,* however, that the Chief Sanitary Officer is authorized to furnish peg legs at the expense of the Commission to either an employe or nonemploye in any case in which he considers that the interests of the I. C. C., or Canal Zone Government will be benefited thereby."

Missing Men.

Any one having information regarding the whereabouts of Norman D. McCutcheon, formerly of Adairsville, Ga., age 22, weight 170 pounds, at one time a clerk in a bank, now supposed to be on the Isthmus, is requested to communicate with the American Legation, Panama.

Information is desired regarding the present whereabouts of the following men who were formerly on the Isthmus: Louis Warju, Samuel Warju, Thomas Mara, Horace E. Johnson, Theodore Warren, Frank Pascoe, A. W. Haynes, C. A. Butts, S. Hall, and Rufus W. Landon. Any one having knowledge of their present whereabouts is requested to communicate with W. S. Perry, Cristobal, C. Z.

Any one having knowledge of the present whereabouts of Harry H. Howitz of New Britain, Conn., said to have been in the employ of the Isthmian Canal Commission in former years, is requested to communicate with the American Legation, Panama.

Any one having information as to the whereabouts of Harold A. Thomas, who left the Canal service on June 17, 1913, is requested to communicate with THE CANAL RECORD.

CANAL WORK IN OCTOBER.

Monthly Report of the Chairman and Chief Engineer to the Secretary of War.

CULEBRA, C. Z., November 19, 1913.

The Honorable the Secretary of War,
Washington, D. C.

SIR: I have the honor to submit the following report of operations on the Isthmus for the month of October, 1913:

Department of Construction and Engineering.

On October 10, the Central Division was abolished; dry excavation in the territory was placed under the resident engineer of the Fourth Division, Office of the Chief Engineer; dredging in Culebra Cut under the resident engineer of the Sixth Division, Office of the Chief Engineer. On October 16, the unfinished lock work at Gatun, excepting backfill, and the unfinished work of the Pacific Locks were turned over to the First Division, Office of the Chief Engineer; and the operation of the power plant at Gatun to the Mechanical Division. On October 22, the shipways shops at Balboa were transferred from the Sixth Division to the Mechanical Division.

First Division—Office of the Chief Engineer.

LOCK OPERATIONS.

Gatun Locks—Lock operations were made during the month, as follows:

On October 9, 1913, three tugs with tows of dredges and barges entered the lower west chamber at 9.48 a. m., and entered Gatun Lake at 1.46 p. m., taking three hours and 58 minutes to make the lockage. Two tugs were locked down, consuming one hour and 40 minutes for the operation.

On October 22, 1913, four tugs with nine tows of dredge scows and barges entered the lower west chamber at 10.57 a. m., and reached Gatun Lake at 1.02 p. m. Total time consumed in making lockage, two hours and five minutes.

On October 30, 1913, one tug was locked through in one hour and three minutes. One tug with tow was locked down in one hour and five minutes.

On October 31, 1913, one tug with tow was locked through in one hour and three minutes.

Pacific Locks—Lock operations were made during the month, as follows:

On October 14, 1913, the first lockage was made at Miraflores. Clapet *No. 6*, and tug *Miraflores* with three barges, were raised together through the west chamber from the Pacific channel to the surface of Miraflores Lake. The passage of the vessels was, as follows: Begun at 11.11 a. m., entering the lower level at 11.15 a. m., raised to the upper level at 12.15 p. m., passing out of upper lock at 12.41 p. m. The entire operation consumed one hour and thirty minutes. After filling chambers with water preparatory to operating, miter gates Nos. 126 and 127 were opened at 11.14 a. m. First boat passed into Miraflores Locks at 11.15 a. m. Rising stem valves Nos. 448 and 449 were closed at 11.15 a. m. Rising stem valve No. 418 was opened one-half way at 11.15:45; opened full at 11.27:45; closed at 11.33:50. Miter gates Nos. 122 and 123 were closed; vessels in lower lock at 11.36:58. Water in upper lock 54.8 feet over sill; water in lower lock, 17 feet. Rising stem valve No. 431 was opened one-half way at 11.43:50; opened at 11.45. Miter gates Nos. 118 and 119 were opened at 11.54:34. Miter gates Nos. 114 and 115 were opened at 11.50:30. Water at equalization at 35.8 feet over sill of upper lock at 12 noon. First boat in upper lock at 12.02 p. m., all vessels in upper lock at 12.15 p. m. Valves Nos. 430 and 431 were closed at 12.07 p. m. Miter gates Nos. 118 and 119 were closed at 12.18 p. m. Miter gates Nos. 114 and 115 were closed at 12.22 p. m. Rising stem valve No. 418 was opened full at 12.23 p. m. Upper guard gates Nos. 102 and 103 were opened at 12.32 p. m. Rising stem valve No. 419 was opened full at 12.35 p. m. Upper operating gates were opened at 12.39; lake and lock levels equalized. First boat passed into Miraflores Lake at 12.41 p. m.

On October 14, 1913, the tug *Miraflores* was returned from Miraflores Lake to the sea. Time consumed in lockage, 45 minutes.

On October 24, 1913, five tugs with tows of dredges and barges, with pipe and supplies, were locked up in one hour and 53 minutes. One tug was locked through in one hour and 25 minutes.

On October 14, 1913, occurred the first lock operation at Pedro Miguel Lock. Three barges were towed into the lower east chamber; the upper valves were left open, so that the water would rise in the lock chamber with that in the Culebra Cut. On October 24, 1913, when the water in the Cut had risen sufficiently, the barges were towed by hand through the lock.

On October 24, 1913, five tugs with tows entered the lower east chamber at 11.10 a. m., and passed into Culebra Cut at 11.52 a. m., consuming 42 minutes in the operation.

On October 24, 1913, one tug was locked through in 32 minutes. All operating valves and gates worked satisfactorily.

LOCK GATES AND PROTECTIVE DEVICES.

The erecting work on all lock gates is 99.87 per cent completed, reaming 99.99 per cent, riveting 99.87 per cent, and finishing 92.2 per cent completed. Material erected amounts to 57,425 tons out of a total of 57,500 tons. All of the 5,730,000 rivets have been driven, excepting 7,500 in the two 82-foot gates of the lower east lock at Miraflores. At Gatun and Pedro Miguel, the erection, reaming, and riveting are completed; the finishing at Gatun is 96.50 per cent and at Pedro Miguel, 97.4 per cent completed. At Miraflores, work is in progress on all of the 28 leaves; erection 99.59 per cent completed, reaming 99.9 per cent, riveting 96.6 per cent, and finishing 81.2 per cent completed.

CHAIN FENDERS.

Fabrication of material for chain fenders progressed satisfactorily. Tests of chains were made at the Boston Navy Yard, and report thereon will be submitted shortly.

LOCK ENTRANCE CAISSON.

Satisfactory progress was made in the United States in the fabrication of material and checking of drawings for the first lock entrance caisson, being built by the Union Iron Works of San Francisco.

OPERATING MACHINERY AND ELECTRICAL EQUIPMENT.

Valve machines—Mechanical erection of cylindrical and auxiliary culvert valve machines is completed; electrical installation for the former is 71 per cent, and for the latter, 72 per cent completed. Mechanical erection of rising stem valve machines is 97 per cent completed, and electrical installation 63 per cent.

Miter gate machines—On the gate moving machines, 96 per cent of the mechanical, and 49 per cent of the electrical installation, have been completed. Deliveries of the miter forcing machines are completed; mechanical erection is 46 per cent, and electrical, 45 per cent completed.

Track—Ninety per cent of the rack track is completed, 99 at Gatun, 97 at Pedro Miguel, and 75 at Miraflores. Fifty per cent of the single, and 67 per cent of the double crossovers have been placed.

Spillway gate machines—The mechanical installation of all spillway gate machines has been completed; the electrical installation is 50 per cent completed at Gatun and 17 per cent at Miraflores.

Pumps—All pumps and motors with float switches and starters have been received complete, except a part for chain fender machines. Mechanical erection is 83 per cent completed on miter gate sump pumps, 11 per cent on chain fender sump pumps, 100 per cent on drainage sump pumps, and 100 per cent on culvert pumps. Electrical installation is 51 per cent completed on miter gate sump pumps, 61 per cent on drainage sump, and 20 per cent on culvert pumps. The electrical installation has been started on chain fender sump pumps.

Hydroelectric station—Work on the hydroelectric station consisted chiefly of installing conduit and erecting the gate house machinery. Very little additional work can be performed until the building construction is further advanced. It is expected that about November 25, 1913, the building construction will have advanced to a stage which will permit of unhampered electrical and mechanical installation. No work has been done on the exciters. The turbogenerators are 45 per cent completed. The headgates have been set, and 10 per cent of the steel work has been done on the gate house.

Transformer room equipment—To date, work is 90 per cent completed at Gatun, 62 per cent at Pedro Miguel, and 60 per cent at Miraflores. Installation of all transformer rooms at all locks combined, is approximately 70 per cent completed.

Control houses and apparatus—About 85 per cent of the steel beams has been placed in the concrete. The control house at Gatun is completed, except the roof, which is about 90 per cent completed, and some finishing work on the second floor. The control house at Pedro Miguel is about 90 per cent completed, and the one at Miraflores is about 50 per cent completed.

Practically all control apparatus for the locks and spillways is on the Isthmus, except interlocking system and part of indicators for the main control board, only part of the switchboards being received to date. This material is being erected complete in the shops and is being shipped as the status of the work will permit.

Transmission line—Out of a total of 379 foundations for the track-span bridges of the transisthmian electrical transmission line, 132 have been placed; 1,166.2 cubic yards of reinforced concrete were placed during the month; total to date, 3,044.9 cubic yards. Seventy-three track span bridges were placed on permanent foundations during the month, the total to date being 76.

Tests—At Gatun, tests were made on 20 rising stem valve machines, two handrail machines, one miter forcing machine, and 14 spillway gate machines, and all were accepted. At Miraflores, six transformer rooms and all high and low tension lines necessary for the operation of the west flight of locks; and all miter gate moving machines, rising stem and cylindrical valve machines for the west locks, were tested and placed in service. At Pedro Miguel, all miter gate moving machines for the east lock were tested.

EMERGENCY DAMS.

Both of the emergency dams at Gatun, and the west dam at Pedro Miguel have been completed, tested, and accepted. Tests were made on the east dam at Pedro Miguel and, except for painting, it is practically ready for acceptance. At Miraflores west dam, all material has been delivered, and during the month 808 tons of material were assembled and bolted into place; riveting is about 30 per cent completed. At the east dam, all material is on the site, and during the month 65 tons of material were assembled and bolted into place; riveting is about 80 per cent completed. Concrete for the counterweight was poured, forms for the operator's house erected, and switchboard house erected.

AIDS TO NAVIGATION.

Contracts were entered into for acetylene gas installations for 18 range towers and three beacons, and for the necessary parts to complete the gas generating and compressing plant at Balboa. The construction of beacons and range towers, and related work, was advanced during the month.

Second Division—Office of the Chief Engineer.

COAL PLANTS.

Cristobal—The general layout of coal handling machinery and accessories has been presented by the contractor in what is thought to be practically its final form. The greater part of the necessary data is now available and final design of the deck structures can be pushed as rapidly as the available force permits. Studies of the reloaders and of the general working of the conveying system have been made. Features requiring settlement have been made the subject of correspondence with the contractor, who will visit the Isthmus in person to conclude arrangements.

Balboa—Considerable study was given the Balboa coal plant during the month, including the location of the submerged storage, and seawall; and engineering wall sections. A final plan of excavation was approved, and field work is proceeding on this basis. The general plan of the plant has been made, after correspondence with the contractor, and it is believed that actual construction will not depart from this. After considerable study, a plan for supplying locomotives with coal from an individual bunker, located along the straight railroad track surmounted by a simple boom derrick, was determined upon. The adaptation of the berm cranes was also the subject of study: their stresses in coal handling have been largely worked out, and the resultant unit stresses in various members have been ascertained. From these studies it appears that considerable modifications will be necessary in the suspended booms.

The questions of remotorizing these cranes, deciding whether they shall be operated by direct or alternating current, and the location of the operating stations, are under consideration. Studies have been made of the support for the berm cranes. In general, the layout of the Balboa coaling plant has been so definitely fixed that final design and construction drawings can be proceeded with. Excavation for the coal pockets amounted to 19,376 cubic yards during the month.

FUEL OIL PLANTS.

Drawings for fuel oil handling plants were completed. At the Atlantic entrance, a survey was made of the hills along the east side of the East Diversion, and 30 new locations for fuel oil tanks were determined, making a total of 72 locations on both sides of the diversion channel. Two maps were made on scales of 3000 and 5000 showing 56 tank sites for fuel oil storage at the Pacific terminals. The maps show the Canal and shore line, Sosa and Balboa roads, La Boca, and the Union Oil Company's property, their pipeline and intake. The maps also show the building, track, and dock plans for the Pacific terminals. In addition, the 1/5000 plan shows the breakwater to Naos Island, taken from the Central Division plan.

DRY DOCKS.

Little work was done on designs of either dry dock. From the site of dry dock No. 1, 41,334 cubic yards were excavated, and 32,265 cubic yards from the entrance basin. The lowest cut in the dry dock site is at 18.5 feet below sealevel, which is as low as the shovels can dig until the sump pumps, now in use on the site of the coal pockets, can be moved to their final position in the entrance basin, where they can be lowered as excavation progresses to elevation minus 45 feet.

MACHINE SHOPS.

Drawings and bill of material for power distribution systems and for interior illumination systems in the steel storage shed and in the boiler and shipfitters shop were completed, and requisition for the material submitted. The design and calculations of the illuminating system for the general storehouse were completed. Drawings for enclosing the sides and ends of the steel storage shed with steel rolling doors were completed and requisition for doors submitted. Drawings showing plans of air, steam, oil, and water piping; and sewers for eight toilet buildings; and for the administration building, were completed. Drawings of switchboard platform and foundation for motor generator sets in the machine shop were completed and the material ordered Other design work, both structural and embodying architectural features, was done, and requisitions of minor importance were submitted.

Excavation for the shops tunnel, foundations, and machine footings amounted to 1,264 cubic yards; concrete placed 1,964 cubic yards; reinforcing steel placed, 101,241 pounds; fixed steel placed, 13,693 pounds; piles driven, 1,670 linear feet. Footings are practically completed, excepting those for buildings Nos. 15, 24, 25, and 27. The 4-foot cylinders at the north end of building No. 1 were ready for steel erection at the end of the month, and the connecting beams were in place. Machine footings in building No. 1, as far as it is possible to go at the present time, were practically all in place. The hammer footings and other machine footings in building No. 2 were well advanced, and the excavation for those in building No. 4, in the south half, were nearly completed. Side walls around the foundry and buildings Nos. 1 and 2, were placed and completed as far as possible. Concrete floor for base of wood blocks was placed in building No. 1, and 525 cubic yards were placed and wood block laying begun. Very little work has been done on the transfer table, one 3-foot cylinder having been started. The hollow tile and plaster work on the pattern storage building was completed on October 30; and the walls of the coke shed were 40 per cent completed.

The erection of the structural steel in the steel storage shed, boiler and shipfitters shop, galvanizing plant, lumber and equipment shed, coke shed, and seven toilet buildings, was completed during the month. The laying of cement tile roofing on the boiler and shipfitters shop was finished, and was completed on the lumber and equipment shed and on the car shop. The installation of machines in the machine shop was commenced during the month.

TERMINAL PIERS AND WHARVES AT BALBOA.

On the superstructure of quay walls and the pier at Balboa, work was carried on in three distinct places, elevated towers with distributing chutes placing the greater part of the concrete, a total of 512 linear feet measured on the dock face being placed. Two thousand eight hundred and seventy-one cubic yards of concrete were placed in the floor system; 32 cubic yards were placed for bonding the 1,822 linear feet of permanent track. Two thousand five hundred and twenty linear feet of caisson were manufactured, and 2,191 linear feet were sunk for docks.

Studies and designs for the four sections of the quay wall, and the pier and pier shed, were continued. Excavation for the wharves and piers amounted to 7,494 cubic yards; concrete placed in caissons and quay wall amounted to 6,025 cubic yards, reinforcing steel used, 2,360,782 pounds, fixed steel used, 205,345 pounds.

CONSTRUCTION OF BALBOA TERMINALS.

On the site of the dry docks, coaling plant, and entrance basin there were 132,335 cubic yards excavated—93,843 cubic yards of earth and 38,492 cubic yards of rock—of which 128,648 cubicyards were "Work," and 3,687 cubic yards, were "Plant" excavation. Filling and embankment for preparation of site, cofferdam, railroad yard tracks, construction tracks, shops tunnel, dikes, etc., amounted to 129,108 cubic yards, of which 71,986 cubic yards were "Work," and 57,122 cubic yards, were "Plant." Eight thousand and twenty-seven cubic yards of concrete were placed in connection with shop foundations, shops tunnel, caissons, quay walls, etc., which involved the use of 2,467,363 pounds of reinforcing steel. There were 20,828 linear feet of piles driven for shop and machine foundations, cofferdam, trestles, culverts, etc., which consisted of 19,158 wooden piles and 1,670 feet of pipe piles.

METEOROLOGY AND HYDROGRAPHY.

Rainfall was below normal at all stations, except Balboa, Brazos Brook, Colon, and Porto Bello. The monthly totals ranged from 6.08 inches at Culebra to 18.85 inches at Porto Bello, that at Culebra being least of record for October since 1888. The average for the Chagres basin was 11.52 inches against a 13-year average of 14.26 inches. Evaporation was everywhere above normal.

A series of seismic disturbances was recorded at Ancon and Gatun beginning October 1, which, in number, intensity, and duration of tremors, has not been equalled since the installation of the Ancon seismograph in 1908. In all, 39 distinct shocks were recorded at Ancon. Most of these were of slight intensity, but four shocks were of sufficient force to throw all pens off the seismograph sheets. The heaviest shock occurred at 11.25 p. m., October 1. Its intensity on the Rossi-Forel scale was estimated at V or VI. This shock, while generally felt over the Isthmus, resulted in no damage to the Canal works. A second pronounced shock, Intensity III, occurred about twenty minutes later. A third, Intensity III, was recorded on the fourth of October and another, Intensity IV, was recorded on October 23. All except two of the 39 shocks registered during the month seemed to have a common point of origin, or epicenter, located approximately 115 miles southwest of Ancon, in the vicinity of the lower coast of Los Santos province. A careful examination has failed to disclose any damage to the Canal works resulting from this series of earth tremors.

The total yield of the Gatun Lake watershed for the month was about 10 per cent below normal, while the yield at Alhajuela was about 16 per cent below. During the month, the lake rose from 66 to 72.46 feet, representing a storage of 23.23 billion cubic feet of water.

WIRELESS TELEGRAPH STATION.

The buildings for the Darien radio station—power house, operating buildings, and operators' quarters—were staked out on the last of the month. Two and one-half foot contours were taken over the footings for the three towers on the sites selected by the Navy Department. Topography was taken over average sections of 100 feet square for each footing and additional topography taken where the formation of the ground warranted it. Maps were drawn up, one showing the relation of the three towers to each other and to the topography, and three, taking each tower separately, showing the location of each footing in detail.

INSPECTOR OF SHOPS.

The shipways shops at Balboa were transferred from the Sixth to the Mechanical Division on October 22. The installation of machines and tools, shafting, motors, etc., in the Paraiso shops was completed, and the repairing of dredges of the Sixth Division working in Culebra Cut was commenced. These shops are operated by the Mechanical Division. The Gatun power plant and the sump pumps in the Gatun Locks were transferred from the Atlantic to the Mechanical Division on October 15. The sump pumps in the Pedro Miguel and Miraflores locks and in the Miraflores spillway, were transferred from the Fifth to the Mechanical Division on October 15.

Fourth Division—Office of the Chief Engineer.

The Central Division was abolished on October 10, and dry excavation on the slopes of Culebra Cut was placed under the Chief Engineer. In the territory of the old Central Division, 269,400 cubic yards of material were excavated by steamshovels. Of this quantity, 216,000 cubic yards were classified as primary excavation in the Canal prism, and 53,400 cubic yards as "Plant" excavation. Of the latter, 30,500 cubic yards were removed from Sosa Hill rock quarry; 5,918 cubic yards were removed from the mooring basin at Paraiso, and 16,982 cubic yards from pontoon bridge basin. The total steamshovel excavation classified as primary excavation was all from outside prism lines, from slides and high levels as preventive work against slides. The daily average number of steamshovels at work during the month was 9.44, and the total number of shovel days was 255. The total estimated amount of material removed and to be removed in the Central Division, according to the revised estimate of July 1, 1913, is 115,696,455 cubic yards; and, up to November 1, 1913, 109,445,155 cubic yards had been removed, leaving 6,251,300 cubic yards to be removed, in order to complete all excavation in the Central Division.

Fifth Division—Office of the Chief Engineer.

PEDRO MIGUEL.

At the end of the month, all the backfilling had been completed except that behind the north east core wall, which has been held open for the railroad tracks. General cleaning up of the locks and the leveling up of the backfill were continued during the month. The dike across the Rio Grande valley, to prevent spoil from the suction dredges working in Cucaracha slide entering the prism south of the locks, was completed. The bulkhead gates for the center wall outlet were installed and calked. The grading for the paving over the depressed area under the emergency dams was finished, and the concrete paving was commenced on the west side. The erection of the steel work for the control house roof was finished, and some of the concrete for the roof poured.

MIRAFLORES.

The opening in the spillway left for the discharge of the water from the several rivers of the Miraflores Lake area during the construction of the dam, was closed by a timber bulkhead on the upstream side, on the morning of October 1, which caused the lake to begin to rise. The water in the channel south of the dam was pumped down below the opening, which was thoroughly cleaned of all silt and débris on that date. The placing of the concrete to fill the opening was begun on October 2, and finished on October 8, 736 cubic yards of concrete being required. Excavation for the basin south of the spillway was begun, and all tracks were removed from the lake area. On October 11, the transportation work was transferred to the Second Division, and on October 15, the remaining lock work was transferred to the First Division.

Dry filling in the west dam was increased by 4,305 cubic yards, making the total fill 1,712,944 cubic yards, hydraulic, and 661,048 cubic yards, dry. The backfill at Miraflores was increased by 38,475 cubic yards, making the total 1,948,745 cubic yards.

CONCRETE.

Concrete, amounting to 819 cubic yards, was placed, 78 yards in the lock at Pedro Miguel, five at Miraflores, and 736 at Miraflores Spillway.

ANCON QUARRY AND CRUSHER.

Excavation amounted to 57,045 cubic yards, and 53,379 cubic yards of rock were crushed.

DISTRICT NO. 5—GOLD HILL HYDRAULIC AND SLUICING PLANT..

Excavation was pushed on the high bank at the center cut and in the back edge of the slide at the south cut; and it is believed that there is no further danger of any breaking back of the top of the east Culebra slide at these points. Some cutting was also done on the north side. Installation of the third pump unit, and of booster pumps advanced, the former to practical completion, and the latter so far that one pump is ready for work.

Sixth Division—Office of the Chief Engineer.

FIRST DISTRICT—PACIFIC ENTRANCE.

Six dredges removed 543,758 cubic yards of rock and earth, 110,660 cubic yards of which were taken from the inner harbor and terminal basin. There remain to be removed 2,224,957 cubic yards.

CULEBRA CUT.

Excavation was begun at Gamboa Dike on October 10, by ladder dredge *No. 5* and suction dredge *No. 86*; on October 20, dredge *No. 86* began the removal of material from the north side of Cucaracha slide, and on October 22, the dipper dredges *Chagres* and *Mindi* were also set at work there. Suction dredge *No. 85* began excavating from the south side of the slide on October 26. The amount removed by these dredges was 60,370 cubic yards.

CHAMÉ SAND SERVICE.

The ladder dredge *Gopher* removed 26,140 cubic yards of sand at Punta Chamé.

Second District—Atlantic Entrance.

Five dredges removed 309,538 cubic yards of earth and 28,161 cubic yards of rock from the Canal prism. On November 1st, 40 feet of water could be carried from the beginning of the Canal 2,100 feet inland, and 35 feet to the locks at Gatun. There remained to be excavated fron the Canal prism, north of the locks, 524,809 cubic yards.

Two dredges removed 61,070 cubic yards of sand and 37,853 cubic yards of coral rock from the site of the coaling station.

Dredging at Coco Solo Point for the east breakwater amounted to 30,807 cubic yards.

At the bridge pontoon, 1,960 cubic yards of earth were removed.

GATUN LAKE.

Suction dredges *Nos. 82* and *86* removed, respectively, 61,105 cubic yards and 22,659 cubic yards of sand and gravel from the Canal prism at Gamboa.

MISCELLANEOUS.

No dredged material was dumped on the breakwater during the month. The usual surveys were made behind the dredges at Coco Solo Point and the site of the coaling station.

Division of Municipal Engineering—Office of the Chief Engineer.

NORTHERN DISTRICT.

Work was continued on the new waterworks for Colon. This plant is about 95 per cent completed, and should be ready for the installation of sand and gravel not later than the first of December. The regular work in connection with the maintenance of the streets, water, and sewer lines in Colon, Cristobal, Mount Hope, and Gatun was continued. The resurfacing of the highway from Mount Hope to Gatun was completed, and miscellaneous installations of various types of water lines for other divisions were accomplished.

SOUTHERN DISTRICT.

At Balboa, the construction of the storm sewers for the new Ancon townsite was continued; 1,675 cubic yards of excavation were removed; 505 cubic yards of reinforced concrete were placed. At the close of the month the storm sewer work of this town was approximately 65 per cent completed.

Construction work on the new townsite at La Boca was continued, and approximately 6,403 cubic yards of excavation were made, and a total of 2,436 cubic yards of backfill was placed. In the streets, 5,077 linear feet of curb and gutter were laid, and approximately 2,395 square yards of macadam were spread. Work was continued laying certain water lines and sewers. The construction of this townsite was approximately 61 per cent completed at the end of the month.

The regular maintenance of streets, roads, water, and sewer lines in the city of Panama and throughout the towns of the Southern District was carried on as usual.

NEW PANAMA WATERWORKS.

Work was continued at the site of Miraflores pump staton No. 1; at the site of the purification plant, and at the site of the high service reservoir on Ancon Hill.

Atlantic Division.

GATUN LOCKS.

Gatun Locks were transferred to the First Division of the Office of the Chief Engineer on October 15, and the operation of the power plant and the pumps were transferred to the Mechanical Division. The total backfill to date is 2,234,187 cubic yards, 99.52 per cent of the total. Grading operations progressed satisfactorily, 119,700 square yards having been finished to final grade, a total to date of 150,000 square yards. The construction of the dam at Gatun saddle was completed early in the month.

Three carloads of cement were received on the east side of the locks for use in the transmission duct line and small jobs of finishing remaining under this division. The cement shed had been cleared out during the previous month, and this month the handling machinery in the shed was dismantled.

Issues of material included 782 cubic yards of Porto Bello rock, 667 cubic yards of sand, and 33 cars of screenings.

Forty-four cubic yards of concrete were placed in the construction of the control house prior to October 15, and all forms for monitors had been constructed.

GATUN DAM.

The fill was increased by 24,871 cubic yards, bringing the yardage in place up to 22,011,764 cubic yards, of which 10,124,082 cubic yards are wet fill, 94,330 cubic yards are the broken stone and riprap used in paving, and the remainder is dry fill. The dam is completed, with the exception of filling a number of low places caused by slow consolidation, and the extension of the crest at the east end.

GATUN SPILLWAY.

The spillway proper is practically completed. Concrete laid amounted to 570 cubic yards, the total in place being 230,443 cubic yards.

BREAKWATERS.

The total amount of Porto Bello rock unloaded upon the west breakwater to date is 346,150 cubic yards, the amount unloaded in October being 25,990 cubic yards.

Preliminary work in connection with the east breakwater was continued.

Central Division.

The filling of Culebra Cut was begun at 8.15 a. m., on October 1, when the pipes through Gamboa dike were opened. On October 10, at 2.03 p. m., a portion of the dike at Gamboa was blasted, and water from the lake flowed into the Cut. The filling of the section south of Cucaracha slide was completed on October 27. On October 10, the Central Division was abolished. The record of work in this territory will be found under Fourth Division, Chief Engineer's Office, for dry excavation, Fifth Division, for hydraulic work, and Sixth Division, for dredging.

Quartermaster's Department.

LABOR.

The labor force report as of October 22 shows a decrease of 3,339 men from the force report of September 24. Included in this figure is a decrease of 553 men in the contractors' forces. The actual decrease in the Commission's forces proper is 136 gold and 2,663 silver men.

The United Fruit Company has been sending to this office lists of the men they are taking from the Isthmus. These lists show a total of over 900 laborers taken to Honduras, Bocas, and Costa Rica, during October. So far it has not been necessary to make any special provision for the transportation of the repatriated laborers.

BUILDINGS.

The building division has been very busy during the month, although the gangs have been somewhat reduced. Work on the buildings for the Navy at Caimito, and the Ancon commissary, has been begun. The Pedro Miguel commissary has been completed. Work on the removal of buildings from Bas Obispo and Las Cascadas has been begun.

QUARTERS.

The census shows a decrease in quarters of approximately 100 gold bachelors, 75 American families, 400 Europeans, and 500 West Indians. The decrease in gold men is confined largely to Gatun and Cristobal; in silver men, to Miraflores, Empire, Culebra, and Las Cascadas. The number of gold and silver employes quartered at Ancon, Corozal, and Balboa has been increased.

Constant shifting of the forces has increased the work and expense of this department. This is particularly applicable to the transfers of families. It is probably not an exaggeration to state that there have been more transfers of families within the last six months than there have been for the past five years. The handling and shipping of the effects of these families mounts up considerably.

MATERIAL.

The total value of material received from the United States during the month was $803,301, a decrease of over $200,000, from the same month in the preceding year. Local purchases, which include purchases of coal, crude oil, and miscellaneous purchases from the Panama Railroad Company and local merchants, decreased very considerably, the largest decrease being in coal. Coal consumption was less than in any preceding month, and it is approximately $50,000 less than for the the same month during the preceding year. Over 7,000,000 feet of lumber were received during the month, the largest amount of lumber received for some time. The material came forward in 38 steamers, the total weight of cargo, exclusive of lumber, piling, and ties being 18,288 tons.

Subsistence Department.

A total of 507,231 meals was served during the month, 178,798 at the line hotels, 315,975 at laborers' messes, and 12,458 at the Hotel Tivoli. The operation of the line hotels, restaurants, and laborers' messes resulted in a net profit of $1,466.55. The Hotel Tivoli was operated at a net profit of $2,916.21. The total net profit on subsistence operations for the month of October was $4,382.76.

Department of Civil Administration.

COURTS.

In the month of October, 77 civil and 35 criminal cases were disposed of in the circuit courts, and 114 civil and 365 criminal cases in the district courts.

DIVISION OF POSTS, CUSTOMS, AND REVENUES.

Money order sales for October amounted to $340,895.46, and the fees to $1,642.89. Receipts from stamp and card sales, and newspaper postage, aggregated $9,460.62. The total collection of revenues made by the division was $15,028.09, and the collection on account of court fines, costs, and fees $1,906.15.

During the month, a total of $137,072 was deposited in postal savings accounts, and a total of $170,799 was withdrawn.

At the port of Ancon, 22 vessels entered and 21 vessels cleared, and at the port of Cristobal, 17 vessels entered and 17 vessels cleared. Four hundred and fifty-eight passengers arrived at the port of Ancon, and 632 at the port of Cristobal, while 529 and 689, respectively, departed.

Forty-five estates were settled during the month, and on October 31 there were 41 estates in course of settlement.

The total number of persons arrested was 385, of whom 339 were men and 46 women. Twenty-one nations, or 38 separate states and dependencies, were represented. There were 14 deportations of criminal characters during the month.

DIVISION OF SCHOOLS.

The schools were opened for the term on October 1, with 963 pupils enrolled in the schools for white children, and 550 in those for colored children, as compared with 909 and 555, respectively, at the opening of the school year 1912.

The net enrollment during October was 1,109 white children, average belonging 1,039.3, average daily attendance 985.7. The net enrollment of colored children was 1,058, average belonging 885.4, average daily attendance 756.3. At the close of the month, 45 teachers were employed in the schools for white children, and 25 in those for colored children, as compared with 47 and 32, respectively, at the close of the school year in June.

Department of Sanitation.

The total number of deaths from all causes among employes was 37, divided, as follows: Disease, 25, and violence 12, giving the annual average per thousand of 5.14 and 2.47, respectively.

In segregating according to race, the annual average death rate per thousand from disease among employes was: For whites, 3.21, and for blacks, 5.60, giving a general average for disease of 5.14. For the same month during 1911, the annual average death rate per thousand from disease among whites was 4.87, and blacks, 10.56, giving a general average of 9.15; and in 1912, from disease among whites, 3.84, and blacks, 7.66, giving a general average of 6.71.

Among employes during the month, deaths from the principal diseases were, as follows: Dysentery, one; lobar pneumonia, four; malaria fever, E. A., one; tuberculosis, six, leaving 13 deaths from all other diseases, and 12 deaths for external violence.

No cases of yellow fever, smallpox, or plague originated on, or were brought to the Isthmus, during the month.

Respectfully,

Geo. W. Goethals,

Chairman and Chief Engineer.

GOLD CLAIMS INVESTIGATED.

Pannings By Geologist in Canal Zone Streams Show Slight Values.

A number of placer claims lying along the Gatun River and its tributaries, some of them within and some without the Canal Zone, have been investigated by Mr. D. F. MacDonald, the Commission geologist, with the result that nowhere was gold found in paying quantities, and in most instances there was only a "Color." The gravels were sampled with gold pans in the parts of the streams which seemed most likely to carry values, and the gold in these samples was recovered and weighed.

Along Guineal Creek, a small feeder of the Gatun River, very little gravel was found, and 17 pans yielded but one small color. On Palenque Creek, 30 pans were washed, which yielded six-tenths of one cent's worth of gold, equal to about 2.1 cents per cubic yard. On Cuatro Calles Creek, 20 pans were washed, with a yield of .13 of one cent's worth of gold, equal to about seven-tenths of a cent a cubic yard. On the Agua Clara River, the northeast branch of the Gatun River, a total of 52 pans of gravel produced less than one cent's worth of gold, equal to about two cents to the cubic yard.

Sampling was continued down the Gatun River for a mile or more below the mouth of the Agua Clara. From 46 pans of samples selected in this locality, the yield was .55 of one cent's worth, equal to about one cent to the cubic yard. A bar of gravel about one-half hectare in extent occurs on the Gatun River, just above the mouth of the Agua Sucia. It was the richest place found, and the pannings from it were kept separate on that account. At this point, six pans gave .45 of one cent's worth of gold, equal to about 7.5 cents to the cubic yard. The geologist was of the opinion that the gravel here could not be made to yield a profitable return, because the exceedingly fine character of the gold would cause a considerable percentage of loss in recovery. A second trial made at the same bar with six pans of gravel yielded but .07 of one cent's worth of gold, or about 1.2 cents a cubic yard.

The Agua Sucia Creek is a fairly large tributary of the Gatun, and enters it about a mile below the mouth of the Agua Clara. It flows through a wide, flat tract of country, with much alluvium, relatively little gravel, and few outcrops of rock. Out of 47 pans washed along this stream, not one yielded a color. This was regarded as remarkable, because most of of the streams in the Canal Zone and its vicinity, show occasional colors. On the Gatun River, below the mouth of the Agua Sucia, 28 pans were washed, which gave .35 of one cent's worth of gold, equal to about 1.3 cents to the cubic yard.

Investigations were made also on the Quebrada Lopez, a tributary of the Quebrada Media. This creek was reached by going over the divide from Minas Bay. It flows through a very deep, steepsided valley, so that the ground at its bottom should be the result of a high degree of stream concentration. Well up toward the headwaters, five pans of gravel were washed, and these yielded .07 of one cent's worth of gold, equal to about 1.4 cents a cubic yard. One hundred yards downstream, three pans yielded .08 of one cent's worth of gold, equivalent to about 2.7 cents to the cubic yard. Half a mile farther down, three pans returned no colors. Two-thirds of a mile from the first washing, three pans produced .23 of one cent's worth of gold, equal to about eight cents to the cubic yard. The claims along this stream are regarded as valueless, because there are only a few gravel bars, and where there are colors, the gold is not in paying quantities.

The following table gives a summary of the various washings, together with the estimated value of gold to the cubic yard, and the estimated cost of working per cubic yard:

LOCATION.	No. pans	Values per cubic yards, cents.	Cost per cubic yard of working gravels.
Guineal Creek	17	Trace	$1 plus.
Palenque Creek	30	2.1	1 plus.
Cuatro Calles Creek	20	.7	1 plus.
Quebrada Pato	22	.6	1 plus.
Quebrada Mollejones	12	.0	1 plus.
Agua Clara	52	2.0	12 cents plus.
Main Gatun River	46	1.0	12 cents plus.
Bar near mouth of Agua Sucia Creek	6	7.5	12 cents plus.
Another part of same bar	6	1.2	12 cents plus.
Agua Sucia Creek	47	.0	60 cents plus.
Main Gatun, below mouth of Agua Sucia	28	1.3	12 cents plus.
Quebrada Lopez	14	2.7	60 cents plus.

The cost of the working varies with the amount and depth of material to be washed. The geologist is of the opinion that the particular territory sampled has practically no value for mining purposes.

◆

Progress on Atlantic Entrance Coaling Plant.

Excavation for the approaches and storage basins of the permanent coaling station for the Atlantic entrance is being carried on by the pipeline suction dredge *No. 83*. About 11.5 per cent of the estimated requisite excavation has been completed, the total removal to November 15 being approximately 64,372 cubic yards of coral rock, and 70,889 cubic yards of coral sand. The plant is to be situated at the north end of Mindi Island, across the French canal from a point about midway between Dock 13 and Pier 11, and the spoil from the dredge is deposited in adjacent low places on the island and in shallows well removed from the channels of the French and American Canals. The material being handled is soft; the surface of the island at this end is a semisubmerged swamp, and a typical section of the soil shows shells, sand, and soft coral near the surface, going down through silt and loose coral, with shells mixed in, to brown clay and gravel, merging into soft blue rock at about 55 feet below sealevel. Excavation for the wet storage basin will go 28 feet below sealevel. The wharves and coal-handling towers are to be supported on caissons sunk well into rock.

Rail connection with the site is being constructed by forces of the Panama railroad. A spur track leaving the Mount Hope yards near the dry dock runs south about 3,000 feet, approximately parallel to the French canal, swings to the right and across the Canal by means of a pile trestle, then, over a 90-degree curve, strikes north for 3,500 feet to the site of the plant. For the greater part of the way, it runs through watery marsh, and considerable difficulty was experienced in the first laying of track. Crib work of old ties was built in the swamp, and the track advanced by spans of bridge stringers. Earth was then dumped from the track to form a permanent embankment, which has been raised to about 10 feet above sealevel and is very firm. Red clay for the embankment is now being supplied by steamshovel No. 225, working in a borrow pit near the obsolete storage yard at Mount Hope, and placed by two trains of Oliver dump cars. The trestle across the French canal is to be replaced by a permanent steel bridge with movable span, in order to allow navigation of the channel. The crossing has been placed well beyond the Mount Hope docks, in order to afford tying-up places for the dredging and general service floating equipment employed at the Atlantic entrance.

◆

The "Newport" Again in Service.

The steamship *Newport*, which sank at Balboa on August 17, 1912, when the wooden wharf alongside which it was moored collapsed, returned to Balboa on November 24, on its first voyage since it was recovered and repaired. The vessel was floated on November 10, 1912, and, after disposing locally of all its cargo not consigned to San Francisco, sailed for that port under its own steam on December 10. It was repaired by the Union Iron Works, and at the same time considerably remodeled for passenger service in the tropics, and equipped to use oil instead of coal for fuel. On its first voyage it carried 45 cabin and 55 steerage passengers.

The Pacific Mail Steamship Company, which owns and operates the *Newport*, is suing the Panama Railroad Company, owner of the wharf which collapsed, for $800,000 damages, in the Admiralty Court of the District of New York. The railroad denies fault. Its defense is being conducted by the district attorney of the United States for the District of New York, and Mr. Richard Reid Rogers, general counsel for the Panama Railroad Company.

◆

Drainage Culvert under New Terminal Yards at Balboa.

The track for the permanent yards of the Panama railroad, in rear of the concrete head wall and pier now under construction, will be laid on a fill east of the east toe of the abandoned Sosa Dam, which is used at present for the storage of material and spare parts. In preparation for the completion of the fill, a reinforced concrete culvert is to be constructed south of Diablo Hill for the passage of the Curundú River, and of drainage water from the swamp area being reclaimed between El Diablo and Ancon. The culvert is to be of the twin type, a reinforced concrete wall, two feet thick, separating the two passages, each of which is to be 10 feet wide and seven feet high. It will be 256 feet long, traversing at right angles a site for 13 parallel railway tracks, and a 20-foot highway. As the natural soil at this point is a swamp, the culvert is to be supported on 425 wooden piles, driven on $3\frac{1}{2}$-foot centers. Excavation and pile-driving are being accomplished in the dry, under the protection of dikes, and when the culvert is completed the Curundú River will be diverted through it.

◆

Launch Service to Taboga.

The steam launch *Sanidad* leaves the dredge landing at Balboa at 9 o'clock, Tuesday, Thursday, and Saturday mornings. On the return trip it arrives at Balboa about 4 p. m., in time to make connection with the evening trains.

JOINT LAND COMMISSION.

Opinion

on the status of tenants on that portion of the estate of Matachin acquired by the United States under deed of May 3, 1909—In the determination of the status of occupiers on that portion of the Matachin estate, purchased by the United States under date of May 3, 1909, it is necessary to consider the terms of the memorandum of agreement entered into between María E. Jaramillo de Bosque, Carmen B. de Paredes, Manuela D. J. Bosque, and Richard Reid Rogers, General Counsel, Isthmian Canal Commission, on June 29, 1908. The precise wording of the pertinent portion of this agreement is, as follows:

> "The Isthmian Canal Commission as soon as funds therefor are available, will pay to the said María E. Jaramillo de Bosque, Carmen B. de Paredes, and Manuela D. J. Bosque for quitclaim and release of the said lands at the following rates: For all high and dry lands, whether improved or unimproved, at the rate of $5 gold per hectare. The foregoing price is based upon the assumption that the parties represented above are the sole owners of nine-tenths portion thereof, and exclusive of any interest which the United States may be entitled to assert. If it develops that this interest is less than the entire interest,
>
> "It is mutually agreed by and between the parties hereto, that the said María E. Jaramillo Buda de Bosque, Carmen B. de Paredes, and Manuela D. J. Bosque shall remain in possession of the property herein released and collect all rents that might accrue from tenants free of rent to the Isthmian Canal Commission until actually occupied by the Isthmian Canal Commission or inundated with water.
>
> "María E. Jaramillo Buda de Bosque, Carmen B. de Paredes, and Manuela D. J. Bosque undertake at or before the time of the actual occupation of the said lands by the Isthmian Canal Commission that without cost to the Commission that the tenants thereon, whether located in the village of Matachin or elsewhere, shall remove their improvements.
>
> "The said Maria E. Jaramillo Buda de Bosque, Carmen B. de Paredes, and Manuela D. J. Bosque guarantee the United States Government against the claim of any third party to the lands covered by this agreement."
>
> "This agreement is without prejudice to any rights that the said claimants may have under existing agreements to passes upon the Panama Railroad Company, or as against the tenants upon the said lands, but is not intended to confer upon the claimants rights which otherwise they would not have."

Whatever relationship or obligation such an agreement may create as between the grantor and the grantee, it is evident that such an agreement cannot affect the rights of third parties who acquired either an interest in the estate or a right to compensation for improvements made thereon.

If, therefore, such rights or interests had accrued at the time of the purchase, these rights, and interests were not affected by reason of the agreement of June 29, 1908, and, upon ejectment the claimants may, in the proper cases, present their claims against the United States for damages, and awards will be made accordingly.

It is furthermore strongly urged by the United States that the warranty clause inserted in the deed of May 3, 1909, under which 71.3 hectares were conveyed by the members of the Bosque family to the United States, places upon the grantors the duty to remove the said occupants and tenants without cost to the United States of America. The covenant of warranty herein referred to reads, as follows:

> "To have and to hold the above designated and described lands, together with all rights, claims, leasehold interests, and demands of whatsoever nature appertaining thereto unto the said United States of America, its successors, or assigns forever; we do hereby for ourselves and for our heirs, administrators, executors, and assigns covenant and agree to warrant and defend these lands unto the United States of America, its successors and assigns against the lawful claims and demands of all persons whomsoever, and we do hereby likewise release and surrender any and all claims for actual or consequential damages to the said lands which may have heretofore been caused or claimed by reason of the action of the Isthmian Canal Commission, the Panama Railroad Company, or any of their agents, servants, or employes."

The Commission has had occasion to pass on the effect of such covenants of warranty, and it is only necessary, in this connection, to cite the opinion of the Commission on a similar covenant contained in the deed of May 1, 1909, under which the United States acquired that portion of the estate of Bailamonos Sur situated below the 87-foot contour line. In the course of the opinion on this covenant, the Commission said:

> "Such a covenant creates an obligation between the vendor and the purchaser. In case of a breach of this covenant, the adjudication of the relative rights of vendor and purchaser are beyond the jurisdiction of the Commission.
>
> "The covenant contained in the deed of May 1, 1909, under which the United States acquired that portion of the estate of Bailamonos Sur below the 87-foot level, did not affect the status of those who had either an interest in the land or had acquired a right to compensation for improvements.
>
> "The Commission, after having taken into consideration the terms of the covenant of warranty and the provisions of Articles 1880 to 1893 inclusive, of the Civil Code in force in the Canal Zone, has reached the conclusion that where rights accrued to persons occupying the portion of the estate of Bailamonos Sur purchased by the United States in 1909, which rights had accrued prior to the date of this purchase, award against the United States be made."

The same principle is to be applied in this case in the interpretation of the covenant of warranty. Where rights accrued to persons occupying the portion of the estate of Matachin, purchased by the United States by deed of May 3, 1909, the present grantee, to-wit, the United States, is primarily responsible for any damages arising out of the eviction of tenants or occupiers from such lands.

Having disposed of the questions involved in the memorandum of agreement and the covenant of warranty, it becomes necessary to determine the principles of law which govern the compensation due tenants upon eviction.

The evidence before the Commission shows that tenants on the estate of Matachin did not have written leases, and that, although the payments were made from month to month, the duration of such leases was not fixed.

It has been urged upon the Commission that the status of such tenants is governed by Article 2009 of the Civil Code, which reads, as follows:

> "Article 2009. If no time for the duration of the contract shall have been fixed, or if the time be not determined by the special service to which the thing leased is destined or by custom, neither of the parties shall have the right to cause it to cease, unless they give notice to quit in advance.
>
> The notice in advance shall be adjusted to the period or measure of time which governs the payments. If the lease be at so much per day, week, month, the advance notice shall be respectively of one day, of one week, of one month.
>
> The notice to quit shall begin to run at the same time as the next period.
>
> The provisions of this article do not apply to the lease of immovables, treated of in Chapters 5 and 6 of this Title."

An examination of the Code will show, however, that this article is intended to govern the lease of things or movables. Article 2009 expressly refers to the fact that it is not intended to govern the lease of immovables treated of in Chapters 5 and 6 of this Code. The principles of Chapter 5 of the Civil Code refer exclusively to the leasing of dwelling houses and other buildings. Leases of land are, therefore, governed by Chapter 6 of the Civil Code. The article of this chapter governing the right to compensation of tenants on that portion of the estate of Matachin purchased by the United States in deed dated May 3, 1909 reads, as follows:

> "Article 2043. Should there be no fixed time for the duration of the lease, notice to quit must be given one year in advance, in order to terminate it.
>
> The year shall be understood in the following manner:
>
> The day of the year upon which the delivery of the estate to the tenant was begun, shall be considered as the initial day of the successive years, and the year in advance shall be counted from this initial day, even though notice to quit shall have been served some time before.
>
> The parties may agree on another rule, if they deem it advisable."

The Commission has, therefore, reached the conclusion that on that portion of the estate of Matachin acquired by deed of May 3, 1909, tenants are entitled to compensation for the value of their unexpired leaseholds.

(Signed) FEDERICO BOYD, ROLAND P. FALKNER, SAMUEL LEWIS, L. S. ROWE, *Commissioners.*

September 16, 1913.

Certification of Disagreement No. II.

Under the provisions of Article XV of the Treaty between the United States of America and the Republic of Panama ratified February 26, 1904, it is provided:

> "The President of the United States shall nominate two persons and the President of the Republic of Panama shall nominate two persons and they shall proceed to a decision; but in case of disagreement of the Commission (by reason of their being equally divided in conclusion) an umpire shall be appointed by the two Governments who shall render the decision."

Pursuant to the provisions of this article the Commission desires to bring to the notice of the Governments parties to the Treaty that the Commission has been unable to reach an agreement on the following question:

> *Do the provisions of Article VI of the Treaty between the United States of America and the Republic of Panama ratified February 26, 1904, grant a right to compensation for improvements to those tenants of public lands who held such lands under revocable leases or licenses issued by the Isthmian Canal Commission, but who purchased the improvements on such lands from persons who occupied such lands before accepting Isthmian Canal Commission leases or licenses, but who, prior to the sale of their improvements to the present claimants, accepted such leases or licenses.*

The Joint Commission herewith certifies this disagreement to the Governments parties to the Treaty for reference to an umpire, as provided for in Articl XV of said Treaty.

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Rainfall, Nov. 1 to Nov. 22, 1913, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	1.88	7	8.35
Balboa	1.65	7	7.39
*Miraflores	1.37	7	6.43
Pedro Miguel	1.53	2	7.77
Rio Grande	1.52	8	7.93
Central Section—			
Culebra	1.75	4	10.10
*Camacho	2.31	8	11.74
Empire	2.43	19	13.06
Gamboa	2.20	8	12.04
*Juan Mina	2.57	8	12.56
Alhajuela	2.92	8	13.05
*El Vigia	2.41	8	11.89
*Frijoles	3.82	8	12.60
*Monte Lirio	2.60	10	10.38
Atlantic Section—			
Gatun	2.43	10	11.23
*Brazos Brook	3.40	10	15.68
Colon	2.66	10	13.43
†Porto Bello	5.13	8	25.60

*Standard rain gage—readings at 5 p. m., daily Automatic rain gage at unstarred stations—values midnight to midnight. †To 5 p. m., November 21.

◆

Stages of the Chagres River, Gatun, and Miraflores Lakes.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes for the week ending midnight, Saturday, November 22, 1913. All heights are in feet above mean sea level.

DAY AND DATE.	STATIONS.					
	Vigia.	Alhajueia	Gamboa	Frijoles	Gatun Lake*	Miraflores Lake
Sun., Nov. 16	130.2	95.8	78.2	78.2	78.3	51.1
Mon., Nov. 17	129.3	95.0	78.4	78.4	78.5	51.2
Tues., Nov. 18	138.0	101.1	78.9	78.8	78.9	51.0
Wed., Nov. 19	131.0	96.8	79.2	79.3	79.3	51.2
Thurs. Nov. 20	132.7	97.4	79.6	79.7	79.6	51.4
Fri., Nov. 21	129.7	95.2	79.8	79.8	79.9	51.0
Sat., Nov. 22	129.7	95.3	80.0	80.0	80.1	50.8
Height of low water nearest ft.	125.0	91.0				

*Sluice gates in spillway at Gatun were closed on June 27, 1913, with surface of lake at elevation 48.25 feet above sealevel.

◆

Canal Zone Postal Savings Banks.

A statement of the postal savings bank transactions at Canal Zone post-offices for the month of October, follows:

NAME OF OFFICE.	Postal savings certificates issued.	Postal savings certificates paid.
Ancon	$12,144.00	$11,435.00
Balboa	16,290.00	16,499.00
Bas Obispo	655.00	500.00
Corozal	29,727.00	41,808.00
Cristobal	10,930.00	7,337.00
Culebra	10,618.00	10,844.00
Empire	18,315.00	19,691.00
Gatun	14,017.00	16,780.00
Las Cascadas	6,379.00	13,199.00
Paraiso	7,964.00	10,352.00
Pedro Miguel	6,613.00	20,089.00
Cristobal, Sta. A.	1,285.00	995.00
Cristobal, Sta. B.	2,135.00	1,270.00
Total	$137,072.00	$170.799.00
Deposits on hand on October 1, 1913	$623,843.00	
Amount deposited in October	137.072.00	
Amount withdrawn in October		$170,799.00
Balance on hand November 1, 1913		590,116.00
	$760,915.00	$760,915.00

OFFICIAL CIRCULARS.

Appointment of Accountable Officials.

CULEBRA, C. Z., November 19, 1913.

CIRCULAR No. 514:

The following accountable officers are hereby appointed, effective January 1, 1914, and as such will make returns for all property over which they have jurisdiction:

Mr. W. G. Comber, Sixth Division.

Mr. R. B. Tinsley, Fifth Division.

Mr. J. A. Walker, Balboa terminals, Second Division.

Mr. W. J. Holmes, transportation department, Second Division.

Mr. J. C. Keller, chief clerk, Fifth Division, will prepare invoices as of December 31, 1913, against the above named accountable officers, who will check same and be prepared to start their returns as of December 31, 1913.

The accountability of Mr. J. C. Keller, chief clerk, Fifth Division, will be closed upon final audit of his accounts for the period ending January 1, 1914.

GEO. W. GOETHALS,
Chairman.

Regulations Governing the Issuing of Data for Notice to Mariners in Connection with Aids to Navigation.

CULEBRA, C. Z., November 11, 1913.

CIRCULAR No. 513:

The order or class and characteristic distinction of all aids to navigation in the waters of the Canal Zone shall be fixed by the Chairman and Chief Engineer and no change in them shall be made without his authority. Public notice shall be given of all authorized changes.

Increase in aids to navigation.—Except to mark wrecks, and newly discovered and dangerous obstructions which must receive immediate attention, the authority of the Chairman and Chief Engineer must be obtained before increasing the buoyage or other aids to navigation in the waters of the Canal Zone; if immediate action is necessary, the fact must be reported at once to the Chairman and Chief Engineer, with information as to the type and color of buoys or other aids, character of light, height of light above lake or sealevel, and position of buoys or beacons by angles or bearings, distances, etc., illustrated, if practicable, by a portion of a chart or map showing graphically the location, depth of water, etc.

Application for authority to establish or maintain all other temporary or permanent aids shall be accompanied by full description of the aid, position, bearings, distances, etc., and be approved by the Chairman and Chief Engineer.

When a temporary or permanent aid has been authorized, it shall not be discontinued, moved, or changed in any manner, without the authority of the Chairman and Chief Engineer, and the request should be made, when practicable, in sufficient time to permit of the issuance of a notice to mariners in advance of the proposed change.

Aids to navigation maintained by division and resident engineers and the Panama railroad—The Chairman and Chief Engineer hereby directs division and resident engineers and the Panama railroad to notify the assistant engineer of the Lighthouse Subdivision in every case where aids to navigation for the purpose of marking works of harbor or channel improvements are established or discontinued under their direction. Notice should be given of such aids as may be of use or interest to general navigation in the waters of the Canal Zone, but need not be given as to such buoys or lights as are of temporary or unimportant character, or of importance only to the works of said harbor or channel improvements.

In placing aids to navigation in connection with harbor or channel improvement works, division and resident engineers and the Panama railroad should see that they do not, in characteristic or otherwise, conflict with other aids to navigation in the vicinity, and should, when desirable, confer with the assistant engineer in charge of the Lighthouse Subdivision on this subject.

On receipt of this circular the aforementioned engineers and Panama railroad will furnish the Lighthouse Subdivision with complete information regarding all aids to navigation heretofore established, which are now maintained by them.

Notice to mariners—In cases of casualty or the restoration thereafter of an aid to navigation to service condition, or changes affecting minor aids in the waters of the Canal Zone, the assistant engineer in charge of the Lighthouse Subdivision shall, in the name of the Chairman and Chief Engineer, issue a local notice to masters and pilots. One copy thereof shall be transmitted to the Chairman and Chief Engineer. The Lighthouse Subdivision shall furnish copies of such notices only to division and resident engineers, the Panama railroad and the port captains, who, in turn, shall post the notices in such places as may in their opinion, best subserve the interests of navigation, as, for instance, I. C. C. pilots' headquarters, places where I. C. C. masters report for duty, the collector of customs, and local steamship offices.

In cases of authorized changes in aids to navigation, or the establishment of permanent aids affecting the Atlantic and Pacific approaches to the Canal, the data for the publication of a notice to mariners shall be sent to the Chairman and Chief Engineer for transmittal to the Hydrographic Office, Washington, D. C., in time to insure its publication and the distribution of the notice one month in advance of its taking effect. Such data will also be distributed to local interests, pending the receipt of the regular weekly notice to mariners published by the Hydrographic Office.

Lights on bridges—The Panama railroad shall maintain at its own expense, from sunset to sunrise, such lights on its bridges as may be required by the Chairman and Chief Engineer for security of navigation.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Reductions in Foremen to be Referred to Inspector Greenslade.

CULEBRA, C. Z., November 17, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

Before letting out any foremen or general foremen employed on construction work, it is directed that Inspector George A. Greenslade of this office be notified at least three days in advance, in order that he can make the necessary arrangements in case their services are needed by any other department or division. Similarly, departments and divisions requiring construction foremen should notify Inspector Greenslade directly, so that he can assist in filling their requirements on the Isthmus, thus avoiding the necessity of making United States requisition.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Receiving and Forwarding Agent, P. R. R., at Balboa.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., November 17, 1913.

CIRCULAR No. 279:

To all concerned—Effective November 24, 1913, Mr. A. S. Jussen is appointed receiving and forwarding agent of the Panama Railroad Company, with headquarters at Balboa, C. Z., vice Mr. C. H. Mann.

F. MEARS,
Acting General Superintendent.

Approved:
GEO. W. GOETHALS,
President.

Change in Time Table No. 16.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., November 18, 1913.

BULLETIN No. 19:

To all concerned—The following change in schedule of time table No. 16 will be made, effective at once, in order to permit parties visiting Panama on holidays to leave that point on a later train:

Trains Nos. 54 and 55 will be operated on holidays in lieu of trains Nos. 50 and 51, during the life of time table No. 16.

F. MEARS,
Acting General Superintendent.

Examination by Board of Local Inspectors.

ANCON, C. Z., November 20, 1913.

The Board of Local Inspectors will conduct examinations at the Administration Building, Ancon, on Wednesday, December 3, beginning promptly at 2 p. m., for persons desiring to procure the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for licenses must procure from the Executive Office, Ancon, forms of applications and information respecting the filling out of same, not later than the day previous to the examination. In addition, all persons desiring chauffeurs' licenses must provide themselves with automobiles, with which to demonstrate their ability properly to operate the same.

Note—The demonstration test for chauffeurs will be given on Tuesday, the day preceding the regular examination, at 2 p. m., at the Administration Building, Ancon; on Wednesday, the day of the regular examination, at 9 a. m., at the police station, Cristobal; and for out-of-town applicants, on Wednesday, the day of the regular examination, at 2 p. m., at the Administration Building, Ancon.

W. V. JUDSON,
Chairman, Board of Local Inspectors.

Supplies for the Canal.

The following steamers, with supplies for the Isthmian Canal Commission and Panama railroad, arrived at the ports of Colon, Balboa, and Cristobal during the week ending November 22.

Allianca, November 16, from New York, with 156 bundles pipe, for administration building; 203 rolls wire fencing, for Panama railroad; 132 packages electrical machinery, for Mechanical Division; 37 cases electrical machinery, for First Division; 1,119 bundles steel bars for Second Division; 24 barrels asphalt paint, 37 coils wire, 918 pigs lead, 74 kegs rivets, 75 kegs bolts, for stock; and a miscellaneous cargo, the whole consisting of 1,398 pieces, weighing 182 tons.

Cristobal, November 16, from New York, with 9,085 bundles steel bars, for Second Division; 172 pieces pipe, for administration building; 598 pieces structural steel, for First Division; 11 cases electric cranes, for Mechanical Division; 28 pieces armament, for fortifications; 60,000 bags cement, 46 bundles wire, 63 bundles galvanized sheets, 250 pieces beams and angles, 34 bundles shovels, 38 barrels lubricating grease, 500 cases petroleum, 176 kegs rivets, 57 kegs bolts, for stock; and a miscellaneous cargo, the whole consisting of 70,050 pieces, weighing 4,450 tons.

Tivives, November 16, from New York, with 20 crates insulators, 302 barrels enameled brick, 16 cases pumps, for First Division; 37 cases electrical material, for Mechanical Division; 70 cases structural material, for fortifications.

Cartago, November 17, from New Orleans, with 129 pieces oak lumber, for Sixth Division; 225 untreated piles, for Atlantic Division; 40 barrels coal tar, 82 kegs washers, 1,478 bales hay, for stock.

Prinz August Wilhelm, November 17, from New York, with 30 steel rods, for fortifications; two boxes screws, eight kegs bolts, for stock.

Aztec, November 19, from San Francisco, with 5,548 pieces lumber, for Mechanical Division.

Zacapa, November 20, from New York, with 18 cases structural material, for fortifications; 30 crates valves, for Division of Municipal Engineering; 168 pieces steel rods, for Sixth Division; 324 pieces structural material, for First Division; 250 bundles steel channels, 10 kegs nails, 15 crates sump wagons, for stock.

Abangarez, November 21, from New Orleans, with 30 barrels alcohol, for Sanitary Department; 30 crates iron doors, for First Division; 2,859 pieces lumber, 40 bundles shingles, 1,612 bales hay, 59 bales cotton waste, 24 bales cotton duck, for stock.

Misdirected Letters.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be procured upon request of the addressees:

Bentley, James E.
Breckneridge, Capt. and Mrs. E. L. D.
Briggs, Mrs. T.
Cook, Charles
Creager, Gray H.
Davis, Miss Anna
Davis, Sam
Dunn, John
Goodman, Helen (2d class)
Hamburger, Gus
Hehert, Everett E.
Jackson, Van B. (package)
Johnson, Harry C.
Kimball, Clifton P.
Kistler, J.
Kuchler, Fred J.
McConney, Christopher
Mitchell, Joseph
Murphy, Mrs. I. Louise
Neal, A. L.
Owen, N. J.
Reed, Miss Etta
Saunders, Miss Ida
Sheehan, Frank C.
Sherer, Mrs. M. E.
Smith, E. C.
Stanley, Archibald
Svenson, Capt. Chas. (3)
Traves, Charles E. (6)
Travers, Charles E.
Trottie, Alex
Trower, James D.
Wiggins, Miss Louis
Wilkes, R. H.
Wilson, J. M.

Married.

GRANT-FAIRBANKS—On Friday, October 31, at Brooklyn, N. Y., Miss Myrtie B. Fairbanks of Gatun, to Mr. George F. Grant, of Portland, Me., the Rev. Edward Eichhorn of Brooklyn officiating. Canal Zone residence, Gatun.

JOHNSON-HAYES—At the home of the bride's parents in Corozal, on Thursday, November 20, Mary Olus Hayes of Whitehouse, Ohio, to George Johnson of Brooklyn, N.Y., the Rev. Harry Compton officiating. Canal Zone residence, Culebra.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending December 6 1913:

DATE.	Low	High	Low	High	Low
	A.M.	A.M.	A.M.	P.M.	P.M.
November 30...	......	4.47	11.10	5.22	11.30
December 1....	......	5.30	11.55	6.07	......
			P.M.		
December 2....	12.17	6.16	12.40	6.52	......
December 3....	1.05	7.03	1.28	7.40	......
December 4....	1.55	7.53	2.18	8.30	......
December 5....	2.50	8.48	3.12	9.25	......
December 6....	3.50	9.50	4.08	10.22	......

75th meridian time.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The following is a list of pictures to be exhibited during the week, December 2 to 7: "The unfulfilled oath," "The nurse at Mulberry Bend," "The mountaineers," "What George did," "The man he might have been," "The wives of Jamestown," the latter being a feature film in two reels.

The standing of the teams in the basketball league on November 24, was, as follows:

Team.	*Won.*	*Lost.*	*P. C.*
Empire	10	0	1.000
Camp Elliott	7	3	.700
Gatun	6	4	.600
Cristobal	3	6	.333
Culebra	3	7	.300
Corozal	0	9	.000

The standing of the teams in the bowling league, November 24, was as follows:

Team.	*Won.*	*Lost.*	*P. C.*
Cristobal	14	4	.778
Empire	15	6	.714
Corozal	12	9	.571
Culebra	11	10	.524
Gatun	5	13	.278
Camp Elliott	0	15	.000

There will be two companies from the United States to entertain in the clubhouses during the holidays. Dr. and Mrs. Frederic Poole will sail on December 11, and will entertain with moving pictures of China and Panama. Mrs. Poole will exhibit the various Chinese costumes. The Pennsylvania State College Glee Club, assisted by a reader, will sail for the Isthmus on December 17, for a limited stay. This organization recently made a tour of the Sante Fe system, entertaining at the various points along the line.

COROZAL.

At a farewell tendered Mr. D. E. Connor at the clubhouse on Tuesday, November 18, Mr. Connor played all comers in a simultaneous chess match, winning all but two of the games played.

The Culebra baskedball team played Corozal on the local floor on Wednesday night, November 19, and was defeated by a score of 27 to 13.

The Camp Elliott basketball team came to Corozal and on Saturday night, November 22, and was defeated by the locals by a score of 43 to 20. A game with the Empire team is pending.

The Corozal bowlers took two of the three games played with Cristobal on the local alleys on Saturday night, November 22.

At a Thanksgiving service on Sunday evening, Mr. W. B. Childers of Gatun, gave an interesting talk on the subject, "Thanksgiving." A solo was given by Mr. H. W. Dohrmann of Empire.

CULEBRA.

On Friday night, November 21, Captain Nilsen entertained an audience of 250 people, describing his trip to the Antarctic region with Captain Amundsen. His talk was illustrated by maps, showing the route, and he was aided by Mr. Wisting, who made the trip to the South Pole with Captain Amundsen, and who also accompanied the latter on his trip through the Northwest Passage. Articles of wearing apparel, skis, shoes, etc., were exhibited.

At the regular Sunday night service, the subject of Thanksgiving, its origin and purpose, was discussed. Owing to unforeseen circumstances, Mr. W. W. Warwick was unable to be present, but will speak at a later date.

The last game in the basketball league was played at Empire with the Cristobal team on Saturday night, November 22, Culebra winning by the score of 18 to 15. The following was the lineup:

Cristobal—D. Raymond, W. Fraser, forwards; A. Fraser, center, Taylor, Carpenter, guards.

Culebra—Stripling, Braeker, Forwards; Gassman, center; Rudolph, Worsley, guards.

The "Open house," which was to have been held on Wednesday night, has been postponed until Friday night, November 28. The ladies may bring a pie if they wish. Games af all kinds will be played and music will be furnished.

EMPIRE.

On Monday night, November 17, the Guatemalan orchestra gave a concert. Their native instrument the "Marimba," was the feature of the evening.

Captain Nilsen of the polar ship *Fram*, gave his lecture on Wednesday evening, November 19.

The Empire bowling team defeated the Culebra team in three straight games on Thursday, November 20. These were Isthmian tournament games.

On account of business reasons, Señor Gomez, who has been teaching Spanish at the Empire clubhouse for the past two years, has resigned his position. For the major part of the time Señor Gomez has had five classes. Mr. Nock will take charge of this work, and all those wishing to continue, or start in the new class, are requested to make arrangements as soon as possible.

The action of Cristobal and Gatun in forfeiting their basketball games to the Empire team gives the latter the championship for this season. It has won all games played. This year's team was composed of Messrs. Johnson, captain; Huldquist, Bartholomew, Plank, Sawyer, Miller, and Stevens. Gold medals will be awarded the members of the winning team. The gymnasium classes will be started about December 1.

GATUN.

A Spanish class, composed of about 30 members, was formed on Friday evening, November 21. The teacher will be Madam DeHess of Colon, and the DeTornos system will be used. Classes will be held twice a week on Tuesdays and Thursdays. The ladies' class will be held in the afternoon from 4 to 5 p. m.; beginners' class will be held from 6.45 to 7.45, and the advanced class for men from 7.45 to 8.45 p. m. The classes are open to all ladies of Gatun and to all male members of the Gatun association. The fees will be 25 cents per lesson, or $2 per calendar month, in advance.

Gatun took three games of tenpins from the Camp Elliott team on Saturday evening, November 22. The lineups and results were, as follows:

Gatun.				Camp Elliott			
O'Meara	164	163	209	Darnell	156	154	124
Otto	151	128	168	Weiis	135	201	149
Sherrard	151	147	170	Ogle	113	102	....
Grover	154	162	136	Coleman	135	105	141
Claherty	171	168	162	Thompson	145	198	146
				Hobert			131
Totals	791	768	845		684	760	691

The Isthmian basketball tournament having been brought to a close, renewed activity is expected in the gymnasium classes, which will be held every Tuesday and Friday nights.

Special moving pictures will be held on Thursday evening, at 8 p. m., November 26, and regular moving pictures on Saturday evening, Nov. 29.

CRISTOBAL.

The Cristobal second team defeated the Gatun second team at basketball on Friday, November 21, by a score of 28 to 8.

Three teams have been chosen among the members of the boys' department for a local athletic and gymnastic contest. Two contests have been held, and the standing of the teams is, as follows. "Yale," 139.35 points; "Harvard," 139.2 points; "Princeton," 136.6 points. A similar contest will begin in the men's classes early in December.

On Saturday morning, November 22, the Corozal boys played basketball at Cristobal. After lunch the boys were treated to a trip to the *Fram*. The Cristobal midgets defeated the Corozal first team midgets at basketball · score, 13 to 5. The Corozal second team defeated the Cristobal second team, at basketball by a score of 7 to 4. The Cristobal boys won the relay race, but lost the duckpin tournament.

Lieutenant-Colonel Wilson was unable to appear before the discussion club on November 20, but will do so at a later date. Mr. W. L. Henderson of Mobile, Ala., will appear before the discussion club on Thursday evening, December 4. Subject, "The Southeast and its possibilities after the opening of the Panama Canal."

The Guatemalan orchestra furnished the music for the Buckwalter moving pictures of the Canal, on Tuesday, November 25.

PORTO BELLO.

A meeting of all those interested in a Christmas entertainment was held in the clubhouse on Tuesday night, November 11. Mr. Walter Thompson was elected chairman and P. T. Woolworth, secretary. The following committees were appointed: *Finance*—C. J. Urwiler, chairman; A. W. Colberg, A. D. Hoehne. *Purchasing*—Mrs. Ray Keene, chairman; Mrs. J. C. Jensen, Mrs. D. Hall. *Refreshments*—Mrs. T. H. Smith, chairman; Mrs. Vanvoy, Mrs. Geo. F. Cleveland, Mrs. A. W. Colberg. *Decorations*—Mr. Cecil Wilkes, chairman; J. H. Geyer, D. Hall, J. C. Jensen, T. J. Sherrard. *Program*—Mrs. Vanvoy, chairman; Mrs. A. Hoehne, Mrs. J. H. Geyer, Mrs. Cecil Wilkes.

The Union Sunday school holds its Christmas tree the same night and furnishes the program. As customary, a general celebration will be held by the Sunday school, and a fund has been subscribed to purchase a gift for every one in Porto Bello.

Sale of Cows at Ancon Hospital.

ANCON, C. Z., November 11, 1913.

There will be sold at public action at the Ancon Hospital dairy on Saturday morning at 10 o'clock, November 29, five cows. The right to reject any and all bids is reserved.

A. B. HERRICK,
Acting Superintendent.

Cold Storage Prices.

Prices of cold storage articles sold at the commissaries remain unchanged, with the exception of Jamaican oranges, which have been reduced to 12 cents a dozen.

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings of the Panama Railroad Steamship Company: of the Royal Mail Steam-Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line.

NEW YORK TO CRISTOBAL.*

Advance	P. R. R.	Saturday	Nov.	22
Panama	P. R. R.	Saturday	Nov.	29
Allianca	P. R. R.	Friday	Dec.	5
Colon	P. R. R.	Thursday	Dec.	11
Advance	P. R. R.	Wednesday	Dec.	17
Panama	P. R. R.	Tuesday	Dec.	23
Allianca	P. R. R.	Tuesday	Dec.	30

CRISTOBAL TO NEW YORK.*

Colon	P. R. R.	Saturday	Nov.	29
Advance	P. R. R.	Friday	Dec.	5
Panama	P. R. R.	Thursday	Dec.	11
Allianca	P. R. R.	Wednesday	Dec.	17
Colon	P. R. R.	Tuesday	Dec.	23
Advance	P. R. R.	Tuesday	Dec.	30
Panama	P. R. R.	Monday	Jan.	5
Allianca	P. R. R.	Sunday	Jan.	11

NEW YORK TO COLON.

Almirante	U. F. C.	Wednesday	Nov.	19
Trent	R. M.	Saturday	Nov.	22
Prinz Joachim	H.-A.	Saturday	Nov.	22
Carrillo	U. F. C.	Saturday	Nov.	22
Santa Marta	U. F. C.	Wednesday	Nov.	26
Carl Schurz	H.-A.	Saturday	Nov.	29
Pastores	U. F. C.	Saturday	Nov.	29
Metapan	U. F. C.	Wednesday	Dec.	3
Thames	R. M.	Saturday	Dec.	6
Tivives	U. F. C.	Saturday	Dec.	6
Prinz August Wilhelm	H.-A.	Saturday	Dec.	6
Zacapa	U. F. C.	Wednesday	Dec.	10
Tenadores	U. F. C.	Saturday	Dec.	13
Emil L. Boas	H.-A.	Saturday	Dec.	13
Almirante	U. F. C.	Wednesday	Dec.	17

COLON TO NEW YORK.

Zacapa	U. F. C.	Thursday	Nov.	27
Emil L. Boas	H.-A.	Tuesday	Dec.	2
Tenadores	U. F. C.	Tuesday	Dec.	2
Almirante	U. F. C.	Thursday	Dec.	4
Prinz Joachim	H.-A.	Tuesday	Dec.	9
Carrillo	U. F. C.	Tuesday	Dec.	9
Magdalena	R. M.	Tuesday	Dec.	9
Santa Marta	U. F. C.	Thursday	Dec.	11
Carl Schurz	H.-A.	Tuesday	Dec.	16
Pastores	U. F. C.	Tuesday	Dec.	16
Metapan	U. F. C.	Thursday	Dec.	18
Prinz August Wilhelm	H.-A.	Tuesday	Dec.	23
Tivives	U. F. C.	Tuesday	Dec.	23
Danube	R. M.	Tuesday	Dec.	23

NEW ORLEANS TO COLON.

Atenas	U. F. C.	Saturday	Nov.	22
Parismina	U. F. C.	Wednesday	Nov.	26
Turrialba	U. F. C.	Saturday	Nov.	29
Cartago	U. F. C.	Wednesday	Dec.	3
Abangarez	U. F. C.	Saturday	Dec.	6

COLON TO NEW ORLEANS.

Abangarez	U. F. C.	Thursday	Nov.	27
Heredia	U. F. C.	Saturday	Nov.	29
Atenas	U. F. C.	Thursday	Dec.	4
Parismina	U. F. C.	Saturday	Dec.	6

*Amended schedule, resulting from temporary withdrawal of the *Allianca* for repairs.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 1 p. m.; for Southampton on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays and Saturdays at 3 p. m.; ships for New York via Kingston, on Tuesdays at 1.30 p. m., and Thursdays at 1.30 p. m.; for Bocas del Toro on Mondays at 5 p. m.; for Limon, via Bocas del Toro, on Tuesdays at 5 p. m.; and for Limon direct, Tuesdays at 3 p. m.

Hamburg-American steamers sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays; the *Prinz August Wilhelm* and *Prinz Joachim* at 10 a. m.; the *Carl Schurz* and the *Emil L. Boas* at 2 p. m. (Effective November 25.)

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The following vessels arrived at, and departed from, the port of Balboa, during the week ending November 22:

Arrivals—November 15, *Aztec*, from San Francisco; November 17, *Mantaro*, from Callao; November 17, *Rupanco*, from south ports; November 19, *Palena*, from south ports.

Departures—November 16, *Chile*, to Guayaquil; November 17, *Pachitea*, to Callao; November 17, *Guatemala*, to south ports; November 18, *Quito*, to intermediate ports.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, DECEMBER 3, 1913. No. 15.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Improvements at the Tivoli.

Work on the additions and improvements at the Hotel Tivoli is going forward rapidly and it is hoped to have everything completed before the rush of the tourist season in December and January. In addition to the kitchen improvements, the installation of facilities for complete *a la carte* service, and an enlarged modern steam and electric laundry, a pergola has been erected, opening from the writing room, which will be equipped with modern fittings for an ice cream parlor. The open roof will be shaded by a rolling cover of canvas, and vines have been planted at the sides of the pergola. The roof of the new Colonial *porte cochere* will be fitted up as an observation platform and out-of-door sitting room. The veranda at the entrance has been extended out several feet at the sides of the stairway. The grounds in front of the hotel are being enlarged and improved. The driveway circle extends around the band stand and is bounded by a concrete wall. Within this circle there are two medallions for flower beds. Concrete sidewalks are being laid in front of the hotel extending past the tennis court on the left and to the tramway tracks on the right. A 22-foot space will be left between the sidewalks and the hotel, and between the circle wall and the road, for the planting of flowers and shrubbery. The main office has been entirely reconstructed, with the addition of a telegraph and cable office; and a new telephone system, which will concentrate and facilitate the service for guests.

◆

Changes in Corozal Passenger Station.

The railroad station at Corozal has been remodeled, by having the ticket office transferred from the north end of the building to the center of the waiting shed, thus providing separate spaces for the first and second-class passengers. Concurrently with this work, the carpenters renewed the timber supports for the building, and raised it about 10 inches above its former level. The alighting platform is being graded accordingly. At the south end, a new platform, with stairs leading to the highway in rear of the station, was built between the station proper and the recently erected news stand, which was transferred from Gorgona. About 75 feet north of the station, a waiting shed has been erected for the accommodation of hospital patients.

◆

Passage of Dredge "Corozal" Through Pacific Locks.

The ladder dredge *Corozal* was lifted from the Pacific entrance channel to Culebra Cut during the forenoon of December 2, and in the afternoon made its way, through bridge No. 57½, at Paraiso, to the south side of Cucaracha slide. It began excavating on the morning of December 3. The dredge was accompanied by the tugs *Reliance*, *Cocoli*, and *La Boca* towing six mud scows and a sand barge. The vessels entered the lower lock at Miraflores at 7.30 a. m., and emerged from the lock at Pedro Miguel into Culebra Cut at 9.30 a. m., the passage through the Pacific locks and Miraflores Lake occupying exactly two hours.

For the present the *Corozal* will proceed in the wake of the *Marmot*, which is engaged in cutting a pioneer channel through the slide and excavate to the full width of the Canal, with a depth of 40 feet. Spoil from both dredges will be dumped in the old drainage ditch, and in an area near the relay pumping station, from which it will be rehandled by pipeline suction dredge. This gives a short, quick haul, and is estimated to be scarcely more expensive than original dumping on a long haul.

The *Corozal* is the largest of the Commission's ladder dredges, and has the greatest excavating capacity. Under local conditions of operation, it will handle about 600 cubic yards of material per hour. It is 260 feet long, 47 feet wide, and draws 14 feet nine inches of water. In its passage through the gap in bridge No. 57½, it was handled by its own winches, drawing on hawsers attached to dead men on both banks of the Canal. Wrecking cranes lifted the removable span and placed it on the trestle barge at 1.05 p. m.; the barge was pulled aside, and the prow of the *Corozal* entered the gap at 1.25 p. m.; the stern passed the trestle at 1.52 p. m. The last of the tugs and barges cleared the trestle at 3.05.

Dredge *No. 1* which has been working in the Culebra Cut section was passed through Gatun Locks from Gatun Lake to sealevel on Tuesday forenoon, December 2, in tow of the crane boat *La Valley*. It went into Cristobal dry dock for overhauling. The tug *Bohio* was locked down at Gatun on Tuesday afternoon to be fitted with a new propeller at the Cristobal marine shops. It returned to its work in the lake and Cut sections early Wednesday forenoon, December 3.

RAISING RIM OF LAKE.

Fills Necessary at Two Saddles to Prevent Overflow Into Sea.

The Isthmian Canal Commission has awarded a contract to R. W. Hebard and Company, Inc., and Thomas R. Lombard, jointly, for the building of an earth dike at Caño saddle, No. 4, along a ridge about 12 miles southwest of Gatun, to raise the rim of Gatun Lake at that point to 105 feet above sealevel. The saddle is between the headwaters of the Siri River, a tributary of the Trinidad, and the Lagarto River, which flows into the Caribbean Sea. The surface of the earth at the lowest point is 87.4 feet above sealevel, and the fill is necessary to remove the danger of an overflow of the lake into the sea. The fill will be approximately 900 feet long, between the 105-foot contours on knolls at the ends of the saddle. It is to be 15 feet wide at the top, with a slope of one on three on both sides, and will contain about 71,500 cubic yards. Payment is to be made at the rate of 68 cents per cubic yard, place measurement, of completed fill.

The contractor is to begin work within 15 days after date of award and finish within four months, The surface of the earth is to be cleared of vegetation at the site of the fill, and for five feet beyond the stakes delineating its outer edges. The earth is to be broken thoroughly to a depth of at least six inches, and a ditch for locking the fill with the natural earth is to be dug along the longitudinal center line of the site to a depth of three feet, with a width of two feet at the bottom and four feet at the top. The fill is to be laid in layers not more than two feet thick, over the full width, as determined by the elevation. The Commission will furnish water transportation once a week from Gatun to the site, and extend the privileges of hospital, hotel, and commissaries to the employes of the contractor. The contractor will use his own machinery, including a steamshovel and dump cars, to be purchased from the retired equipment of the Commission.

A fill was recently completed by the Atlantic Division at the only other point in the perimeter of the lake, exclusive of the site of Gatun Dam, which required raising. This was in a ravine at the headwaters of Las Guachas Creek, half a mile east of Gatun, where the natural elevation was 85.7 feet above sealevel. A fill about 350 feet long and containing approximately 4,117 cubic yards was made by means of mule-team scrapers, borrowing from adjacent hills. It raised the surface to 105 feet, with a crown width of 15 feet.

The topographical surveys necessary to define the limits of the proposed Gatun Lake were begun in 1906. These indicated that all the saddles low enough to warrant close investigation were contained in a distance of about 50 miles, extending from the Pavon

River at a point 31.4 miles southwest of Gatun, to the Santa Rita mountains, about 18.7 miles northeast of the same station. Careful surveys of these places were made between February, 1909, and January, 1911, and test holes were drilled at all of them to determine the perviousness of the underlying strata. With the exception that the elevation at Gatun East, and Caño No. 4, saddles was not sufficient and required to be raised by dikes, the results were reassuring in all instances.

Features of the low places in the rim of the lake are indicated in the following tabulations:

Name	Elevation at lowest point (feet)	Least thickness at el. 485 (fect)	Location from Gatun (Mls.–Dir.)
Escoval........	117.7	600	8, S. W.
Arroya:		500	12, S. W.
Saddle No. 1.	113.5		
Saddle No. 2.	112.7		
Saddle No. 3.	116.4		
Saddle No. 4.	111 0		
Saddle No. 5.	109 0		
Saddle No. 6.	111.8		
Caño:		50	14, S. W.
Saddle No. 1.	115.2		
Saddle No. 2.	115.0		
Saddle No. 3.	105.2		
Saddle No. 4.	87.4		
Saddle No. 5.	94.9		
Saddle No. 6.	98.4		
Lagarto:		450	15, S. W.
Saddle No. 1.	106.1		
Saddle No. 2.	106.0		
Saddle No. 3.	119.3		
Gatun East:		7	½, E.
Saddle No. 1.	97.8		
Saddle No. 2.	85.7		
Saddle No. 3.	110.3		
Quebrancha:		450	7, N. E.
Saddle No. 1.	121.3		
Saddle No. 2.	136.8		
Saddle No. 3.	142.5		
Saddle No. 4.	138.5		
Canoa:		250	10, N. E.
Saddle No. 1.	121.3		
Saddle No. 2.	138.0		
Saddle No. 3.	142.5		
Saddle No. 4.	138.5		
Saddle No. 5.	160.4		
Saddle No. 6.	104.7		
Barro.........	141.9	360	8, N. E.
Egronal:		350	5, N. E.
Saddle No. 1.	157.3		
Saddle No. 2.	129.0		
Saddle No. 3.	137.7		

◆

Opportunities for Skilled Men in Detroit, Mich.

The following communication, received under cover of a personal letter to one of the officials of the Isthmian Canal Commission, may be of interest to readers of THE CANAL RECORD:

THE EMPLOYERS' ASSOCIATION OF DETROIT,
ASSOCIATION ROOMS, STEVENS BUILDING,
DETROIT, Mich., November 6, 1913.

MR. HOWARD E. COFFIN,
HUDSON MOTOR CAR COMPANY,
DETROIT, MICHIGAN.

My dear Mr. Coffin:

There is here in Detroit a constant demand for skilled labor, and if as we understand, there is now available in the Canal Zone, or soon will be, a number of such men, we believe that it would be of considerable service to them if they could be informed of the conditions prevailing in this locality.

Just at this writing, owing to the usual slackening down in many industries at this time of the year, there is not so general a demand for labor as during the busy spring and early summer months. There is, however, a reasonably good call for skilled workmen, i. e., real mechanics, and, in fact, such men can always quite readily find employment to their liking here.

We would not be justified in urging men of less skill to come here, as there is now quite a supply of such help available—handymen, helpers, laborers, etc. This is also the case to a considerable extent in so far as technical men are concerned, as well as executives, superintendents, foremen, etc.

It will be of interest to you, I am sure, to know that during the month of October we placed more men than in any October during the eleven years that our bureau has been in operation. Not only did we exceed previous records in numbers, but also in quality; that is, the men directed to positions last month were largely mechanics, the percentage of unskilled men being comparatively small.

The members of the Employers' Association of Detroit, by whom the labor hureau is maintained, and who draw upon it for their labor, have on their pay rolls an aggregate of about 100,000 workmen, or about 80 per cent of the skilled men employed in Detroit. Up to the first of November we have placed this year with the various members, 21,509 men, or an average of 92 men every full working day. This has been done without any expense whatever to the workmen, no fee being charged them, our only requirements being that they have the necessary skill to qualify for the position they are seeking, that they are law abiding citizens, and that they have no objections to working under "Open shop" conditions; and with regard to this last qualification, Detroit, as you well know, is as a barren desert to the man who will engage only in a "Closed" shop.

We will be very glad indeed to receive in our bureau men who have rendered satisfactory service in the Canal Zone, and to do all within our power to direct them to plants where men of their particular experience are being called for.

The employment here for skilled help has always been reasonably steady. Wages compare very favorably with those paid in other cities of like size, and vary with the skill of the operative, the class of work upon which he is engaged, etc.

You understand, of course, that it is not possible for us to guarantee positions to any individual man, or any number of men.

I wish to thank you on behalf of our board, and our members, for the interest you have taken in this matter, and for your splendid and most interesting talk regarding those matters in the Canal Zone in which we are most interested from an industrial standpoint.

Very respectfully,
JOHN J. WHIRL,
Secretary.

EMPLOYERS' ASSOCIATION OF DETROIT.

Labor bureau statistics—Number of men directed to positions.

	1909	1910	1911	1912	1913
January	138	625	877	1,005	1,671
February	212	597	881	1,236	1,201
March	236	957	1,640	2,004	2,035
April	199	730	1,378	2,535	2,698
May	257	872	1,860	2,565	2,265
June	180	1,247	1,710	1,944	3,399
July	473	744	1,728	2,166	2,588
August	524	647	2,261	1,652	1,979
September	449	472	1,715	1,239	1,450
Octoher	520	625	1,638	1,915	2,223
November	695	524	825	1,342	....
December	433	681	644	736	....
Total	4,316	8,721	17,157	20,359	21,509

Progress of Dredging in Culebra Cut.

On account of activity of the slides on both sides of the Canal at Culebra on November 26 and 27, the dipper dredge *Mindi* was transferred on November 28 from the north side of Cucaracha slide to the channel between the east and west Culebra slides, to assist the *Chagres*, which has been engaged there since October 24. These slides are the largest and most active along the Canal, and, with Cucaracha, are the only large slides now in motion. The small slides showing motion, which offer no considerable obstruction, include the north La Pita slide, on the east bank about half a mile north of Empire; one on the east bank, south of the Empire suspension bridge, and one south of Contractor's Hill, on the west bank. On the west bank, at a point about 2,500 feet south of Contractor's Hill, there has also been a slight movement of surface earth on a hillside, but as the material has done nothing more to date than to obstruct the railway track on the west berm, and the bank beneath is firm rock, it is not expected that this will ever become a real slide.

Excavation at Cucaracha slide is being carried on by the ladder dredge *Marmot*, working on the south side. Up to the night of November 26, a channel about 125 feet wide and approximately 24 feet deep, at the present level of the lake, had been cleared through all, except about 150 feet of the 1,800-foot section of channel affected by Cucaracha slide. A movement of part of the slide on the night of November 26 deposited about 10 feet of material, and narrowed the width of the channel abovementioned about 50 feet. The *Marmot* immediately moved to the south of the new movement and proceeded to redredge the former channel.

In the construction of the 300-foot timber wharf on the west bank at Paraiso, to be used in connection with dredging operations, the approach and about 150 feet of the wharf proper have been driven. A part of the approach has been fitted with a chute, for handling coal into barges to supply the steam vessels in the dredging fleet. Landing stairs, with the base resting on a covered steel lighter, have been erected opposite the office building of the Sixth Division, and stairs of railroad ties, set in the bank, have been provided at the north end of Paraiso, for the convenience of employes. Ladders have been provided on both banks, at Cucaracha slide. Landing stairs have been built at Gamboa station, for the use of dredges in that vicinity, and a permanent timber wharf is under construction on the east bank, at a siding controlled from Tower R of the Panama railroad. The former landing, opposite this site, is to be abandoned on account of the flooding of the old line of the Panama railroad, north of Bas Obispo, by the waters of Gatun Lake.

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Increased Pumping Facilities at Ancon.

A pump of the horizontal duplex-piston type, purchased by the Canal Commission in 1911 from the Deane Brothers Steam Pump Works, and used until the abandonment of Gorgona in connection with the old water works system at that point, was installed in the Ancon pump station on November 22 to furnish an increased pressure in the Panama water mains, when required, as well as to shorten the time necessary to fill the high service reservoir on Ancon Hill. It is fitted with 12-inch high pressure steam cylinders, 18-inch low pressure steam cylinders, 10½-inch pump cylinders, and has a maximum working pressure of 150 pounds to the square inch. Its capacity is 1,500 gallons of water per minute. Four smaller pumps, each with a capacity of about 250 gallons of water per minute had been performing the service prior to the installation of the larger pump, so that the present pumping capacity at this station is approximately 2,500 gallons of water a minute. Early Monday morning, November 24, two days after the pump was installed, a fire occurred in Panama. As soon as the alarm was turned in the big pump was set to work, and the pressure in the Panama mains went up to 110 pounds to the square inch, furnishing a water pressure for the fire hose, about equalling the efficiency of the automobile fire engines. Although the fire was in the upper part of a wooden building, which is said to have burst into a mass of flames almost at once, the firemen extinguished it without difficulty.

SOCIAL LIFE OF THE ZONE.

Cristobal Woman's Club.

Miss Mary E. Woolley, president of Mount Holyoke College, and Miss Ferris of the Sorosis Club, New York City, were the guests of honor at a special meeting of the Cristobal Woman's Club on Wednesday afternoon, November 26. There was a large attendance of club women including a number of invited guests from the line. Mr. Phillips of Colon gave several vocal selections, accompanied by Miss Enid Wardlaw, and Miss Woolley delivered an address on higher education for women, giving a short sketch of Mount Holyoke and its founder, Miss Mary Lyon. The next meeting of the club will be on Wednesday afternoon, December 10. The subject scheduled for the meeting is a discussion of the public schools.

Farewell Reception.

The ladies' auxiliary of the Gatun Christian league held a farewell reception in honor of its president, Mrs. Charles O. Purdy, on November 14, at the home of Mrs. E. Gilbert. A number of invited guests were present, in addition to the members of the auxiliary. A Wedgwood tea set and a Canton linen luncheon set were presented to Mrs. Purdy. The auxiliary will discontinue its meetings for a time, on account of the departure of its president, and the unsettled condition of its members.

Federation of Women's Church Societies.

The committee which has been advancing the plans for the federation of the women's societies engaged in Christian work in the Canal Zone has issued a call to those societies which have expressed a desire for federation to send delegates to the meeting of the Methodist Missionary Society, which will be held on Saturday, December 6, at 2.30 p. m., at the home of Mrs. Charles W. Ports, Seventh street, Panama. Opportunity will be given at the meeting to consider a tentative constitution for the federation, the same to be presented for final action at a general missionary rally, which will be held in January. All women interested in forming a permanent society, whether they are now members of church societies or not, will be welcome at the meeting.

Coordination of Church Work in the Zone.

Plans are being considered for the coordination of interdenominational church work in the Canal Zone, so that the chaplains who were taken off the pay roll of the Canal Commission on November 15, under provision for reenrollment as honorary chaplains, with privileges of quarters and the use of the commissary stores, may be able to continue their work in the Canal villages. Any one who desires to assist this work may write to Mr. George Butters, Cristobal.

Aquatic Meet at Gatun.

The results of the aquatic meet, held at Gatun on Thanksgiving Day, November 27, under the auspices of the Y. M. C. A., are, as follows:

25-yard dash—First, Joe Belmont, Empire; second, D. Simons, Cristobal; third, B. Gordon, Cristobal. Time, 12 1|5 seconds.

25-yard back swim—First, Joe Mitchell, Gatun; second, C. C. Dustheimer, Gatun; third, Leon Gravelle, Empire. Time, 17 4|5 seconds.

50-yard dash—First, D. Simons, Cristobal; second, J. R. Stapler, Paraiso; third, Joe Belmont, Empire. Time, 29 1|5 seconds.

Fancy diving—First, L. C. Kyes, Gatun, 8.56 per cent; second, J. Arthur Hanson, Miraflores, 7.82 per cent; third, W. H. Van Fleet, Pedro Miguel, 6.09 per cent.

Relay race—First, Gatun—Huber, Mitchell, Bingaman, Dustheimer; second, Cristobal—D. Simons, P. Simons, Fraser, Gordon; third, Corozal—Stapler, Jackson, Giavelli, Greene. Distance, 2 feet 15 1-5 inches.

Plunge for distance—First, B. Gordon, Cristobal, 51 feet 6 inches; second, J. C. Luitwieler, Ancon, 50 feet; third, J. Fred Huber, Gatun, 46 feet 6 inches.

100-yard dash—First, James W. Greene, Toro Point; second, J. R. Stapler, Paraiso; third, C. C. Dustheimer, Gatun. Time, 1 minute 15 seconds.

One mile race—First, J. R. Bingaman, Gatun; second, James W. Greene, Toro Point; third, Wm. Fraser, Cristobal. Time 30 minutes 20 3|5 seconds.

50-yard dash for boys—First, Hal Wardlaw, Cristobal; second, Edward L. Greene, Pedro Miguel; third, Clarence Atkins, Empire. Time, 40 2|5 seconds.

Underwater swim—First, D. Simons, Cristobal, 103 feet; second, Wm. Fraser, Cristobal, 101 feet; third, J. A. Hanson, Miraflores, 91 feet 3½ inches.

440-yard swim—First, J. R. Bingaman, Gatun; second, J. R. Stapler, Paraiso; third, W. H. Porter, Gatun. Time, 6 minutes 47 3|5 seconds.

POINTS SCORED BY TOWNS.

Town.	*Points.*
Gatun	36
Cristobal	34
Paraiso	9
Empire	8
Toro Point	8
Pedro Miguel	4
Miraflores	4
Corozal	4
Ancon	3

PERSONAL.

Col. H. F. Hodges sailed for New York on Saturday, November 29, on the *Colon*, on his annual leave of absence. Mrs. Hodges will sail for New York on the steamer *Advance*, which is due to leave Cristobal on Friday, December 5.

Col C. H. Hunter of the United States Coast Artillery Corps, accompanied by Mrs. Hunter, arrived on the Isthmus on the *Colon*, on November 23. They returned to New York on the same vessel, sailing from Cristobal on Saturday, November 29.

Lieut.-Col. Chas. F. Mason, who attended the sixth annual Pan-American Medical Congress, held at Lima, Peru, returned to the Isthmus on the steamer *Mexico*, which arrived off Culebra Island quarantine on Monday, November 24.

Mr. H. O. Cole returned from his annual leave of absence on the United Fruit Company's steamer *Atenas* from New Orleans, on Thursday, November 27.

Mr. W. B. Childers, superintendent on the Isthmus for the McClintic-Marshall Construction Company, sailed for New York on the *Colon*, on Saturday, November 29, and does not expect to return. Mr. W. M. Sterrett will have charge of the closing up of the company's work on the Isthmus in connection with its Canal contracts.

Mr. Walter Emery, who, during the period from October 25 to November 30, inclusive, had been acting as special district judge during the absence of Judge S. E. Blackburn of the Ancon district court, on leave, resigned from the Canal service, effective November 30. He arrived on the Isthmus on July 19, 1904, and was chief clerk at the Ancon Hospital until July 16, 1905, when he was appointed Clerk of the Circuit Court for the First Judicial Circuit at Ancon. On October 1, 1908, his duties were enlarged to include those of Acting Clerk of the Canal Zone Supreme Court, filling the two positions until his appointment to the special judgeship.

American Institute of Electrical Engineers.

The board of directors of the American Institute of Electrical Engineers has authorized a section to be known as the "Panama section," and from 25 to 30 members of the Institute now on the Isthmus will hold a meeting at the Hotel Tivoli on Sunday, December 7, at 3 p. m., for the purpose of electing officers and completing the local organization.

Peruvian Steamship and Dry Dock Co.

The Panama agency of the Peruvian Steamship and Drydock Company of Callao, Peru, will hereafter be under the management of the Panama Agencies Company, representatives of W. R. Grace and Company. The office of the Panama Agencies is at the corner of Central Avenue and B street, and its post-office address is Box 153-B, Panama.

Rewards for the Apprehension of Two Men.

A reward of $50 is offered by the Division of Police and Prisons, in two separate cases, one for the apprehension of the person causing the death on November 3, of Demartis P. Francesco, an Italian laborer, and the other for the person causing the death of Emanuel Sewell, a Jamaican laborer.

Francesco worked as a contract laborer in a gang at Balboa under metal check No. 14915. On October 28, he was riding to his work in a car reserved for Europeans in the Balboa labor train. Near the Hotel Tivoli some eight or 10 negroes boarded the car, causing the Europeans to remonstrate. When the train stopped at Bishop's Hollow, two or three of the negroes left the car, and on reaching the ground, one of them picked up a rock about the size of a man's hand and threw it at the European laborers. It struck Francesco on the head, fracturing his skull, and causing death.

Sewell was employed as a laborer in the Fourth Division under metal check No. 117074. He became involved in an altercation with another laborer in his gang named Federic Castell, near the East Balboa commissary, and during the fight that ensued, he was struck several blows about the body including one in the abdomen, which resulted in his death. Castell disappeared from his gang and has not been heard of since.

Obituary.

George F. Hill, an Australian employed in the telephone and telegraph department of the Panama Railroad Company, living at Empire, died at Ancon Hospital on Wednesday, November 26. He was 33 years of age, had been on the Isthmus since June 13, 1909, and is survived by his wife and two children. His home address was Middleton Beach Road, Albany, West Australia.

Missing Men.

Any one having information as to the present location of V. L. Ott, or Morton Murrell Morgan, thought to be on the Isthmus, is requested to communicate with L. L. Morrison, Shukert Building, Kansas City, Mo.

Married.

MILLER-NEVILLE—At the home of the bride's parents in Gatun, on November 26, 1913, Florence Irene Neville of Utica, N. Y., to Albert Carter Miller of Columbus, Ga., the Rev. C. O. Purdy officiating. Canal Zone residence, Empire.

PARSONS-GRANUM—At the home of Mr. and Mrs. A. F. Symms, Gatun, C. Z., on November 26, 1913, Josephine Olean Granum, to Earl Russel Parsons, both of Chicago, Ill., the Rev. C. O. Purdy officiating. Canal Zone residence, Gatun.

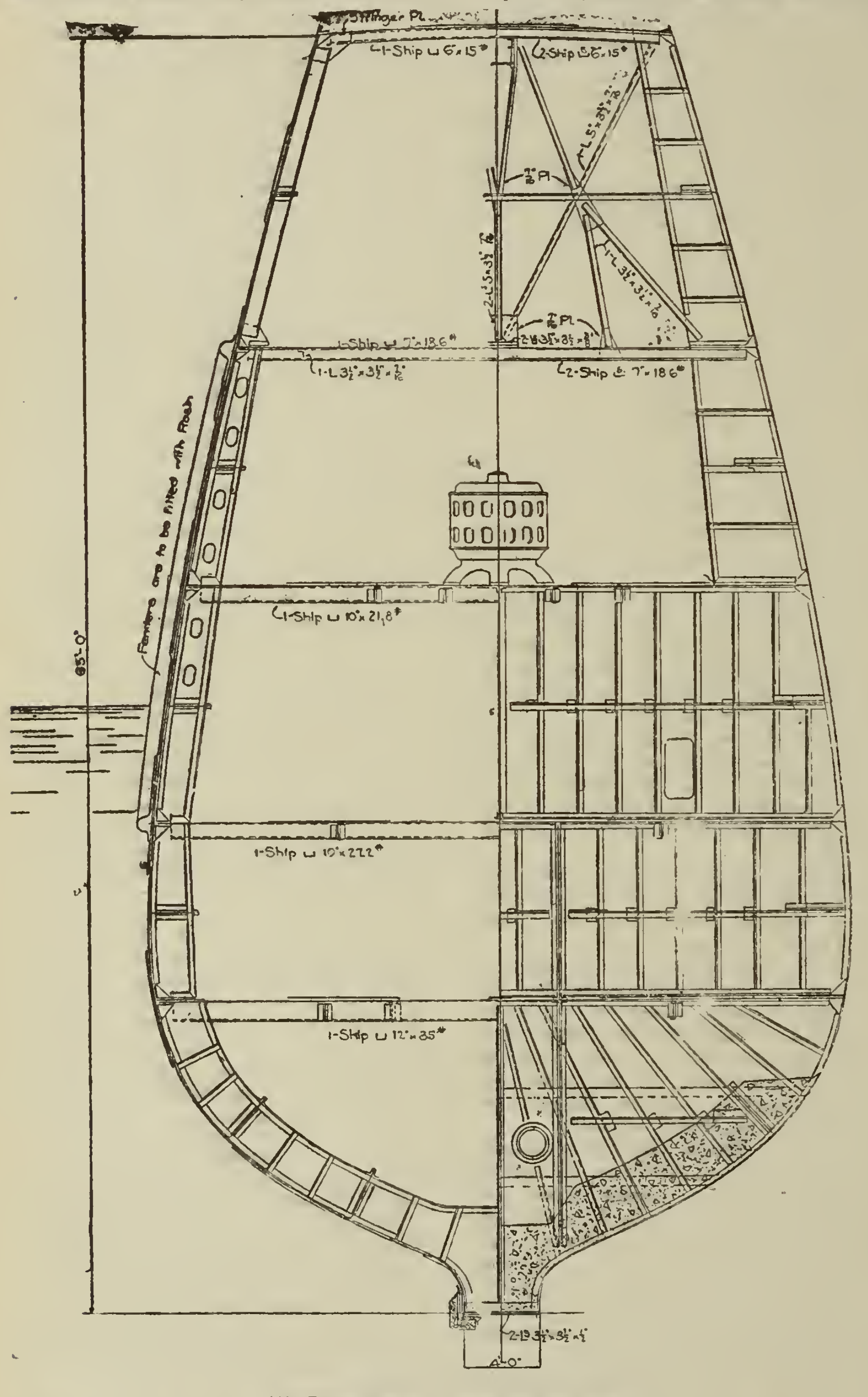
LOST—A bunch of keys, about 12, on a ring, including two large, brass fire alarm box keys. Finder is requested to communicate with Chas. E. Weidman, Fire Chief, Cristobal, C. Z.

LOCK ENTRANCE CAISSON.

Vessel Carrying Pumps, to Close Entrances and Unwater Chambers

The lock entrance caisson being constructed by the Union Iron Works of San Francisco will be a floating gate or dam for closing the entrance to the locks, so that any of the chambers may be unwatered for inspection, cleaning, or repairs. The width of the lock chamber is 110 feet; beyond the line of the emergency dams, the approach is widened by an offset of 24 inches on either side. The shoulders so formed, with a connecting horizontal sill across the bottom of the chamber, afford a frame into which the caisson is fitted to dam off the interior of the lock. This is to be accomplished by floating the caisson against the shoulders and letting water into its hold to sink it on the sill.

Pumps in the interior of the caisson will then be employed to unwater the chamber, while the water pressure from the outer side will force the caisson securely against the frame, reducing leakage around the edges. When it is desired to remove the caisson, the lock chamber will be filled with water, relieving the pressure, and the water within the caisson will be pumped out to allow it to be floated away. The general principles of construction are the same as in the caissons for Gatun and Miraflores Spillways, described in The Canal Record of September 25, 1912, but the requirements and conditions of its use make the design of the look caisson more complex than that of the spillway caisson.



(A) Typical Transverse Section of Caisson.

The caisson is designed for interchangeable use at all locks, and will have a draft when light of 32 feet, to allow its convenient handling through the locks. The lower elevation of the sill at the Pacific end of Miraflores Locks, 50 feet below mean sealevel, in connection with the tidal fluctuation which raises the surface as high as 11 feet above mean, requires that the extreme draft of the caisson, when sunk, be 61 feet. Provision for a proper freeboard makes the aggregate depth of the structure 65 feet. The achievement of statical stability at the various depths of immersion, without undue bulkiness or excessive weight in the different parts, makes the design of especial interest.

In form, the bottom of the hull will be convex, the ends pointed, and the sides will slope inward from a maximum width of 36 feet. at about one-third the way up from the keel, to a breadth half as great at the top. A typical transverse cross-section of the structure resembles in outline the vertical section through a pear-shaped carbon-filament electric lamp. The cross frame at the longitudinal center of the caisson is shown in the accompanying sketch (A). The horizontal lengthwise sections vary with the inward slope of the slides; in general, they resemble those of the ordinary vessel of commerce, and may be described as flattened ellipses, blunt at the ends to contain the girders and breasthooks by which the pressure will be transmitted to the vertical sills, or shoulders, on the lock walls. The length between the vertical ends will be 112 feet 6 inches, and the extreme length, including the timber cushions, 113 feet 10 inches.

It is desired that the side walls of the locks shall carry practically all the static load from the caisson when it is supporting the water pressure. Accordingly, there will be a number of horizontal decks and end breasthooks to carry the load to the vertical ends; and a system of vertical framing, built intercostally and extending from the keel to the top deck, will transmit the panel loading to the horizontal decks and breasthooks. The essential features of the structure will be the transverse and longitudinal framing, with bulkheads; the horizontal plate decks, girders, and stringers; the girders at the ends and along the keel; the end breasthooks; and the plating to cover the skeleton in forming the hull proper. These elements will all be made from open-hearth structural steel.

The transverse framing system will consist of nine cross frames, spaced about 12 feet apart and extending the whole height of the caisson, and intermediate frames, spaced at intervals of about two feet between the main cross frames. All will be built intercostally between the five horizontal decks. Two of the cross frames will be built watertight and designated as "Collision bulkheads," to form trimming tanks at each end of the vessel, for maintaining longitudinal stability and settling the caisson on even keel when it is to be put in use. The seven other cross frames will have apertures in their lower sections to make them serve as swash bulkheads for controlling the water within the caisson by which the depth of immersion will be regulated.

A longitudinal bulkhead will extend the entire distance between collision bulkheads, from keel to operating deck, along the center line. Its lower part will be sufficiently watertight to form two distinct lengthwise compartments, dividing the free surface of the water ballast and increasing the static stability of the caisson, as against lateral motion.

There will be five horizontal decks, built continuously from vertical end to vertical end. The two lower decks, 16 and 25 feet, respectively, above the base line, will be entirely plated over with the exception of openings for hatches and manholes, the hatches being made large enough for the installation or removal of the pumps through them. The operating deck, 37 feet above the keel, will be entirely plated from end to end, and made absolutely watertight. This deck will support he motors for the pumps, with switchboards, gage registers, etc. The plate-stringer deck, 49 feet above the base line, will be an open truss with diagonal bracing for the central two-thirds of its length. The top deck, 65 feet above the base, will be plated over from end to end, with openings for manholes, skylights, deck cranes, companionways, and scuppers.

Six plate breasthooks will be built at each stem of the vessel, at intervals between the decks. They will serve to transmit the end shears from the decks to the vertical girders. One of these breasthooks, situated 31 feet above the base line, will have its plating calked to watertightness and serve as the bottom for the end trimming tank. At the same level as the breasthooks will be longitudinal intercostals, securely riveted to the transverse frames and to the sheathing.

The skeleton will be entirely sheathed over with steel plating worked in in-and-out strakes, running longitudinally over the frames, making lap seams and butt joints which are to have double splice plates. At all the horizontal decks, and around the pipe discharge and suction openings, the sheathing will be doubled. Fenders against external impact will be provided between the 25 and 49-foot levels, by bent plates securely riveted to the sheathing, the space between being filled with poured rosin. Towing rings will be attached along the 37 and 43-foot levels.

End reaction castings will provide connection of the decks and breasthooks, up to and including the 49-foot stringer deck, with the vertical girders, for transmitting to the latter the reactions of horizontal forces. They will be made of carbon steel and closely fitted during construction.

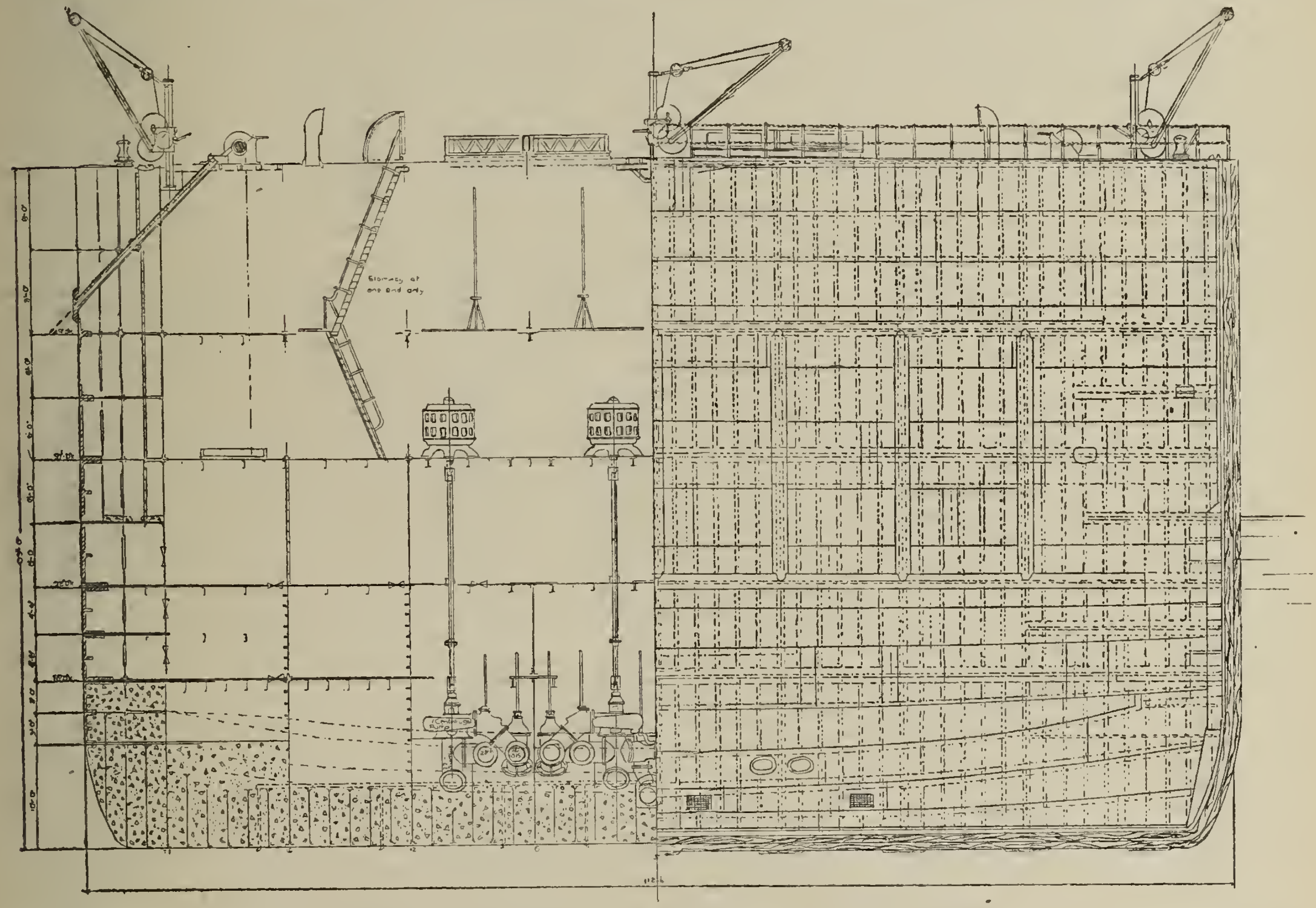
Along the exteriors of the ends and keel will be fastened cushions of British Guiana greenheart timber. They will be planed to make even contact with the plated sill and reduce leakage to a minimum. Greenheart timber is notably durable under water, either fresh or salt, and has been used for the sills of the miter gates in the Canal locks.

PUMPING SYSTEM.

The pumps installed within the caisson are designed to regulate the water ballast, determining the depth of immersion, and to unwater any portion of the locks between the upper and lower entrances. Of all the lock chambers, the only ones which can be cleared of water without pumping are the two in the upper flight of Gatun Locks, because they are the only ones the floors of which are below the level of the water at the lower end of the flight. The floor of the intermediate level at Gatun is 13⅔ feet below sealevel. The floor at Pedro Miguel Lock is at elevation plus 9, which is 46 feet below the normal level of Miraflores Lake. The upper of the two levels at Miraflores is 18½ feet below mean sealevel, which means a minimum depth of water in it of about eight feet, at low tide of the Pacific. Moreover, the caisson dams will afford the only means of working in the dry on the outward faces of the guard gates, and the sills for the emergency dams.

The main pumping system will consist of four vertical-shaft centrifugal pumps, having a 20-inch discharge and a 22-inch suction. The practical test governing its design is that it shall be able to pump out in not over 25 hours all the water in the upper and lower chambers of one flight of Miraflores Locks, between mean sealevel and the top of the sill of the lower chamber (elevation—50 feet), the tidal level to be at elevation 0 when the pumping is begun, and the tide rising. The total quantity to be pumped out, including 518,000 feet for leakage, will be about 10,285,000 cubic feet. The average discharge under these conditions, for the entire period of pumping, would be about 13,000 gallons per minute for each of the four pumping units. Two of the pumps are to be arranged for pumping out the caisson when it is to be removed from its position against the sill.

Inasmuch as the sill for the caisson is higher than the level of the floor, suction extension pipes are to be provided to cross the sill on



(B) Side Elevation of Lock Entrance Caisson, with Sheathing of Left Half Removed.

the bottom of the chamber, to allow its complete unwatering. The suction extensions will be lowered by cranes on the deck, and attached from a pontoon, similarly handled.

An auxiliary pump, with suitable pipe connections, will be used to regulate the end trimming tanks, flush the scuppers, and scour the sills.

ELECTRICAL EQUIPMENT.

The caisson will have no means of autopropulsion, but will be towed from place to place. Its motors will be for operating the pumps, and their details will be determined by the pump characteristics. Four 2,200-volt motors will drive the main pumps, and one of 220-volts potential will operate the auxiliary pump. Another 220-volt motor will drive a ventilating fan. Current will be received at 2,200 volts from chambers in the lock walls, through four flexible cables, and a three-phase transformer is to be provided for the 220-volt motors, and for the lighting equipment. A switchboard will be installed in the operating room, which is on the operating deck, 37 feet above the base line.

MISCELLANEOUS PARTS.

A stairway, as shown in the accompanying sketch (B), will be built from the top deck to the operating deck, and ladders will be installed within the caisson to make all parts accessible. Exterior ladders will be provided on the sides of the hull, as a means of boarding the caisson when it is at light draft, with the top as high as 33 feet above the surface of the water. Manholes in the top deck will give access to the end trimming tanks.

There will be four portable cranes on the top deck, to handle various loads. Each must be capable of raising another at a radius of 14 feet, by two-man power. The pontoon for making the suction extension attachments will be stowed on the top deck and handled by cranes. A deck capstan, hand-operated, will be provided at each end of the top deck. It must be able to withstand a pull of 10,000 pounds.

Two ventilators, 16 inches in diameter, with hoods of Navy standard type, will be placed on the top deck, for ventilating the operating room. One, discharging a short way below the 49-foot deck, will have a multivane exhauster, motor-driven. Twelve air vents, two inches in diameter, to allow the escape of air and gases from the interior compartments, will lead to the top deck. Two skylights, eight by 16 feet, will be set in the top deck, symmetrical with the axes of the caisson. The covers will be made in two parts, for portability, and a hand-operated device will be provided for raising and lowering them. The skylights will be watertight against a hose discharge under 50 pounds pressure.

Fixed ballast, composed of pig iron punchings and concrete, is to be placed in the bottom of the hull, as indicated in the accompanying sketch, to a normal thickness of about a foot and a half. The pig iron will at all points be at least six inches from the sheathing. Two 70-foot lengths of anchor chain will be provided for mooring the caisson when it is not in service, and chain lockers for them will be built of reinforced concrete at the ends of the 37-foot deck.

PROGRAM OF CONSTRUCTION.

Only one caisson is being built at present, though it is expected that two will be provided for the operation of the Canal. The first is to be completed about September, 1914, and towed to the Isthmus for test at the lower end of Miraflores Locks, as described. The test may suggest modifications; if not, the second caisson will be constructed like the first. The patterns for all the castings in the structure will become the property of the Isthmian Canal Commission on acceptance of the caisson, and will be delivered with it. Fabrication and erection of the first caisson are being supervised at the plant of the contractor by Mr. Lewis A. Mason, assistant engineer, who was associated with Mr. Henry Goldmark, designing engineer, in working out the design, plans, and specifications.

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Disposition of Wrecking Cranes.

A committee, consisting of Lieut.-Col. T. C. Dickson, chairman; Mr. R. K. Morris, Mr. M. B. Connolly, and Mr. Snyder, appointed to consider future requirements on the Isthmus for wrecking cranes, and to make recommendations in regard thereto, has reported that one wrecking outfit complete, including the 100-ton wrecking crane No. 32, will suffice for wrecking purposes, both under present conditions, and under the permanent organization. The wrecking outfit should be stationed at Paraiso until transportation and other conditions make it advisable to transfer same to the Balboa shops, its proper station under the permanent organization.

Crane No. 64 should be assigned to the Mechanical Department and stationed at Cristobal for use by any division or department requiring the services of a 75-ton crane, and also for use in wrecks requiring a crane to operate from the north end. The operator of this crane should be a machinist regularly employed at the Cristobal shops.

When crane No. 3, which is a self-propelling machine, can be spared by the Mechanical Division, it should be transferred to Cristobal and retained there permanently, and crane No. 64 should be transferred to Balboa shops for use on the repair wharf, and also for wrecking purposes when two cranes are required, or when crane No. 32 is out of service.

Until the Empire shops are abandoned, 75-ton crane No. 3, and 30-ton nonself-propelling Crane No. 33 should be retained there for use with the steamshovel repair outfit, and for use by any division or department requiring emergency or irregular service, other than wrecking.

When the three 40-ton locomotive cranes, Nos. 72, 73, and 74 become available, one or two of these cranes should be permanently stationed at Cristobal for use by the various departments and divisions; the remainder should be transferred to Balboa terminals. These cranes are well adapted to terminal work on account of their capacity and the length of their booms; moreover, they are comparatively new. Under the above arrangement, 75-ton crane No. 4 will not be required, either under present or permanent conditions, and may be disposed of. The recommendations of the committee as outlined above have been approved.

◆

Seeing the Canal from Near Contractor's Hill.

A section of railroad track about 1,000 feet long will be built from the Rio Grande spur to a point on the west bank of the Canal, just south of Contractor's Hill, for the use of the sightseeing train, which will go in on the spur from the Panama-Bas Obispo line. An observation platform will be erected near where the train will stop, from which the Canal may be viewed as far north as the Empire suspension bridge, and as far south as Pedro Miguel Lock. This site will also afford an excellent view of Cucaracha slide, and the dredging operations on either side of it.

◆

Rainfall, Nov. 1 to Nov. 30, 1913, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	1.88	7	10.63
Balboa	1.65	7	9.30
*Miraflores	1.37	7	9.15
Pedro Miguel	1.53	2	10.77
Rio Grande	1.52	8	9.15
Central Section—			
Culebra	1.75	4	11.21
*Camacho	2.31	8	12.90
Empire	2.41	19	14.23
Gamboa	2.20	8	14.13
*Juan Mina	2.57	8	16.34
Alhajuela	2.92	8	16.56
*El Vigia	2.50	28	16.91
Frijoles	3.83	8	17.81
*Monte Lirio	2.60	10	15.02
Atlantic Section—			
Gatun	2.43	10	15.88
*Brazos Brook	3.40	10	21.32
Colon	2.66	10	16.75
†Porto Bello	5.13	8	33.47

*Standard rain gage—readings at 5 p. m., daily Automatic rain gage at unstarred stations—values midnight to midnight.

◆

Stages of the Chagres River, Gatun, and Miraflores Lakes.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes for the week ending midnight, Saturday, November 29, 1913. All heights are in feet above mean sea level.

DAY AND DATE.	STATIONS.					
	Vigia.	Alhajuela	Gamboa	Frijoles	Gatun Lake*	Miraflores Lake
Sun., Nov. 23	131.5	96.4	80.2	80.3	80.3	50.8
Mon., Nov. 24	132.9	97.4	80.5	80.5	80.5	51.0
Tues., Nov. 25	129.6	95.6	80.7	80.7	80.8	50.9
Wed., Nov. 26	130.2	94.6	81.0	81.0	81.0	50.6
Thurs. Nov. 27	133.2	97.6	81.3	81.3	81.4	50.2
Fri., Nov. 28	132.2	97.4	81.6	81.7	81.7	50.4
Sat., Nov. 29	129.4	95.6	81.8	81.8	81.9	50.7
Height of low water nearest ft	125.0	91.0				

*Sluice gates in spillway at Gatun were closed on June 27, 1913, with surface of lake at elevation 48.25 feet above sealevel.

◆

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending December 13, 1913:

DATE.	High	Low	High	Low	High
	A.M.	A.M.	A.M.	P.M.	P.M.
December 7	......	4.51	10.58	5.06	11.20
			P.M.		
December 8	......	5.48	12.02	6.02	......
December 9	12.12	6.41	12.56	6.52	......
December 10	12.59	7.27	1.40	7.38	......
December 11	1.42	8.08	2.20	8.20	......
December 12	2.22	8.48	2.57	9.02	......
December 13	3.02	9.29	3.35	9.43	......

75th meridian time.

◆

Misdirected Letters.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressees:

Alexander, W. G.
Alexan, Jos.
Allyn, Arthur
Anderson, John R.
Anderson, J. M.
Bailey, G. Thomas (2)
Central American Plumbing & Supply Co.
Cochen, Capt. Frank S.
Davis, S. S.
Etter, Ada T.
Gallagher, Jos. O.
Gallagher, William (paper)
Hooper, E. J.
Hutchingson, Charles
Kimball, C. P.
Lewis, Robert
Lillcrop, R. A.
McDonald, E. C.
McKenzie, J. W.
Miller, J.
Mountain, Capt. John
Palm, John
Ramey, William (2)
Sanborn, Harold
Shelton, William J.
White, A.
Woodrow, H. H.

OFFICIAL CIRCULARS.

Care of Empty Cement Bags.

CULEBRA, C. Z., November 25, 1913.

CIRCULAR No. 335–B:

Since July 1, 1913, empty cement bags to the value of nearly $10,000 have been rejected by contractors in the States. This is a serious loss, and is the result of exposing the bags to the weather prior to shipment from the Isthmus, causing them to mildew and rot. Our rejections should not be more than one per cent, when at the present time they are running to nearly 10 per cent. In future such care must be taken in storing and handling empty cement bags that they will be returned in first-class condition, ordinary wear and tear excepted; and the surveying officer will report any instances of neglect coming under his observation.

In addition to care in storage, the following regulations must be observed:

1. Bags must be securely packed in bundles, each containing 100 bags.
2. Cars in which bags are shipped to Mount Hope must be properly tagged, showing on car tags the number of sacks contained in car; way-bill also to indicate the number of sacks forwarded.
3. Car numbers, contents, and date of shipment must be forwarded at once to the depot quartermaster, by mail, or reported to Telephone 249, Colon.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Extra Steamshovel Engineers and Cranemen.

CULEBRA, C. Z., November 25, 1913.

CIRCULAR No. 387–D:

Hereafter, all extra steamshovel enginers and cranemen will be carried on the rolls of the Fourth Division of this office, with the exception of the necessary extra men to supply the shovels working at Porto Bello and Ancon quarries.

The extra men will be carried at locations most convenient to the work, and can be secured by telephone application to the office of Resident Engineer Zinn of the Fourth Division, at Culebra.

The cost of carrying these extra men will be divided among the different departments and divisions performing steamshovel work.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Invoicing Vacation Leave.

CULEBRA, C. Z., November 22, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

Circular letter of July 26, 1913, relative to invoicing for vacation leave due employes transferred, is cancelled, effective December 1, 1913.

The costkeeping accountant will arrange to make proper distribution of vacation time between departments and divisions when an employe leaves the service.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Rating of Concretemen.

CULEBRA, C. Z., November 28, 1913.

CIRCULAR No. 229–Z–6:

Hereafter, the rating of "Concretemen" at 13 cents an hour shall cover men handling concrete materials to mixers as well as men placing concrete in forms.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Unclaimed Pay Receipts.

CULEBRA, C. Z., November 25, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

In order to facilitate the handling of pay receipts, commencing with the month of December, 1913, all unclaimed pay receipts for the preceding month on hand in the various field offices on the 15th day of each month must be forwarded to the timekeeping office in which they originated.

Any requests made on field offices for pay receipts after the 15th of each month should be referred to the timekeeping office to which they have been sent.

E. W. PALMER,
Chief Timekeeper.

Approved:
GEO. W. GOETHALS,
Chairman and Chief Engineer.

Appointment of Accountable Officers.

CULEBRA, C. Z., November 19, 1913.

CIRCULAR No. 514:

The following accountable officers are hereby appointed, effective January 1, 1914, and as such will make returns for all property over which they have jurisdiction:

Mr. W. G. Comber, Sixth Division.
Mr. R. B. Tinsley, Fifth Division.
Mr. J. A. Walker, Balboa terminals, Second Division.
Mr. W. J. Holmes, transportation department, Second Division.

Mr. J. C. Keller, chief clerk, Fifth Division, will prepare invoices as of December 31, 1913, against the above named accountable officers, who will check same and be prepared to start their returns as of January 1, 1914.

The accountability of Mr. J. C. Keller, chief clerk, Fifth Division, will be closed upon final audit of his accounts for the period ending December 31, 1913.

GEO. W. GOETHALS,
Chairman.

General Superintendent, P. R. R.

PANAMA RAILROAD COMPANY,
OFFICE OF THE PRESIDENT,
CULEBRA, C. Z., December 1, 1913.

GENERAL ORDER:

Effective this date, Lieutenant F. Mears is appointed general superintendent of the Panama Railroad Company and Steamship Line on the Isthmus, vice Mr. J. D. Patterson, resigned. Lieutenant Mears will also continue to perform the duties of chief engineer.

GEO. W. GOETHALS,
President.

Revised Pay Car Schedule.

The following revised schedule for the I. C. C. pay car on the 11th and 12th of each month will be effective with the December payments:

11TH.

Leave Empire 6 a. m.
Gold Hill engine house, 6.55 a. m.
Gold Hill to Obispo Junction, 7 to 8 a. m.
Radio station siding, 8.20 to 8.30 a. m.
Transmission line forces, Frijoles, to Gatun, stops to be arranged each month with the First Division.
Gatun, north end, 9.45 to 10.30 a. m.
Gatun, near commissary, 10.45 a. m. to 12 noon.
Gamboa tower for forces on dumps, 1 to 1.15 p. m.
Paraiso, east side, 1.45 to 2.15 p. m.
Paraiso, west side, 2.30 to 2.40 p. m.
Rio Grande, 3.10 to 3.35 p. m.
Culebra, main line, 3.50 to 4 p. m.
Empire shops, 4.05 to 5 p. m.

12TH.

Leave Empire 6 a. m.
Naos Island 7.10 to 8 a. m.
Breakwater dumps, 8.10 to 8.35 a. m.
East Balboa, 8.40 to 9.15 a. m.
Ancon crusher, 9,30 to 9.40 a. m.
New administration building, 9.42 to 9.52 a. m.
Shipways shops, 10 to 10.20 a. m.
Balboa terminals, near Building 7, 10.25 to 11.45 a. m.
Pedro Miguel, 12.15 to 1.15 p. m.
Siding, Miraflores station, 1.25 to 1.40 p. m.
Corozal, 1.50 to 2.05 p. m.
Miraflores, south end, 2.15 to 2.55 p. m.
Miraflores, north end, 3 to 3.15 p. m.
(Men at power plant to walk across to car.)
Bas Obispo, 4.15 to 4.20 p. m.
Las Cascadas, 4.30 to 4.40 p. m.
Empire, 5 p. m.

Outside payments are made, as follows:

FROM CRISTOBAL OFFICE.

Toro Point, on the morning of the 11th.
Porto Bello, on the Saturday nearest the 20th.

FROM ANCON OFFICE.

Ancon Hospital, gold, 3rd or 4th, afternoon.
Ancon Hospital, silver, 12th, afternoon.
Injury patients in Ancon Hospital, 20th.
Dredges, 13th.
Tahoga, 18th, 19th, or 20th, according to date the *Sanidad* goes over.
Chame, Thursday, 20th, or 27th.

FROM EMPIRE OFFICE.

Gamboa stockade.
Dredging fleet on the Canal, 9th.

JOHN H. MCLEAN,
Disbursing Officer.

Approved:
GEO. W. GOETHALS,
Chairman and Chief Engineer.

Commissary Track at Pedro Miguel.

PANAMA RAILROAD COMPANY.
OFFICE OF GENERAL SUPERINTENDENT.
COLON, R. P., December 2, 1913.

G. S. BULLETIN No. 22:

To all concerned—Effective at once, the new commissary track at Pedro Miguel is O. K. for use.

F. MEARS,
Acting General Superintendent.

Interlocking Plant at Tower A, Cristobal, Temporarily out of Service.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., December 1, 1913.

G. S. BULLETIN No. 20:

To all concerned—Effective 12.01 p. m., Tuesday, December 2, 1913, interlocking plant at Tower A, Cristobal, will be placed out of service account of rearrangements.

Switch tenders will be on duty 6 a. m., to 6 p. m. At all other times train crews will throw the switches now interlocked. Main line home signals will be construed to be automatic signals during the period the plant is out of service and be controlled by track circuit only.

All trains using the crossing of the dock lead and switch track to roundhouse will stop, whistle, and be sure crossing is clear before proceeding.

F. MEARS,
Acting General Superintendent.

Acting Manager, P. R. R. Commissaries.

CRISTOBAL, C. Z., December 3, 1913.

During the absence on leave of Mr. John Burke, manager of Panama railroad commissaries, effective December 4, the undersigned will perform his duties.

EUGENE T. WILSON,
Subsistence Officer.

Hours for Visitors at Ancon Hospital.

ANCON, C. Z., November 26, 1913.

To all concerned—The hours for visitors at Ancon Hospital are, as follows: Tuesdays, Thursdays, and Saturdays, from 2 to 4.30 p. m. Sundays and holidays, from 9.30 to 11 a. m., and from 2.30 to 4.30 p. m..

CHAS. F. MASON,
Superintendent.

Closing of Canal Zone Schools During Christmas Holidays.

DEPARTMENT OF CIVIL ADMINISTRATION,
DIVISION OF SCHOOLS,
ANCON, C. Z., December 1, 1913.

The public schools of the Canal Zone will close for the Christmas holidays, Friday, December 19, at the close of the afternoon session. Schools will reconvene Monday morning, January 5, 1914.

A R. LANG,
Superintendent of Schools.

Supplies for the Canal.

The following steamers, with supplies for the Isthmian Canal Commission and Panama Railroad Company, arrived at the ports of Balboa, Colon, and Cristobal during the week ending November 29:

Colon, November 23, from New York with one mortar and parts, 131 cases asbestos roofing, 309 boxes empty shells for fortifications; 1,022 cases structural steel, 20 cases electrical machinery for First Division; 965 bundles reinforcing bars for Second Division; 20 bales hair, 2,000 bags lime for administration building, Balboa; 30 cases magnesia pipe covering, 40 bales oakum, 125 cases lubricating grease, 142 pieces iron pipe, 310 drums paint, 14 barrels fire brick, 139 coils wire, 24 bundles rakes, for stock; and a miscellaneous cargo the whole consisting of 5,790 pieces, weighing 695 tons.

Ninian, November 23, from Liverpool, with four cases and three lengths of chain for Sixth Division.

Tenadores, November 23, from New York, with six reels cable, 463 cases structural steel for First Division; 100 steel rods for Sixth Division; five cases electrical machinery for Mechanical Division; 34 pieces suspension rods for fortifications.

Heredia, November 24, from New Orleans, with 180 pieces pipe, for Municipal Engineering Division; 57 pieces untreated piling for Atlantic Division; 231 pieces lumber for Sixth Division; 45 pieces lumber for stock.

Emil Boas, November 24 from New York, with 40 crates roofing paper, 125 barrels asphalt for fortifications; three cases electrical material for Mechanical Division; 134 packages gas accumulators for Lighthouse Subdivision; 1,168 pieces pipe for stock.

Almirante, November 26, from New York, with 465 pieces structural material for First Division; 44 crates metal lath for Second Division; 33 cases structural material for fortifications; 19 reels cable for Panama Railroad Company; 51 cases caustic soda, 50 packages wheelbarrows for stock.

Colusa, November 26 from Columbia River, with four spud timbers for Sixth Division; 729,132 (board feet) Douglas fir lumber for Atlantic Division; 2,510,199 (board feet) Douglas fir lumber, 634 pieces piling for stock.

Atenas, November 27, from New Orleans, with 123 pieces oak lumber for Sixth Division, 260 pieces pipe for Municipal Engineering Division; 200 drums kerosene, 370 sacks feed, 40,288 (board feet) lumber for stock.

Advance, November 29, from New York with 81 barrels paint, 37 cases electrical material for First Division; 14 barrels starch for Sanitary Department; 32 barrels insulated wire, 68 cases electrical material for Mechanical Division; 56 bundles window frames and glass for administration building, Balboa; 328 bundles corrugated bars for fortifications; 17 bundles rakes, 70 bundles wheelbarrows, 22 cases paper, 67 packages lead pipe and fittings, 72 pieces steel plates, 50 kegs rivets, 200 steel angles, 50 cases lye for stock; and a miscellaneous cargo, the whole consisting of 1,621 packages, weighing 162 tons.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The schedule for moving pictures for the week, December 8 to 13, is, as follows: Monday, Culebra; Wednesday, Corozal; Thursday, Cristobal; Friday, Empire; Saturday, Gatun.

The standing of the all-Isthmian bowling league, December 1, was, as follows:

Team.	*Won.*	*Lost.*	*P. C.*
Cristobal	16	5	.762
Empire	16	8	.668
Corozal	15	9	.625
Culebra	13	11	.542
Gatun	6	14	.300
Camp Elliott	0	18	.000

There is no change in the standing of the teams in the all-Isthmian basketball league.

The standing in the all-Isthmian chess tournament, is, as follows: Culebra, 27½ points; Empire, 26½ points; Gatun, 17 points; Cristobal, 16 points.

COROZAL.

Thanksgiving day was "Open house" day at the clubhouse.

High scores in bowling have been made by the following: *Duckpins*—Burke, 111, 107, 102, 120, 107, 104, 109, 101; Beall. 126. 103; Ward. 116; Souder, 105, 103; Davis, 112, 113, 105; Steele, 105, 103.

Tenpins—Taylor, 213; Parkis, 203; Beall. 208; Entermarker, 224; Edwards, 203, 209; Davis, 203; Holmes, 214.

New juvenile books were received here last week; also, a few new books for adults.

CULEBRA.

On Monday night, November 24. the Guatemalan orchestra gave a concert on the marimba, accompanied by violincello and two violins. Selections from the well known operas were given, as well as several popular airs. One hundred and fifty people attended.

On Friday night, November 28, "Open house" was observed. Games were played and a general good time was had by those present. Messrs. Ramsey, Arbuckle, and Pearsall furnished music during the evening. Refreshments of pumpkin pie, apples, and lemonade were served. This was Mr. Arbuckle's last service for the Y. M. C. A., as he left for Washington, D. C., on December 2, having been transferred to the Civil Service Department.

On Saturday night, November 29, the local team won two out of three games from the Gatun bowling team, with the following scores:

Gatun.				*Culebra.*			
O'Meara	145	177	149	Case	154	136	166
Otto	173	174	193	Herrington	143	150	180
Sherrard	176	143	180	Chadbourne	155	174	219
Humphreys	159	139	168	Dougherty	175	168	167
Swallow	168	157	164	Hansli	149	171	138
Totals	821	790	854		776	799	870

High scores during the week were, as follows:

Tenpins—Case, 203.

Duckpins—Ferguson, 100; Palmer, 100, 102, 109, 103, 102, 110, 100, 114, 130, 128; Fitzpatrick, 100; Case, 106; Kiernan, 101; Cornthwaite, 109; Jefferies, 103, 112.

At the regular service on Sunday night, November 30 "The results of the observance of Thanksgiving" was discussed.

Moving pictures will be shown on Friday night, December 5.

EMPIRE.

Spanish classes were started this week and will be held regularly on Tuesday and Thursday evenings. The intermediate class will meet from 7 to 8 p. m., and the beginners' class from 8 to 9.

Hagy's moving picture reels of the Canal, showing the first boat through Gatun locks and the blowing up of Gamboa dike, were shown on Tuesday evening. Over 300 were in attendance. On Friday evening, Mr. H. H. Buckwalter's moving pictures of the Canal Zone and Panama were shown to an audience of 400.

The Gatun chess club played the Empire club at Empire on Saturday evening, November 29, with the following results:

Empire		*Gatun.*	
Goolsby	0	Marquand	1
Goodholm	1	Marquand	0
Goolsby	0	Logan	1
Goodholm	1	Brown	0
Lippert	1	Brown	0
Lippert	0	Byrne	1
Smith	1	Byrne	0
Smith	1	Brown	0
Total	5		3

Following are the scores of winners in the Thanksgiving bowling tournament held at Empire:

OPEN DOUBLES.

Team.	*Clubhouse.*	*Score.*
1. Huson and Sims	Empire	1087
2. Parkis and Ziller	Corozal	1079
3. Gustavson and Boesen	Empire	1066

REGULAR DOUBLES.

Team.	*Clubhouse.*	*Score.*
1. Gustavson and Peterson	Empire	1098
2. Parkis and Louch	Corozal	1064
3. Edwards and Dougherty	Culebra	1050

SINGLES.

Team.	*Clubhouse.*	*Score.*
1. Parkis	Corozal	590
2. Louch	Corozal	579
3. Barte	Cristobal	530

SINGLE HIGH SCORE.

Team.	*Clubhouse.*	*Score.*
1. Bullard	Cristobal	230

Total entries, 85.

GATUN.

Special moving pictures of the Panama Canal were shown before a large audience on Monday night, December 1.

Much interest has been shown in the gymnasium classes under the direction of Mr. Kjellander.

The results of the Thanksgiving Day "Ragtime" duckpin tournament were, as follows:

First prize—P. J. Claherty, A. J. Coleman. Score 269.

Second prize—W. A. Wells, M. Conley. Score, 240.

Third prize—M. Conley, Edward Walsh. Score, 239.

High score, P. J. Claherty, 156.

A farewell reception was tendered to Mayor William B. Childers, superintendent for the McClintic-Marshall Construction Company, who left for the United States on November 29. The latter read a farewell address. Frank H. Wang was elected mayor to succeed Mr. Childers, and C. C. Bailey was elected to fill the vacancy on the board of aldermen. Several citizens were brought before the city court for mock trials. The new mayor will soon call a meeting of the officials to consider further municipal activities.

An interesting lecture on the South Polar expedition of Captain Amundsen was delivered to an appreciative audience, by Captain Nilsen of the *Fram*, on Monday evening, November 24.

The new Spanish classes, under the direction of Madam de Hess, were organized on Tuesday evening.

CRISTOBAL.

The scores for the single folks' bowling tournament, held November 24, are, as follows:

A. Gibson and Miss Carpenter	494
D. Raymond and Miss G. Butler	493
A. Farr and Miss C. Mathews	462
W. Russell and Miss Stevens	442
N. Drew and Miss Bevington	439
E. C. Cotton and Miss Ida M. Glawson	438
W. Scheid and Miss Gibson	426
J. Wechler and Miss E. Mathews	421
E. Nash and Miss C. Madison	417
A. Farrell and Miss L. Madison	415

Three hundred and fifty people attended the moving picture exhibition of the Buckwater films of the Canal, on Tuesday evening, November 25.

Two hundred and thirty men attended the camp fire banquet at the Hotel Washington on Wednesday, November 26. Mr. W. J. Price, the American Minister, was unable to attend. The toastmaster was Judge Thos. E. Brown, Jr., and the speakers were Dr. C. C. Pierce, Mr. W. W. Warwick, and Mr. Richard L. Metcalfe. Colonel Goethals added a few words. Mr. W. H. Kromer led in the invocation. Mr. Glenn Ward Dresbach read an original poem, entitled "An Ode to the Panama Canal." Mr. Frank Johnson sang a solo. The Guatemalan orchestra furnished the music. Following the dinner, cigars, and fruit were served. Each man present received a souvenir program of the occasion, giving his name and date of entering the service, the songs, menu, program, and President Wilson's Thanksgiving Proclamation.

Cristobal took two out of three games from Empire in the all-Isthmian bowling tournament on Saturday night, November 29, thereby practically assuring first place in the tournament for this year. The scores follow:

Cristobal.				*Empire.*			
Barrett	152	167	168	Gustavson	167	195	138
Barnum	167	190	166	Potter	147	177	163
Collins	211	195	171	Peterson	148	189	223
Barte	202	172	191	Boesen	134	...	...
Bullard	167	169	152	Sims	...	160	146
				Huson	133	124	209
Totals	899	893	848		729	845	879

◆

Cold Storage Prices.

The following changes have been made in the price of cold storage supplies since last week: Eggs advanced to 41 cents a dozen; 21 cents by the half dozen; oysters, reduced to 32 cents a quart; turkeys, reduced to 25 cents a pound; butter, creamery special, advanced to 38 cents a pound; celery, advanced to seven cents a pound; tomatoes, advanced to eight cents a pound. Other prices unchanged.

◆

LOST—Panama hat, taken from Gatun clubhouse between 3 and 5.30 p. m., Thanksgiving Day. Kindly return to Y. M. C. A at Gatun.

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings of the Panama Railroad Steamship Company: of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line.

NEW YORK TO CRISTOBAL.*

Panama	P. R. R.	Saturday	Nov.	29
Allianca	P. R. R.	Friday	Dec.	5
Colon	P. R. R.	Thursday	Dec.	11
Advance	P. R. R.	Wednesday	Dec.	17
Panama	P. R. R.	Tuesday	Dec.	23
Allianca	P. R. R.	Tuesday	Dec.	30

CRISTOBAL TO NEW YORK.*

Advance	P. R. R.	Friday	Dec.	5
Panama	P. R. R.	Thursday	Dec.	11
Allianca	P. R. R.	Wednesday	Dec.	17
Colon	P. R. R.	Tuesday	Dec.	23
Advance	P. R. R.	Tuesday	Dec.	30
Panama	P. R. R.	Monday	Jan.	5
Allianca	P. R. R.	Sunday	Jan.	11

NEW YORK TO COLON.

Santa Marta	U. F. C.	Wednesday	Nov.	26
Carl Schurz	H.-A.	Saturday	Nov.	29
Pastores	U. F. C.	Saturday	Nov.	29
Metapan	U. F. C.	Wednesday	Dec.	3
Thames	R. M.	Saturday	Dec.	6
Tivives	U. F. C.	Saturday	Dec.	6
Prinz August Wilhelm	H.-A.	Saturday	Dec.	6
Zacapa	U. F. C.	Wednesday	Dec.	10
Tenadores	U. F. C.	Saturday	Dec.	13
Emil L. Boas	H.-A.	Saturday	Dec.	13
Almirante	U. F. C.	Wednesday	Dec.	17
Magdalena	R. M.	Saturday	Dec.	20
Carrillo	U. F. C.	Saturday	Dec.	20
Prinz Joachim	H.-A.	Saturday	Dec.	20
Santa Marta	U. F. C.	Wednesday	Dec.	24
Pastores	U. F. C.	Saturday	Dec.	27
Carl Schurz	H.-A.	Saturday	Dec.	27

COLON TO NEW YORK.

Almirante	U. F. C.	Thursday	Dec.	4
Prinz Joachim	H.-A.	Tuesday	Dec.	9
Carrillo	U. F. C.	Tuesday	Dec.	9
Magdalena	R. M.	Tuesday	Dec.	9
Santa Marta	U. F. C.	Thursday	Dec.	11
Carl Schurz	H.-A.	Tuesday	Dec.	16
Pastores	U. F. C.	Tuesday	Dec.	16
Metapan	U. F. C.	Thursday	Dec.	18
Prinz August Wilhelm	H.-A.	Tuesday	Dec.	23
Tivives	U. F. C.	Tuesday	Dec.	23
Danube	R. M.	Tuesday	Dec.	23
Zacapa	U. F. C.	Thursday	Dec.	25
Emil L. Boas	H.-A.	Tuesday	Dec.	30
Tenadores	U. F. C.	Tuesday	Dec.	30
Almirante	U. F. C.	Thursday	Jan.	1

NEW ORLEANS TO COLON.

Turrialba	U. F. C.	Saturday	Nov.	29
Cartago	U. F. C.	Wednesday	Dec.	3
Abangarez	U. F. C.	Saturday	Dec.	6
Heredia	U. F. C.	Wednesday	Dec.	10
Atenas	U. F. C.	Saturday	Dec.	13

COLON TO NEW ORLEANS.

Atenas	U. F. C.	Thursday	Dec.	4
Parismina	U. F. C.	Saturday	Dec.	6
Turrialba	U. F. C.	Thursday	Dec.	11
Cartago	U. F. C.	Saturday	Dec.	13

*Amended schedule, resulting from temporary withdrawal of the *Allianca* for repairs.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 1 p. m.; for Southampton on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays and Saturdays at 3 p. m.; ships for New York via Kingston, on Tuesdays at 1.30 p. m., and Thursdays at 1.30 p. m.; for Bocas del Toro on Mondays at 5 p. m.; for Limon, via Bocas del Toro, on Tuesdays at 5 p. m.; and for Limon direct, Tuesdays at 3 p. m.

Hamburg-American steamers sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays; the *Prinz August Wilhelm* and *Prinz Joachim* at 10 a. m.; the *Carl Schurz* and the *Emil L. Boas* at 2 p. m.

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The following steamers arrived at, or departed from, the port of Balboa during the week ending November 29, 1913:

Arrivals—November 24, *Newport*, from San Francisco; *Huallaga*, from south ports (Callao); *Mexico*, from Valparaiso; November 25, *Manavi*, from intermediate ports; *Colusa*, from Puget Sound; November 27, *Pennsylvania*, from San Francisco; November 28, *Ecuador*, from intermediate ports.

Departures—November 22, *Rupanco*, to intermediate ports; November 24, *Mantaro*, to Callao; *Palena*, to south; November 27, *Aztec*, to San Francisco; *Lyra* to San Francisco.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, DECEMBER 10, 1913. No. 16.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Progress at Cucaracha Slide.

Excavation of a channel through the base of Cucaracha slide has advanced more distinctly during the past week than in any similar period since the dredges have been working on it. The dipper dredge *Mindi*, working on the north side, and the ladder dredge *Marmot*, on the south, had approached within 30 feet of each other by noon of December 9, but a later movement caused the *Marmot* to move back 125 feet. The ladder dredge *Corozal*, widening the channel behind the *Marmot*, excavated 5,750 cubic yards during the 24 hours ending at 6 p. m., December 6. The total excavation of the three dredges during the week ending at 6 a. m., December 10, was about 52,000 cubic yards.

Pipeline suction dredge *No. 4*, now at Margarita Island, is to be brought up through Gatun Locks, probably on Thursday, December 11, to assist in the excavation at Cucaracha. The derrick barge *La Valley* and the ladder dredge, *No. 1*, will be brought to Gamboa at the same time.

Progress on Permanent Canal Crossing.

Upon the recommendation of a committee, consisting of Lieut. F. Mears, chairman, Mr. A. S. Zinn, and Mr. T. B. Mönniche, it has been decided to make the connection between the bridge pontoon for crossing the Canal at Paraiso, and the land approaches, by means of a pile trestle at each end of the pontoon, with concrete piers at the connections between pontoon and trestles. The actual juncture between the trestle on the pontoon, and the piers, is to be made by using some of the spare lock gate girders, now in storage at Paraiso, so arranged as to move vertically to meet variations in the surface of the water in the Cut. The approach trestle will be driven with six creosoted piles in each bent. The bents will be spaced on 13-foot centers, and the 12-inch by 12-inch caps on them will be 18 feet long, to provide room for a wagon road, in addition to the railway track.

Work on the approach trestles will be started within the coming week, as soon as piles and other requisite materials are delivered at the sites. The greater part of the concrete for the piers is already in place, and after the trestles have been built out to them, the operating machinery and remaining concrete will be placed. It is expected to have the approaches in entire readiness by the time the pontoon is ready to anchor to the piers.

The barge for the pontoon is being constructed in the French canal, north of the dry dock at Mount Hope. Progress on it has been delayed by nonarrival of material. The heavy sill timbers to be placed along the keel of the barge, as part of the stiffening trusses beneath the bents of the trestle which the barge will support, arrived at Mount Hope on December 5, and the construction of the barge will now be pushed.

Emergency Dams at Miraflores Locks Completed.

The emergency dams at Miraflores Locks have been completed. and the final tests, to be carried out for 10 days, will begin about December 15 on Dam F, east dam; and about January 15 on Dam E. west dam.

Preparations for Reclamation of Gravel.

A span is to be lifted out of the Chagres River bridge of the Panama railroad, at Gamboa, on Sunday, December 14, to allow dredging equipment to pass up the river to Cruces to recover gravel for use in concrete and in railroad ballast. The span to be taken out is the second 80-foot plate girder span north of the trussed portion of the bridge which crosses the river bed proper. It will be lifted by wrecking cranes and laid on a barge, to be towed aside, as is done with the removable 60-foot span in the trestle at Paraiso. If the barge used at Paraiso can be towed past Cucaracha slide in time, it will be used at Gamboa also, if not, two of the barges in use north of the slide will be lashed together for the service. It is estimated that the removal of the span, passage of vessels, and replacement of span, will require about five hours.

The vessels to be passed through are the French ladder dredge, *No. 1*, and a clapet with two barges. They will proceed to the submerged beds staked off at Cruces before the rise of Gatun Lake, and the material will be handled down to a wharf erected by forces of the Panama railroad on the south bank of the Chagres, about 500 feet north of the bridge. This wharf is 300 feet long, with its floor at elevation 95 feet above sealevel, and is equipped with bins over double tracks for the storage of the gravel and loading into cars. Unloading from the barges will be done by means of an electric crane formerly used on the sand wharf at Balboa. The crane is of the fixed cantilever type, with a horizontal trolley extending over the mooring place and over the storage bins. It is estimated that about 500,000 cubic yards of gravel will be reclaimed by dredging.

Gatun Lake Water for Colon and Cristobal.

Water from Gatun Lake is being supplied to Colon and Cristobal, through the tunnel between the watersheds of Brazos Brook and the Escoval Creek, a tributary of the Quebrada Ancha, in the lake area. The valves were first opened on November 17. The water comes through a 20-inch pipe, the center line of which is 76 feet above sealevel, and is passed by pipeline to the upper edge of the reservoir, where control valves, governed by an automatic controller, regulate the supply. The lake water is regarded as auxiliary to the regular Brazos Brook supply, and is automatically cut off when the surface of the reservoir comes within one foot of the spillway channel in the dam, at elevation 50. The controller is so adjusted that it keeps the valve governing the lake supply wide open when the surface of the reservoir is as high as 48.7 above sealevel, but shuts off entirely by the time it reaches elevation 49. The water is filtered at Mount Hope before it is pumped into the Colon-Cristobal supply mains.

Swing Bridge for Crossing French Canal.

The rail approach to the permanent Atlantic coaling station, situated at the north end of Mindi Island, across the French canal from Cristobal, is to be provided with a horizontal swing draw bridge over the French canal, about half a mile south of the Mount Hope dry dock, in order that the channel may be continued in use as an additional means of navigation to Gatun. Several types of lift-span bridge were considered for use at this crossing, but local conditions of operation, necessitating a wide clearance for both trains and vessels, with concurrent problems in the distribution of weight, as well as considerations of the effect of the atmosphere on the exposed parts of the machinery, which will be used comparatively seldom, led to the adoption of the horizontal, instead of the bascule type of opening span. Award for the fabrication and erection of the swinging span and operating mechanism has been made to the American Bridge Company, on a design submitted by it, in the sum of $55,404. The piers and land approaches on either side are to be constructed by the Panama railroad.

The pivot for the bridge is to be built on the east side of the French canal, and the cantilever arm which will balance the opening span will serve for connection with the track embankment on Mindi Island. The approach to the bridge from the Mount Hope side will be effected over a girder span recovered from the Barbacoas bridge, on which the old main line of the railroad crossed the Chagres River. The old parabolic plate girders, of which this span uses two were installed at Barbacoas about 1868, and though still in good state of preservation, require reinforcement for carrying the heavy loads of modern rolling stock. The span to be used at the approach to the French canal is 108.79 feet long, and will be braced at the middle by three 4-foot concrete caissons sunk to rock. The pivot for the swinging bridge will be a reinforced concrete cap, resting on six 6-foot steel caissons driven to rock, and filled with concrete, reinforced at each quarter of the circle with vertical lengths of 70-pound steel rail. The six caissons will be arranged in a circle with a diameter of about 20 feet. Abutments at the ends of the earth embankments leading to the bridge will be of reinforced concrete, supported on creosoted piles.

The base of the rails across the bridge will be 20 feet above sealevel. When the span is open, the clearance for vessels will be 90 feet horizontally, and unlimited overhead. In anticipation of future use of the French canal, the channel at the site of the bridge has been dredged to 30 feet below sealevel.

Ancon Crusher.

Following is a statement of rock crushed at Ancon quarry for the three weeks ending December 6:

DATE.	Hours worked.	Cubic yards.
Nov. 17	6 40	1,740
Nov. 18	6 25	1,633
Nov. 19	6 45	1,866
Nov. 20	6 45	2,150
Nov. 21	6 15	2.088
Nov. 22	7.20	2,245
Total	40.10	11.722
Nov. 24	7.10	1,873
Nov. 25	7.10	1.723
Nov. 26	6.30	2.130
Nov. 27	Holiday	Holiday
Nov. 28	4.10	1.529
Nov. 29	7.15	1.933
Total	32.15	9,188
Dec. 1	7 40	2,167
Dec. 2	6 35	1.577
Dec. 3	6 45	1,850
Dec. 4	7.50	1.580
Dec. 5	8.05	2,352
Dec. 6	8.10	1,786
Total	45 25	11,312

Cuba Wants European Laborers.

A report on the steps taken by the Government of Cuba to attract the surplus European labor on the Canal to that island has been made by Mr. James L. Rodgers, the United States Consul General at Habana. The report is dated November 1, 1913, and is, in part, as follows:

> The decree of the President which contemplates offering Cuban inducements to large numbers of the white European workmen who are now at Panama, but for whom there will soon be no work, has been received with much satisfaction by the sugar mill interests and by the farmers who are growing cane for these mills. The present sugar cane acreage of Cuba is approximately one million, and it is becoming apparent that the annual transient immigration from Spain and the Canary Islands, added to that drawn from the West Indies, will not be sufficient to provide the labor necessary to cut the cane and provide for the constantly increasing capacity of the mills. A great deal of the cane of Cuba was left uncut in this last season, and it was more than probable that many of the mills would have had capacity to have ground more than they did had it not been for the scarcity of labor.
>
> The decree of the President provides that the Cuban representatives in Panama shall urge the laborers in question to come to Cuba; that the Secretary of Agriculture shall have a fund from which legitimate expenses will be paid; that the steamship companies whose ships ply between Colon, Panama, and Santiago and Antilla, Cuba, shall be given a bonus of $5 for each immigrant of the desired class brought, and that each immigrant intending to locate in Cuba shall be furnished with a certificate of authorization from the representative of Cuba in Panama. It is further provided that there shall be a physical examination of these immigrants, and that no one of a bad character as determined by his record upon the Canal work will be accepted for work in Cuba. The Secretary of Agriculture has designated a Cuban physician, Dr. Eduardo Nuñez, to proceed to Panama and to take up the duty of the examination of these immigrants.

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LIEUT.-COL. DAVID DUBOSE GAILLARD.

General Notice.

The cable brings the sad news of the death of Lieut.-Col. D. D. Gaillard, Corps of Engineers, U. S. A., member of the Isthmian Canal Commission, on the morning of December 5, 1913, at Baltimore, Md.

Colonel Gaillard was born in Fulton, Sumter County, South Carolina, September 4, 1859. He was graduated from the West Point Military Academy in 1884, and was appointed Second Lieutenant of Engineers on June 15, 1884. After graduation from the Engineering School of Application he served on River and Harbor and Fortification work in various parts of the United States; and from February, 1892, to December, 1894, was a Commissioner on the Mexican Boundary Survey. During the war with Spain, he was appointed Colonel of the Third United States Volunteer Engineers, serving in the United States and Cuba in 1898 and 1899, a part of the time as Chief Engineer of the District of Santa Clara in Cuba. He was Assistant to the Engineer Commissioner of the District of Columbia, following his service in Cuba, until February, 1901. On the organization of the General Staff of the Army, he was selected as one of its members, and was engaged on this duty when appointed a member of the Isthmian Canal Commission in 1907. He arrived on the Isthmus in March, 1907, and was appointed subsequently head of the Department of Excavation and Dredging, retaining that position until a new organization was created on July 1, 1908, when he was made Division Engineer of the Central Division, which included the Culebra Cut. He was in charge of the work in the Cut until its virtual completion, being compelled to abandon his duties through illness in July last.

Colonel Gaillard's period of Canal service was coincident with that of the other engineering members of the present Commission, and included the years of most active construction work. He brought to the service trained ability of the first order, untiring zeal, and unswerving devotion to duty. His name is connected inseparably with the great task which was brought to completion under his guidance, and will be held in lasting honor. His associates mourn him as a valiant soldier, true man, and beloved companion.

Geo. W. Goethals,
Chairman and Chief Engineer.

Culebra, C. Z., December 6, 1913.

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Locomotive No. 656, which was damaged in the collision of November 6 on the Panama-Bas Obispo branch of the Panama railroad, was returned to duty from Empire shops on December 3. Locomotive No. 203, injured in the same wreck, will not be repaired, but will be stripped and scrapped. Repairs to all the other rolling stock, with the exception of the flat car which was demolished, have been completed.

RED CROSS SEALS.

Canal Zone Chapter Hopes to Dispose of 50,000 this Holiday Season.

Although the number of gold employes on the Canal Zone has decreased considerably since the holiday season of 1912, the officers of the Red Cross are anticipating a heavy sale of Red Cross seals during the month of December.

The Canal Zone Chapter has been one of the leading agents in the world in the percentage of seals sold, according to population, and it is anticipated that the Americans will purchase a large number of these seals this year, thus helping in the fight against tuberculosis and at the same time helping the Canal Zone Chapter to maintain its position among other chapters. Last year, 81,270 seals were sold in the Zone, and, although it will probably not be possible to equal that record this year, the officers of the society hope to dispose of at least 50,000. So far this season, the record is held by the Chief Quartermaster's department in Culebra, which has already remitted for 3,100 seals. Seals may be had at the offices of all the district quartermasters, clubhouses, and from chief clerks of divisions and departments. Those unable to locate selling agents easily are requested to consult with the following district chairmen of the Red Cross, who will be glad to give information: B. C. Poole, Ancon; Geo. LeMire, Corozal; I. W. Picket, Paraiso and Pedro Miguel; E. E. Lee, Culebra; T. L. Clear, Empire; Col. H. A. Greene, Las Cascadas; Lieut. E. A Ostermann, Camp Elliott; Mr. J. T. Smith, Gatun; Dr. C. A. Hearne, Cristobal.

American Institute of Electrical Engineers.

There was an attendance of 38 members, applicants, and prospective members, at the meeting of the Panama section of the American Institute of Electrical Engineers, held at the Hotel Tivoli on Sunday, December 7. Mr. Edward Schildhauer was elected chairman, and Capt. W. H. Rose, secretary-treasurer.

Election of Officers.

At the meeting of Pacific Lodge, No. 4, Independent Order of Odd Fellows, held at Ancon Hall on Thursday night, December 4, officers were elected for the ensuing term, as follows: Noble grand, Karl P. Curtis; vice-grand, Norman C. Anderson; treasurer, A. S. Curtis; secretary, Emil J. Rall. The installation of the newly-elected officers will take place at the first meeting in January.

Obituary.

Albert Joseph Miller, a private in the U. S. Marine Corps at Camp Elliott, died at Camp Elliott, Bas Obispo, on December 1. He was single, 24 years of age, was born in San Francisco, Cal., and had been on the Isthmus one year and seven months. He is survived by his uncle, Mr. Fred Pitts, living at Hastings, Minn.

SOCIAL LIFE OF THE ZONE.

Ancon Study Club.

The Ancon Study Club convened on Thursday afternoon, December 4, after a recess of two weeks. The fourth volume on the study of United States history was completed, the work having been brought up to the beginning of the Civil War. On December 11, there will be a mixed program. Miss Inez Perry of Boston, historian of the Wayside Inn Chapter of the Daughters of the American Revolution, will read a paper on the Wayside Inn. On December 18, the program will consist of papers on Christmas in many lands. Following this meeting, the club will enter upon the Christmas vacation of two weeks, resuming meetings on Thursday, January 8. The club will enter upon the third year of its existence on January 24.

Church Work.

The Ladies' Auxiliary of the Empire Christian League held its semiannual meeting, with an election of officers, in the Commission chapel on Friday afternoon, December 5. The meeting was opened by an address of welcome to new members who were received at the meetings in October and November. This address was given in rhyme by Mrs. Goolsby, and the reply, also in rhyme, was given by Miss Elizabeth Ash, the youngest of the new members. The summary of the lesson, which completed the course on "China's new day," was read by Mrs. Holmwood; there were special readings by Mrs. Greener and Mrs. Hoffman. Mrs. W. D. Stanton gave a short talk on the completion of the study of China. The election of officers resulted, as follows: President, Mrs. Phil Kelly, reelected; first vice-president, Mrs. W. D. Stanton; second vice-president, Mrs. Homer Smith; secretary-treasurer, Mrs. H. Holmwood. The seimannual report of the outgoing secretary, Mrs. Drake, contained the following: During the last term, six meetings have been held, the first Friday in each month being the regular meeting day. On July 8, the society met with the Fidelity Bible Class, when there was a general program, with an informal reception following. The subject for the August meeting was "Chinese women." The Rev. Alfred DeRoos, a visiting evangelist, was the guest at the September meeting and led the devotional exercises, following with a short talk on the work of women in the church. The society voted a sum of money to be presented to Mr. DeRoos to be used in his work. In October, the subject for the meeting was the Chinese church. The November meeting was held at the home of Mrs. McLean; this was the Thanksgiving meeting. There was a special program, and the mite boxes were opened. There was about 20 guests present. The society will take up the new course of study, home missions, at the meeting in January.

At the meeting of the Woman's Foreign Missionary Society of the Methodist Episcopal Church, held in Panama, on Sunday afternoon, December 6, there were present delegates from the church societies at Cristobal, Empire, and Ancon. A tentative constitution for the formation of a federation of church societies composed of women was accepted, and arrangements were made for a meeting of representatives of the several societies to be held at St. Luke's Hospital chapel on January 14. These delegates will be empowered to arrange for the organization meeting to be held as soon after this date as possible. Mrs. Homer C. Stuntz, the wife of Bishop Stuntz of the Methodist Episcopal Church, was the guest of the society, and delivered an informal address on the work of the Woman's Foreign Missionary Society in various parts of the world.

Bishop Stuntz of the Methodist Episcopal Church arrived on the Isthmus on Friday, December 5, on his annual visit to the mission in Panama. On Saturday evening, he delivered a lecture in the seawall church, his subject being India and the Sepoy rebellion. The bishop preached in the church on Sunday morning.

The Rev. H. R. Carson, chaplain of Ancon Hospital, returned to the Isthmus on Thursday December 4, and resumed his duties at St. Luke's Hospital chapel. Services will be as usual, every Sunday morning at 10 o'clock, and on the second and fourth Sundays at 7 a. m. Sunday school will continue at 9 a.m., every Sunday. On Friday afternoon, December 5, a quiet hour was held for the women of St. Luke's Guild in the chapel, from 4.30 to 5.30. The Rev. Edward J. Cooper, rector of Christ Church, Colon, conducted the meditation, which was followed by evensong.

The Rev. Carl H. Elliott, minister of the Union Church, Cristobal, has accepted a call to the pastorate of a Presbyterian Church in Salem, Oregon, and will sail for the United States on the *Panama*, on Thursday, December 11.

The Rev. Mr. Elliott came from Toledo, Ohio, in January, 1909, in response to a call from the Union Church, Cristobal. He established the church on a good working basis, made its services attractive, and was especially active in extending its activities in the lines of social service. The organization of young people's societies were encouraged; classes for manual training for boys, and sewing for girls, were established with his encouragement, and a class in English for Chinese men was organized and taught by him. In 1911, the church building was erected in Cristobal for the Union Church congregation. This building was used for schoolroom, social hall, and meeting place for the societies, and it contained the minister's study. For the past year, Mr. Elliott has issued a weekly bulletin in connection with the church work in Cristobal. He has served in the preaching services at Las Cascadas and Corozal, and held frequent meetings at Camp Otis and Camp Elliott.

The officers and congregation of the church tendered a farewell reception to the departing minister at the church on Wednesday evening, December 10.

The parish of St. Ferdinand's Church, Empire, tendered a reception to the priest in charge, the Rev. Father Allot, who returned from his annual leave of absence on November 29, at the parish house on Saturday evening, December 6. A short program was given and there was a large attendance. The annual Christmas bazaar of St. Ferdinand's church will be held in the basement of the parish house on December 12, 13, and 14, opening on Friday evening. The usual articles will be offered, such as fancy and practical aprons, boudoir caps and slippers, silk bags, and Parisian novelties suitable for Christmas gifts. There will be a booth for toys and Christmas tree ornaments. Ice cream and cake will be sold.

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PERSONAL.

Lieut.-Col. William L. Sibert, accompanied by his niece, Miss L. Blair, returned from his annual leave of absence on the *Ancon*, which docked at Cristobal on Monday, December 8. His son, Lieut. Franklin C. Sibert of the Tenth Infantry at Camp Otis, accompaned by Mrs. Sibert, was also a passenger on the *Ancon*.

Surgeon Claude C. Pierce resigned as superintendent of Colon Hospital on November 26, and, with his family, will sail for the United States about January 1, 1914, to resume his duties with the United States Public Health Service, with which he has been connected since June, 1900. He arrived on the Isthmus on January 5, 1904, having been sent here to investigate and report the health conditions as they then existed. He was transferred to the Canal Commission service on June 26, 1904, and was appointed quarantine officer at Ancon and Panama, a position he held until January 13, 1905, when he was made executive officer of the Department of Sanitation. On August 16, 1905, he was appointed quarantine officer at Colon and Cristobal, and held that post until his appointment as superintendent of Colon Hospital on January 13, 1913. He was born at Chattanooga, Tenn., and received his degree as Doctor of Medicine at the Chattanooga Medical College in March, 1898. At the outbreak of the Spanish-American war, he enlisted as a private in the Third Tennessee Volunteer Infantry, was shortly afterward made hospital steward, and in November, 1898, he was commissioned first lieutenant and assistant surgeon. Following his entry into the Public Health Service, he was on duty at the Mobile, Ala. and Key West, Fla. quarantine stations, and from October, 1901 to November 1903, he had charge of the Tampa Bay quarantine station. He was promoted to passed assistant surgeon in 1905, and to surgeon on December 1, 1912.

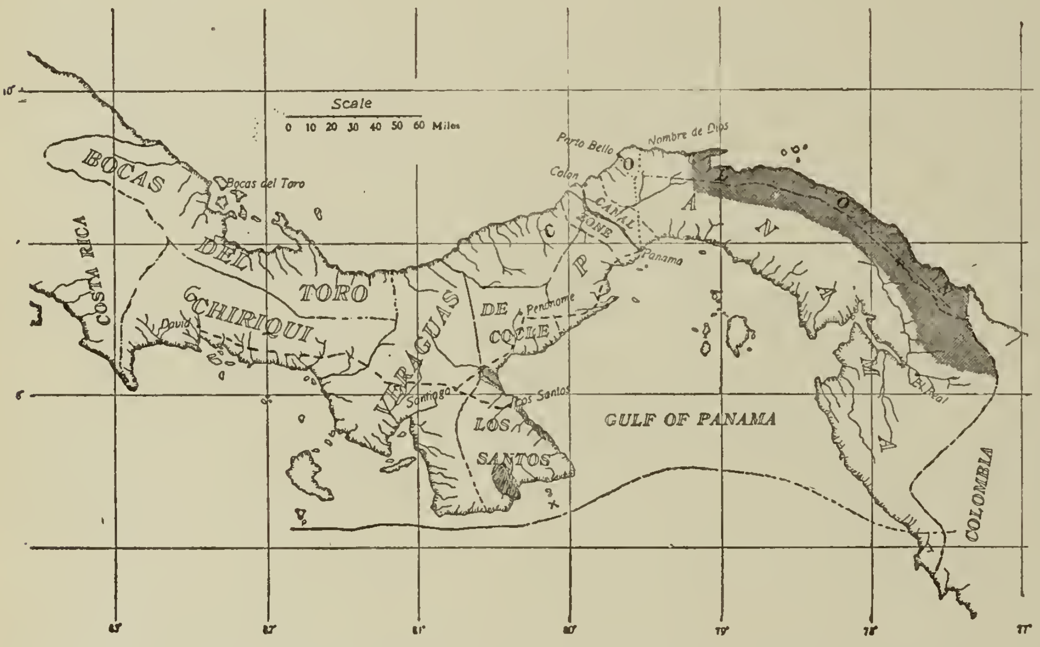
Mr. M. C. Rerdell resigned as district judge at Cristobal on Wednesday, December 10, and will sail for New Orleans on the *Turrialba*, on Thursday, December 11. He arrived on the Isthmus on August 15, 1904, and was connected with the Executive Office staff until the organization of the Zone into municipalities in November, 1904, when he was appointed judge and treasurer of the municipality of Cristobal. Later, on October 12, 1905, he was appointed mayor and judge of the same municipality. On April 15, 1907, when the municipalities were abolished and administrative districts established, he was appointed to the office of senior district judge, and subsequently, on April 28, 1911, was transferred to the position of district judge at Cristobal. He will be succeeded by Mr. J. W. Thompson of Raleigh, N. C.

Mr. Donald F. MacDonald, who has been the geologist of the Canal Commission since January, 5, 1911, resigned on December 10, and will sail for New York on the *Panama*, on Thursday, December 11. He came to the Isthmus from the United States Geological Survey, and will rejoin the service on his return. He was recently given the degree of LLD. by St. Johns College, Brooklyn, N. Y.

ISTHMIAN EARTHQUAKES.

Commission Appointed by President Porras gives History and Probable Origin of Recent Shocks.

A commission consisting of Mr. Donald F. MacDonald, geologist of the Canal Commission, and Mr. William Caley Johnston, district engineer for the Panama Government, was appointed by President Porras early in October in make an investigation of the causes and effects of the recent seismic disturbances in the province of Los Santos, where the severity of the shocks was greatest. The instructions from the President, through his secretary of public works, Señor Ramón Acevedo, were to examine into the causes of the earthquakes, and to make special investigations to determine whether the regions of central and southern Los Santos were in any danger from a volcanic outburst, or other destructive visitation. The idea of a pending catastrophe was locally engendered not only by the frequency of the shocks, but also by the heavy subterranean detonations that preceded each. The commission was further instructed to make recommendations that might be helpful to the people, and to do what it could to relieve the anxiety and distress of those living in the disturbed territory. Messrs. MacDonald and Johnston sailed from Panama on October 8, and returned on November 2. They have prepared an exhaustive report on the subject, accompanied by drawings and photographs, the salient features of which are given herewith.



Map of the Republic of Panama Showing Location of Los Santos Province in Respect to Other Parts of the Isthmus. Solid Line Drawn South of the Province Indicates Probable Location of the Submarine Landslide, and its Dotted Extension, the Probable Continuance of the Line of Disturbance in an Easterly Direction. Hatched Areas in and Contiguous to Los Santos Province, Indicate Flood Plains. X-mark in Proximity of a Small Island (North Fraile), South of Los Santos Province, Indicates Spot about where the Cable Broke. Shaded Portion of the Map in Colon Province Indicates Territory Occupied by San Blas Indians.

GEOGRAPHY OF THE REGION VISITED.

Location.—The region visited comprises nearly all of the central part of Los Santos province, from the south to the northeast coast. The province occupies the southern and eastern slopes of the Azuero peninsula, the most southerly part of Panama, which reaches southward into the Pacific Ocean to about 7 degrees 15 minutes of north latitude. The center of the region investigated is about 120 miles in a southwest direction from Panama city. Its extent and area, the routes traveled, etc., may be comprehended by reference to the accompanying maps.

Physiographic types.—The province of Los Santos may be divided into three distinct groups, or types, of land forms, as follows:

1. The mountain type, comprising steep hills and mountains up to about 3,000 feet in elevation.

2. The savanna type, consisting of flat to rolling savanna, or llano land, up to a few hundred feet in elevation.

3. Coastal plain and flood plain lands, comprising the low lying, rich, silty soil lands that border the coast and fill the lower valleys of the larger rivers. Near the sea they locally merge into coastal swamps.

Land forms of the mountain type are represented by the central Los Santos highlands, of which Cerro Canajagua, 775 meters, and Quema, 900 meters, are the highest peaks. These highlands extend southerly as broken hill ranges, practically to the coast, and are connected with the Azuero Mountains on the western border of the province by the Bombacho Hills. The latter have a minimum elevation of about 400 meters, and, though their general trend is somewhat east and west, they curve, more or less, around the head of the Tonosí valley. The Azuero Mountains are a northsouth range that extends from the bold headlands of Punta Puercos and Punta Guanico on the southern coast, to where they merge into rolling savannas, and finally into the flat Veraguas plains 45 miles to the north. These mountains, steep and broken, and but little, if any, over 950 meters in elevation, are the *locus* of the boundary between the provinces of Los Santos and Veraguas. They, together with the Bombacho Hills, and the central highlands of Los Santos, form one large physiographic group, which may be referred to as the Azuero Highlands. Streams have gashed them with canyons, and this, together with faulting and the unequal hardness of the rocks, has left a jumble of jungle-covered, steep-sided hills and peaks with no ridge and little range-like order.

The savanna type of land form is well exemplified in the vicinity of Macaracas, where low rolling hills and broad open stretches extend for many miles. The streams and low, moist places are fringed with jungle growth, but only the hardy varieties of trees and shrubs survive the long summer drouth on the drier ground. These form shaded places here and there on the flats and gentle slopes. A few steep hill peaks stand some scores of meters above the surrounding land, and locally break the monotony of the low undulating landscape. The eastern and northern parts of the province exemplify this type of land form. Toward the coast in many places, these gentle sloped hills merge into the flat fringe of coastal plain that borders the ocean.

The coastal plains and flood plains may be classed under the same heading. The flood plain type is best represented by the wide, flat, rich soil area of the Tonosí valley. The lower valley of the Santa María River in the north, and some of the lower valleys of other large streams are also examples of this type. Such lands have been built up by the rivers having deposited silt and soil during former flood periods. The Tonosí valley is 35 kilometers long, with a maximum width of 15 kilometers. It is a large and rich area, and within its borders are some valuable forests of mahogany. The coastal plain lands are the low, flat areas that border the seacoast, especially in the western and northwestern parts of the province, which rise gradually inland at the rate of a few feet to each mile. Toward the ocean, these plains locally merge into coastal swamps, and extend out under the sea as shallow areas, so that at some miles from shore, opposite these flat areas, there may be a depth of not more than 40 or 60 feet. They are due to an emergence of the land from the ocean, and if this land were to rise, say 50 feet, at the present time, thousands of square miles of what is now shallow ocean would be reclaimed. This happened in the past, and thus the present coastal plain areas were formed.

GENERAL GEOLOGY.

Rock groups.—With a few exceptions, and some local differences, the rocks encountered are the equivalents of the rocks in the Canal Zone. They consist of three broad classes, as follows:

1. Pyroclastic rocks, formed from volcanic agglomerate, ash, and other material ejected from ancient volcanoes.

2. Bedded rocks, such as sandstones, shales, limestones, etc.

3. Igneous rocks, which were once molten

lava, and later cooled to their present hard crystalline form.

The pyroclastic, or volcanic agglomerate, group of rocks was observed in only a few places, and its relation to the other groups is not very clear. Still, it appears to be at the base of the bedded rocks just as it is in the Canal Zone. These volcanic agglomerates are prevalent throughout most of Central America, and, in fact, in many parts of North and South America. They represent the volcanic activity that prevailed during the early stage of formation of the Central American mountains. The volcanic craters from which the material was ejected have long since ceased to exist. This group of rocks consists of volcanic ash, clay, bombs, or fragments of basalt thrown out from craters, all in masses, or roughly bedded lenses. The main mass of the formation is greenish to dark gray, but locally, brown, red, and yellow colors show the degree to which oxidization of the iron content has prevailed in favorable places.

The bedded series of rocks consists of agglomeritic layers interbedded with some sandstones and shales. Higher up in the series, the sandstones and shales predominate, and finally grade into dark and yellowish argillaceous sandstones with marine fossils. On top of this are limy beds, with a great number of *foraminifera*, and other marine organisms. This limestone outcrops at and near the village of Tonosí, where it is associated with friable shales that carry a fairly high percentage of iron in the form of magnetite sand. The limestone forms low, gently sloping hills, which ordinarily are 20 to 60 feet above the level of the valley. Near the village of Guaniquito, there are several large outcrops of limestone, and in some of these, caves of considerable extent have developed, due to the widening out of fissures by solution. Overlying the limestone are beds of sandy shales and sandstone, and on top of these are well laminated, hard, brittle beds of fine, light to yellow, and pink-colored tuff. Apparently above the tuff are well-bedded, buff weathering to dark, hard, brittle, limy shales. All of these rocks seemed to have been formed in the Oligocene period, when what is now Central America was represented only by a group of numerous islands.

The igneous group is composed altogether of basic rocks, such as basalts, andesites, and diorites; and basaltic and andesitic crushed and recemented rocks, or breccias. The Azuero mountain core seems to be largely formed of a highly crushed or brecciated andesite, which, because of its sheared and partly recemented condition, may represent an old land mass, older than the bedded rocks. Some float of a gray, dioritic rock was noted in a stream near Guaniquito. Basalt dikes, masses, and necks are very prevalent in all the highland district, and appear locally in the savanna regions. The basalts are probably later than the diorites, and both are younger than the bedded rocks. They seem to be equivalent to the Canal Zone basalts and diorites, which are probably Miocene in age. The sheared andesites of the Azuero mountain core are probably the oldest rocks in this district.

Relation of rock groups to land forms.—The igneous rocks are, in this region, the mountain forming group. With the exception of some hills of bedded rocks on the flanks of the mountains, practically all of the highlands are of igneous material, mostly basalts, andesites, and breccias. The reason for the highlands in this particular locality is, because these hard rocks were more resistant to erosion than the softer bedded varieties, which are easily eroded away by the streams to form the present valleys and lowlands. The intrusion of the basalts, breccias, and diorites up through the bedded rocks in Miocene time lifted and disturbed the latter, for their beds are not now horizontal, but tilted at various angles. Probably maximum faulting and displacement of earth blocks also occurred at this time.

VOLCANIC ACTIVITY IN THIS REGION LONG SINCE EXTINCT.

The Miocene period in geology was one in which volcanic activity prevailed, not only in Central America, but in the western part of North and South America as well. During, and at times before, that period, the Los Santos region kept company with the other parts of North, South, and Central America in the matter of volcanic outbursts. But all these, with the exception of the recent active volcanoes in Central America, ceased countless centuries ago, and have never been revived. In fact, all those old volcanic activities are just as surely dead as a blast furnace would be after it has stood a hundred years without fire. There is no more likelihood of a volcano breaking out in Los Santos than there is of a field of glacial ice forming in the mountains and destroying the rice crop of the highlands.

ECONOMIC GEOLOGY.

In traversing the country investigating earthquake conditions, very little time for noting the geologic materials of economic value was available. However, a few things were seen that might be worthy of further investigation.

Iron ore.—The little hill on which the church stands in the village of Tonosí is chiefly limestone, but associated with this are friable sandy shales that contain a large percentage of magnetite. Another iron ore outcrop of possible value is found at Peña Prieta, about five kilometers north of Macaracas on the road to Pesé. The outcrop observed covered an area of about half a hectare, but other outcrops are said to occur nearby. It is not known what the relations of this deposit to the other rocks are; it may, or may not be, a bedded deposit. The rock outcrops in this vicinity are not very clear, and time to investigate them carefully was not available.

Limestone and road material.—The limestone deposit of the Tonosí valley would furnish an abundance of material for the manufacture of lime, and would also make good roadbuilding material. The basalts and andesites found in most of the mountains would, however, supply the best material for roadmaking purposes.

Lignite.—A deposit of lignite, or so-called coal, exists near Bombacho. It seems to be unsuitable for fuel, but might be worthy of consideration in the manufacture of producer gas.

Other minerals.—Deposits of copper are reported from certain parts of the Bombacho Hills, and deposits of gold, copper, etc., from Las Minas, and vicinity.

EARTHQUAKE BELTS.

Earthquakes have been known since the dawn of history, and they have been felt at times in nearly every land. There are certain parts of the earth's surface, however, where they are more frequent, and sometimes destructive. Such areas are known as earthquake belts. Fortunately, Panama, unlike most of the other Central American countries, is outside of the Central and South American earthquake belts. In its long history, Panama has had several earthquakes, but very few of these have been heavy enough to be classed as even mildly destructive.

Causes of earthquakes.—The percentage of earthquakes that have any connection with volcanoes is very small. The majority of them are due to faults, or fractures, in the earth's crust, which result from slowly cumulative strains. These fractures may consist of one or a number of planes of breakage, or shear zones. The jar of the break gives the earthquake shock. There are other minor causes of earthquakes, such as great landslides, collapse of the roofs of large caves, etc., but these need not be considered here. Landslides also result from earthquakes, and the numerous new slides in the mountains of Los Santos are the effects, not the causes, of the recent movements. What causes strains in the earth's crust? It is a fact that certain parts of the earth's surface, as the northeastern part of North America, and parts of Northern Europe, are slowly sinking, and that other parts, as Florida and the Gulf States, are slowly rising. It is also known that rocks at depths of five to six miles below the surface of the earth are under such great pressure that no fracture or opening can be maintained in them. It has been ascertained by careful pendulum experiments, carried on by several governments, that there are areas of lesser density, or pressure, in the earth's crust. Geologic investigations indicate that there have been in the past, and are today, movements, or very slow flowage, of the deeper rocks from areas of high to areas of low pressure. The rocks relatively near the surface must, to some extent, conform to the movements of the deeper rocks in the zone of flowage, and this conformation of the brittle surface rocks can only take place by shearing and fracture. Such shearing, together, with the subsequent slipping of the great sheared blocks past each other, jars vast masses of the earth's crust, so that the elastic properties of rocks are brought into play, and earth waves, or earthquakes, result. A small piece of rubber cannot be very much compressed in an elastic way, but a large piece of rubber can. The same principle applies in relative degree to small and vast masses of rock. While it is believed that the earth's volume is slightly contracting, thus setting up unequal pressures over varying areas, it is known that where there is subsidence in one region, there is usually some degree of uplift in another. Ordinarily, this adjustment goes on very slowly, so that strains may accumulate for a long time before rupturing and faulting, with concomitant earth jars, occurs.

Effects not necessarily dangerous.—In general, it may be said that where there are no heavy or high buildings to be destroyed; where there are no volcanoes, or high, steep mountains from which landslides might be brought down on to towns at their base; and where the land is 75 feet, or more, above sealevel, so as to be out of reach of tidal waves, there, can, ordinarily, be very little personal danger from earthquakes, however severe they may be. Therefore, should Los Santos again, in years to come, be visited by other earthquakes, they will, in general, create no conditions of personal danger to the people.

RECENT EARTHQUAKES.

While the recent earthquakes were quite

serious, they could not be classed as dangerously destructive. In Los Santos province, it is estimated that a maximum intensity of VII to VIII on the Rossi-Forel scale was attained.

Effects.—Records of past earthquakes on the Isthmus of Panama are somewhat meagre. The earliest reported is that in the year 1541, recorded by Juan Rodriguez. In the months of May and August, 1621, several severe and destructive shocks were experienced at Old Panama. Bidwell reports a relatively severe shake in 1845. The investigators were able to get confirmation of this shock from some of the oldest inhabitants of Los Santos province, who stated that in severity it equalled the heaviest of the recent movements. It cracked the church tower at Los Santos village, but as there were fewer tiled houses then, the general damage was less. The earthquakes of September, 1882, and February and March, 1883, were equal in severity to the recent ones. During the years 1845, 1882, and 1883, detonations were distinctly heard. In some cases they slightly anticipated the earth movements, and in others accompanied them.

The effects of the recent shocks may be classified, as follows: (1) Fissures and cracks in the loose soil. (2) Landslides. (3) Damage to farms and crops. (4) Damage to buildings. (5) Injury to individuals, and after effects.

Fissures and cracks.—At Bucaro, one or two small cracks appeared in the soil close to the beach, after the movements of October 1. These were filled by surface dirt washed in by the heavy rains. At Pajanosa, the port of Tonosí, fissures were observed in the mud, or lama, on the banks of the river, which varied from six inches to two feet in width, and had an average direction of east and west. On the main road from Pajanosa to Tonosí, and at a distance of some 200 yards from Pajanosa, a single crack in the alluvium of 12 inches in width, and with a direction of N. 35 degrees E., was observed. It was about 30 yards from the river bank, to which it was roughly parallel. Several other cracks were found, all in the alluvium and mostly parallel to the river, varying in length from 50 to 100 feet, and in width from a few inches to five feet. They were filled up with crumbled soil to within a few feet of the surface. On the approach to Tonosí, many slides on the banks of the river were observed, and near the town, a series of cracks and fissures similar to those above described, were noticed. In one place, an entire fence of barbed wire was engulfed for a distance of 500 yards, in a large crack near the river bank. At the village of Cacao, a small crack paralleled the river, trending S. 50 degrees E. At Las Huertas, some small fissures in the banks of the river were noted. Near Cerro Bonita, it was found that the Joaquin River had cut a new channel for a distance of about 50 yards, evidently caused by the opening of a fissure at a bend in its channel. At Rio Viejo, there existed an 18-inch crack on the bank of the river, with a bearing of S. 12 degrees W. The cracks abovementioned were all in the deep, alluvial soil, paralleled the streams in nearly all cases, and trended in different directions. Most of them were opened by the heavy shock of October 1. From several, water and sand boiled up, showing that the shaking had caused the surface material to settle down and compress the water-bearing sandy layers, thus forcing some of the water up through the cracks to the surface.

Landslides.—From the deck of the steamer, near Bucaro, many landslides on the steep slopes of the mountains could be discerned. One of the largest of these, on Loma Caimito, the northern extremity of the range of hills known by the different names of Caimito, Bonita, and Subida al Cielo, was visited. This hill, N. 45 degrees E. of Tonosí, and one mile from the village of Corosita, is a part of the ridge 250 meters high, which forms the eastern border of the valley of Tonosí. The core of the ridge is of basic igneous rock, and the slopes are very steep. The slide, which covered an area of a few hectares, was due to the slipping of the loose surface soil and rock off the sheared bedrock below. All of the other slides were of the same general nature, and most of them seem to have occurred on the slopes to the southwest of the Canajagua-Quema mountains, although others were noticeable. It is quite evident that all of the slides were of surface material, where the slopes were steep, the ground water abundant, and considerable loose material existed.

Damage to buildings.—The loss from the recent earthquakes in the province of Los Santos has, from a monetary point of view, been greatest in the towns of Los Santos, Macaracas, and Tonosí. Many of the houses in the Tonosí valley sustained more or less damage, and several in the villages near Canajagua also suffered. Native ranches with grass or palm-thatched roofs, were nowhere seriously affected, and those damaged were either out of plumb, or in a dilapidated condition, before the beginning of the shocks. Houses with galvanized iron roofs had in some cases been thrown out of plumb, but sustained no further injury. Houses with tiled roofs were damaged most, and in the principal plaza of Tonosí, hardly a tiled roof escaped injury. Storekeepers suffered considerable loss through breakage of fragile merchandise, and damage from rains through broken roofs. In the villages of Cacao, Joaquin, Flores, Olivita, El Bebedero, Mogollon, Canajagua, and others, all houses with tile roofs were more or less damaged. In the town of Macaracas, the majority of the tiles were thrown off the roofs, and, as a consequence, rain did damage to the interiors. Houses, with walls built of *quinche*, were also severely cracked and thrown out of plumb. The tower of the church at Macaracas, 25 meters high, collapsed, carrying with it one-half of the roof. The many cracks made it necessary to pull down one of the end walls to save the rest. The church is a brick and masonry building constructed about 20 years ago, and the small size of rock used no doubt facilitated the work of the earthquake. In La Villa de Los Santos, the capital of the province, a few houses showed cracks in the *quinche* walls, and a number of roof tiles were displaced. The Government palace, constructed of rubble masonry, with a galvanized iron roof, is practically a total wreck. The whole of the upper story was cracked in every direction, and the lower portion is also badly damaged. Samples of the mortar taken from the interior of the wall showed a mixture exceedingly poor in cement. The damage to this building is no criterion of the severity of the earthquake, but indicates poor construction. The police barracks nearby showed large fissures. The body of the church at Los Santos was not seriously damaged, although several minor horizontal cracks were observed in the walls. The tower, however, a structure some 35 meters in height, constructed in the time of the early Spaniards, was badly injured. It is told that it was also cracked by the earthquakes of 1845 and 1883. It is now fissured from the highest point to its foundation, and the arches above its windows are in a crumbling condition. In the town of Las Tablas, the church showed several cracks, especially in the arches to right and left of the altar; the tower also shows two small breaks. Private dwellings were but little damaged. In Guararé, a few houses lost their tiles. Owing to the fact that very few masonry buildings exist in the province, the damage was not as great as it otherwise would have been. In the masonry structures where cracks were observed, they varied in direction, so that they furnished no information as to the direction of the maximum movement.

Damage to farms and crops.—Indirectly, considerable damage has been caused to the small farms scattered over the region traversed. The greater number of the inhabitants were about to harvest their corn and rice at the beginning of October, but the earthquakes caused them to abandon the fields and neglect the work. In some cases, fences were thrown down and had not been reconstructed, allowing the cattle, horses, and hogs to invade the fields, and destroy part of the crops.

Injury to individuals, and after effects.—Only a single case of death that could be directly charged to the earthquake, was brought to the knowledge of the investigators. A native woman, at a place called Los Gatos, district of Macaracas, died, as the result of an hysterical attack, following the shock of October 4. Not a single case of injury was discovered. A high state of nervous excitement prevailed among the inhabitants, and the conditions under which the majority of them lived during the worst month of the year will undoubtedly tell on them to some extent.

OTHER OBSERVATIONS.

In connection with the earthquake shocks, the following facts struck the investigators as significant:

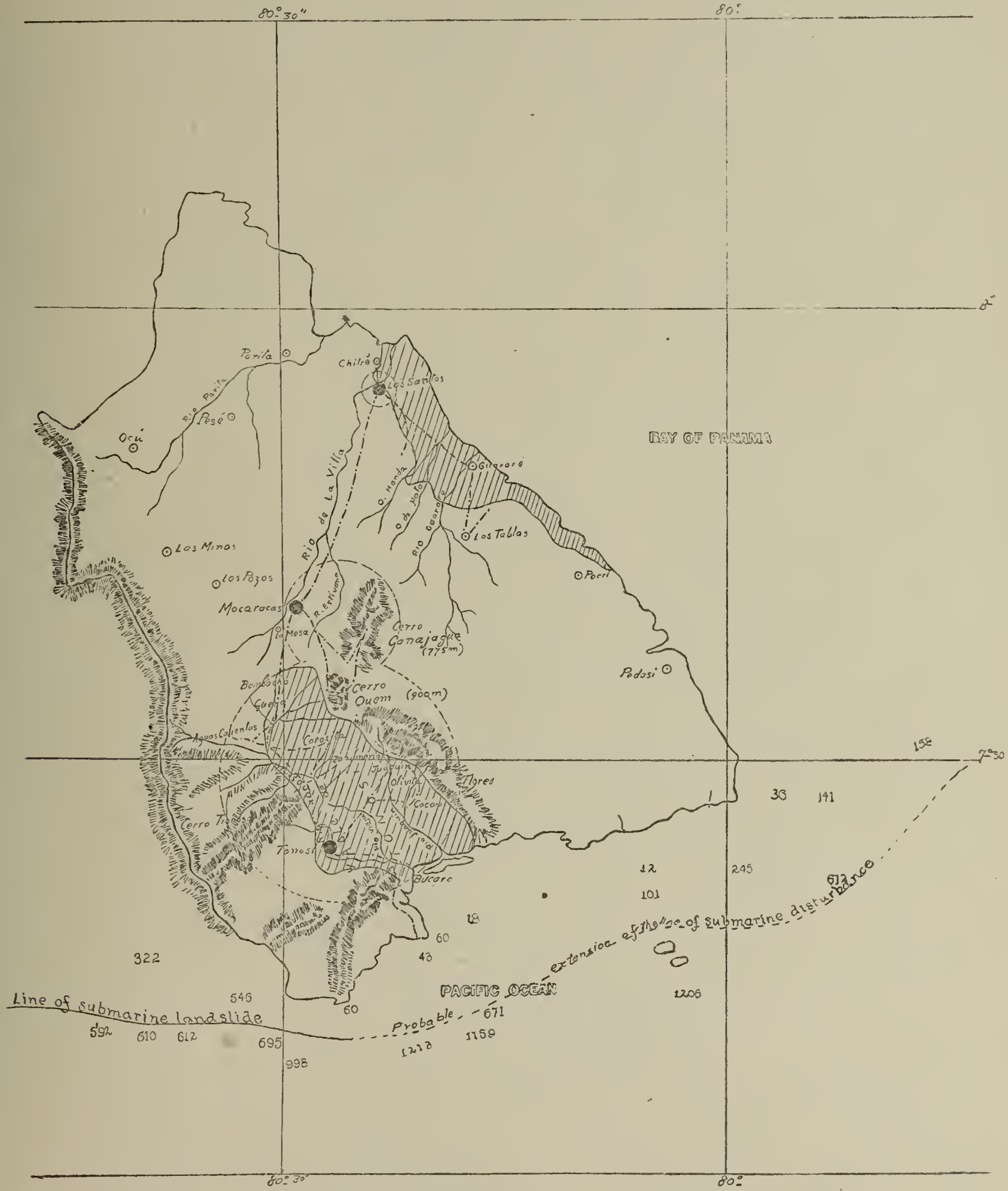
1. Deep, heavy sounds like muffled thunder, or a prolonged deep and distant heavy blast, were heard just at the beginning of most of the shocks, and at many times daily, when no movements were experienced. In the general vicinity of the Quema and Canajagua mountains, these sounds were clearly determined to be subterranean. In the strong shock of October 23, the sound began northerly to northeasterly of Sierra Quema, and died away in the distance to the southward, say 25 seconds later, after having passed under the mountain. The observers were on top of this mountain at the time, and on such high, steep ground the movement was very strongly felt, and the sound was quite pronounced. In Tonosí, the detonations were heard between two limbs of an arc that included the Quema-Canajagua district. From these, and other such observations, it was quite clear that the sounds were not confined to any small region, but originated in various parts of an area some miles in diameter; that they were, at least in many, and probably in most cases, subterranean in origin; that, originating in one place, they traveled rapidly and died away in another, somewhat like the drawn-out booming sound of rupturing ice on a large lake, when shrinkage, due to very cold weather, is taking place; and that they had some connection with the earthquake shocks. It was also clear that these sounds

had no connection with any volcanic activity, because they were not localized enough, and, because there was ample proof from the types and conditions of the rock exposed, that volcanic activity in that section had been dead for countless centuries.

2. The recurrence of the earthquakes and sounds at irregular intervals for more than a month is what might be expected from a gradual relief of strained conditions by the formation of numerous slips and shear zones in the rocks.

3. Within the sphere of action of the earthquakes there were local areas where the effects were severe, and nearby areas, where the effects were much less severe. These areas of greater and lesser effects were about the same distance from what appeared to be the center of the disturbance.

4. With the first and heaviest shock, the submarine cable broke. It was found to have parted at a point about 15 miles off the coast, in the vicinity of North Fraile Island, where a sudden drop from relatively shallow to deep water occurs. This steep slope of deepening resembles the escarpment of a submarine fault plane. The breaking of the cable indi-



⊙ Dot Enclosed in Circle Indicates Villages that felt the Seismic Movements and Accompanying Detonations.
● Black Dot Indicates Villages that Suffered the Greatest Damage.
Dot and Dash Line Indicates Route Taken by the Investigators.
Dotted Circle Indicates Areas of Maximum Intensity.
Solid Line Indicates Line of Submarine Breakage of Rocks.
Dash Line Indicates Probable Extension of Submarine Disturbance.
▨ Hatched Sections Indicate Flood Plain Areas.

cates that it is a fault plane, and that a further faulting of considerable magnitude increased the height and steepness of the escarpment, where the cable crossed it, sufficiently to strain the strands to the breaking point. It has been reported that the broken end of the cable was found at a depth of 4,800 feet, whereas, when the cable was first laid, the depth was only about 1,000 feet. Such a differential movement seems impossible, however, under the conditions.

SINKING OF THE OCEAN BOTTOM AND EVIDENCE OF THE RISE OF LAND.

All the evidence tends to establish the fact that the ocean bottom off the coast of Tonosí sank very considerably, and that the sinking movement was limited landward by a fault escarpment; also, that this sinking ushered in the period of earthquake shocks, and was probably directly responsible for the first and heaviest movement. It is certain, however, that this sinking was not the direct cause of the underground noises heard by the investigators in the vicinity of Canajagua and Quema mountains, and, therefore, not directly connected with the seismic movements, which certainly had a direct relation to those sounds.

If there was a sinking of the ocean bottom to any noticeable degree, one might expect some rise, however small, of the adjoining land area. The investigators found no perceptible rise of land, but it would be almost impossible to detect any such rise unless it was one of more than a meter, because of the lack of any tide gage, or precise levels, and, because storm waves and the great rise and fall of the tide give a long, sloping beach with very indefinite tide marks. There is abundant evidence, however, from old raised beaches and emerged coastal plains that the land in that section has risen 25 feet, or more, since recent (Pleistocene) geologic time.

About May 1, 1913, Mr. MacDonald, accompanied by Dr. Otto Lutz, made a trip through Chiriqui and Veraguas provinces, under the auspices of the Smithsonian Institution. Some miles out from Aguadulce, a shell mound was discovered on the slope of a small hill, which overlooked a wide, flat area of coastal plain. This mound contained many varieties of sea shells, mixed with broken pottery, somewhat similar to that found in the old Indian graves in the province of Chiriqui. A layer of soil, from an inch to a foot thick, had accumulated over the whole. The shell mound is now about 30 feet above the tide level in the Santa María River, one-fourth of a mile distant, and is separated from the coast by five miles of low lying, flat coastal plain. Between the hill on which the shell mound is situated and the present shore line, are two or three other rounded hills. It is quite obvious that what are now hills overlooking this flat land were once islands in the sea which then covered the present coastal plain to a shallow depth. The inside one of this little group of former islands was used as a canoe landing by the Indians. The discarded shells of the shell fish, which they used as food, together with their broken pots and dishes, were thrown in the edge of the tide, and now form the shell mound described. The pottery fragments label it as being approximately 1,000 years old.

The striking connection between this shell mound and the recent earthquake series, however, is this: Sometime in the last 1,000 years, this land mass rose at least 30 feet above its former level. Relatively speaking, this is a very rapid emergence. The wide areas of flat coastal plain and raised beaches are striking evidences of a geologically recent land emergence, but the shell mound clearly establishes that most of the emergence took place within historic time. The steepness of the submarine escarpment off the southern coast of Los Santos, together with the fact of a recent differential movement along its course, is fairly conclusive evidence that it represents a fault plane of relatively recent geologic age, and, therefore, it may be correlated with other Isthmian faults which are of Pleistocene time. There seems to be no other explanation than that the sinking of the ocean bottom was the direct cause of the rise of land. This condition of interdependent rise and fall of different areas is known to be a fact in some cases, and theoretically holds good.

CAUSES OF UNDERGROUND SOUNDS.

As already explained, the underground sounds heard were deep and heavy like prolonged subterranean blasts. Some were long and some short, and of slightly different timbre. They were not heard in the Canal Zone at all. The only reasonable explanation of these noises is that they were caused by a fracturing of the rocks over the area of country most affected by strains. In cases where the fracturing was slight, or very deep, no noise would be heard at the surface at all. In the case of large fractures close to the surface, maximum detonations would result. A long fracture, with accompanying sound, might begin on one side of the observer, and end far on the other side. One large fracture might cause local strains that would produce some smaller fractures, with accompanying sounds and small shocks. The investigators were unable to find recent fissures in the solid rocks observed. This, however, does not preclude the possibility of fissuring, because only relatively small areas of bedrock could be found sufficiently free from jungle and soil cover to make fissure observations practicable. Furthermore, many of the fissures might be more or less parallel to the horizontal and never reach the surface at all. Along the shore, and especially along the sea cliffs near Punta Guanico, where the rocks are well exposed, they show old joint and fracture planes to a remarkable degree. This is striking evidence of the straining and breaking that these rocks have undergone within recent geologic time. It is also a confirmation of the belief that if it were possible to find a large exposure of bedrock in the central part of the disturbed area, careful search would reveal joint and fissure planes that date from the recent disturbances. What is the explanation of the fact that the subterranean noises were usually heard just at the beginning of the earthquakes, and not at the latter end of them? The measured velocity of earthquake waves traveling through rocks relatively near the surface is about $3\frac{1}{2}$ kilometers a second, or not much, if any, greater than the velocity with which sound is propagated in rocks. Furthermore, a strain-fracture occurring in solid rock, say 1,000 feet deep, would cause two different sets of waves to reach the surface, namely, those propagated directly upward in the relatively elastic upper rocks, short and rapid in their action, and those propagated downward into the relatively rigid, deep rocks. The latter waves would also affect the upper rocks in an undulatory way, and as the column, or depth, of rock affected by these latter waves would be much longer than the column of rock affected by the former, the amplitude at the surface through the long column would be much greater than the amplitude of the short column. The latter waves, being something in the nature of a reflection from the deeper, rigid rocks, would reach the surface somewhat later than the smaller ones. The sound from the breaking, or strain-fracture, should, therefore, reach the surface from its postulated 1,000-foot depth about simultaneously with the first light, perhaps imperceptible, tremors, and well before the heavier oscillations from the deeper rocks arrived.

LOCALIZED EFFECTS OF EARTHQUAKES.

The reason why one movement should be felt with particular force in one place, and with minimum effects in an adjacent region, while another shock, to some extent, reversed the conditions of its predecessor in this respect, seems to be, as follows: Maximum movement would be felt closest to the break, or fracture, which caused it. If one of these occurred directly under a town, that town would be affected to a maximum degree, while a neighboring town might be relatively little disturbed. A second earthquake might result from a break, or fracture, closer to another town and thus give a new localization of effects. Towns built on relatively solid bedrock always, of course, suffer less than towns built on loose river valley material, or on made ground.

SUMMARY OF CAUSES.

To sum up, the investigators feel quite certain that the causes of the recent earthquakes are: The settlement of the ocean bottom south of an old fault escarpment; that this set up strains in the adjacent land mass of the Azuero peninsula; that these strains resulted in fracture and shearing of the rocks along lines of least resistance; that the formation of these fractures, some of which must be very deep and probably parallel to the horizontal, brought into play the elastic properties of large masses of rock, thus engendering the earthquake waves. The question as to whether the rise of land in connection with the recent sinking of the ocean bottom is, or is not appreciably noticeable, will not affect the validity of the above conclusions.

In concluding its report, the commission submitted several recommendations, one favoring the appointment of a board of building inspection, to include three competent technically trained men, who should be charged, among other things, with the duty of passing upon all buildings put up in Panama city, and all Government buildings anywhere in the Republic; and another, favoring the establishment of a permanent tide gage somewhere on the southern coast of the Azuero peninsula.

RECORDS OF ANCON SEISMOGRAPH.

In all, 39 distinct shocks were registered on the Ancon seismograph during the month of October. Most of these were of slight intensity; only four shocks were of sufficient force to throw all pens off the seismograph sheets. The heaviest shock occurred at 11.25 p. m., October 1. Its intensity on the Rossi-Forel scale was estimated at V or VI. A second pronounced shock (Intensity III) occurred about 20 minutes later. A third (Intensity III) was recorded on October 4, and another (Intensity II) was recorded on October 23. These intensity values are for Ancon only; in Los Santos province, they were much heavier. All except two of the 40 shocks registered from October

1 to November 13, inclusive, seemed, according to the records of the seismograph, to have a common point of origin, or epicenter, located approximately 115 miles southwest of Ancon in the vicinity of the lower coast of Los Santos province.

A table of the recent movements in detail, as recorded at Ancon, is given below:

Date.	Time of beginning.	Time of ending.	Maximum amp. (mm).	Distance miles.	Probable direction.
October 1	18.48:30	19.06:00	2.0	350	....
October 2	4.24:50	5.40:00	*†75	115	SW
October 2	5.59:50	6.29:50	3.0	115	SW
October 2	7.27:00	7.29:00	0.3	115	SW
October 2	8.10:50	8.18:00	3.0	115	SW
October 2	8.48:00	8.55:00	3.0	115	SW
October 2	10.18:05	10.21:00	0.7	115	SW
October 2	12.28:00	12.42:00	3.0	115	SW
October 2	13.41:10	14.10:00	3.0	115	SW
October 2	14.45:00	15.00:00	2.5	115	SW
October 2	19 07:30	19.10:00	0.2	115	SW
October 2	21.53:10	21.55:00	0.1	115	SW
October 2	22.49:00	22.52:00	0.1	115	SW
October 3	4.18:50	4.21:00	0.3	115	SW
October 3	6.12:50	6.14:00	0.2	115	SW
October 3	10.23:30	10.38:00	1.5	115	SW
October 4	4.35:30	4.40:00	0.3	115	SW
October 4	10.28:30	10.32:00	1.0	115	SW
October 4	10.43:40	10.48:00	1.5	115	SW
October 4	22.06:00	23.20:00	75*	115	SW
October 4–5	23.58:40	0.06:30	8.0	115	SW
October 5	0.18:00	0.20:00	9.0	115	SW
October 5	22.00:00	22.02:00	0.4	115	SW
October 6	7.37:00	7.38:30	0.1	115	SW
October 8	2.23:00	2.25:00	0.5	115	SW
October 8	....	22.00:00	0.2	....	....
October 9	1.52:00	1.54:00	0.2	115	SW
October 9	18.37:30	19.00:00	19.0	350	....
October 12	0.46:40	1.25:00	45.0	115	SW
October 12	4.24:05	4.27:00	0.5	115	SW
October 12	12.00:10	12.03:00	1.0	115	SW
October 12	22.38:00	22.44:00	0.5	115	SW
October 17	0.21:55	0.22:55	0.1	115	SW
October 23	15.01:35	(Pen off)	....	....	SW
October 24	0.25:20	0.35:00	5.0	115	SW
October 24	2.34:30	2.40:00	1.0	115	SW
October 24	5.17:00	5.22:00	0.6	115	SW
October 25	14.35:00	14.38:00	0.2	115	SW
October 26	22.40:10	22.42:00	0.2	115	SW
November 13	11.54:05	12.40:00	*75	115	....

NOTE.—Greenwich mean time, midnight to midnight, is used in the above report. Recorded by Bosch-Omori seismograph. North-south component. Period of pendulum, 25 seconds. Magnification, 10.

*Means that recording pen was thrown off paper.

† Means that a second shock, Intensity III, followed 15 minutes later.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The moving picture schedule for the week, December 15 to 20, is, as follows: Monday, Cristobal; Tuesday, Gatun; Wednesday, Empire; Thursday, Culebra; Friday, Porto Bello and Corozal.

The final standing in the basketball league was, as follows:

Team.	*Won*	*Lost*	*P. C.*
Empire	10	0	1.000
Camp Elliott	7	3	.700
Gatun	6	4	.600
Cristobal	4	6	.400
Culebra	3	7	.300
Corozal	0	10	.000

The standing in the all-Isthmian bowling league is, as follows:

Cristobal	16	5	.762
Empire	18	9	.667
Corozal	15	9	.625
Culebra	14	13	.519
Gatun	8	16	.333
Camp Elliott	2	19	.009

Sanitary drinking cups have been ordered for all the clubhouses and will be installed in the near future.

A new moving picture machine has been ordered for the Empire clubhouse.

The following dates have been assigned for entertainments coming from the United States; providing the halls at Balboa and Pedro Miguel are in readiness, dates will be announced for those points next week:

Dr. and Mrs. Poole, moving picture lectures on China: Thursday, December 18, Gatun· Friday, December 19, Cristobal; Saturday, December 20, Porto Bello; Tuesday, December 23, Corozal; Friday, December 26, Empire; Monday, December 29, Culebra.

Pennsylvania State College Quartet: Thursday, December 25, Gatun; Friday, December 26, Cristobal; Saturday, December 27, Porto Bello; Tuesday, December 30, Empire; Wednesday, December 31, Corozal; Friday, January 2, Culebra.

COROZAL.

On Monday night, December 1, the regular moving picture show was held, and on Friday, December 5, Hagy's show, including three reels of recent Canal pictures, was given. The next regular show will be on Wednesday, December 10.

On the local floor, Cristobal defeated the Corozal team in the last basketball game of the Isthmian league, leaving Corozal with a clean sheet for the present season, having lost 10 straight games and won none.

High scores in duckpins for the week were: Seebt, 105, 114; Sims, 113, 100; Regan, 100; Beall, 101; Owens, 109; Edwards, 103; Steele, 104; Fischer, 103.

Corozal will bowl Empire on Empire's alleys in the Isthmian tenpin league on Saturday, December 13.

On Saturday, December 6, physical director Kjellander of the Gatun Y. M. C. A. visited the Corozal Y. M. C. A., accompanied by his boys' class, who played the Corozal boys, basketball, indoor baseball, and duckpin bowling. The results of the games were victories for Gatun in indoor baseball and small boys' basketball. The Corozal boys were winners in the basketball game for larger boys, and also at bowling. In the afternoon, about 35 boys enjoyed a swim at Miraflores Locks.

CULEBRA.

The membership of the local Y. M. C. A., on November 30, stood at 182, a gain of 12 over the preceding month.

The Y. M. C. A. will cooperate with the Sunday school in the matter of the Christmas entertainment on Christmas Eve.

On Sunday night, December 7, Mr. W. W. Warwick spoke on the church organization of the future in the Canal Zone. A short song service preceded his address.

A local duckpin tournament is being started. All wishing to enter this tournament are requested to be present at the alleys on Thursday night, December 11, when the tournament will begin.

Mr. E. W. Palmer won high score prize in duckpins for November, and Mr. E. P. Case won high score prize in tenpins.

On Wednesday, December 3, the Camp Elliott bowling team won two out of three games from the Culebra team on the Empire alleys. This was a Camp Elliott home game which could not be rolled on their alleys.

EMPIRE.

The Empire bowling team will bowl the Corozal team on Thursday evening, December 11, instead of Saturday, December 13, as scheduled.

The Empire Y. M. C. A. has issued an invitation to all the chess teams of the Isthmus to meet at Empire on Saturday, December 13. A special program is being prepared for the evening.

An entertainment for the children of Empire will be held at the clubhouse on Wednesday evening, December 24. There will be a short program by the children and special moving picture reels of a Christmas nature. Each child will receive a half-pound box of Christmas candy. A Christmas tree and other suitable decorations will be arranged. Those wishing to contribute toward the expenses may do so at the secretary's desk, or to Mr. E. H. Ash, treasurer of the Christmas committee.

The Spanish classes have resumed, and meet on Tuesday and Thursday evenings. Those wishing to join should do so at once.

GATUN.

The attendance in gymnasium classes is continually increasing. The attendance on Tuesday evening was 21, and the aim is to have an average attendance of at least 35. All members of the association are cordially invited to attend. Classes are held on Tuesday and Friday evenings of each week. Boys' classes are held on Monday and Wednesday afternoons, from 3.30 to 5, and Saturday morning from 9 to 11. A class for high school girls is also held on Wednesday afternoon, from 1.30 to 3, at which the girls enjoy folk-dancing. All girls of Gatun are invited to attend.

Empire took two out of three games of tenpins from the local team on Saturday evening, December 6. The lineups and results were, as follows:

Empire.				*Gatun.*			
Gustavson	138	167	155	O'Meara	170	129	158
Potter	146	163	162	Otto	135	125	172
Peterson	163	157	170	Sherrard	126	126	125
Boson	165	141	171	Davidson	160	191	141
Huson	139	184	152	Claherty	176	168	173
Totals	751	812	810		767	739	769

The Cristobal Juniors defeated the Gatun class team in a game of basketball on the local floor on Friday evening, December 5, by a score of 10 to 9.

On Saturday evening, December 6, a game of basketball was played between two picked teams of the local boys, called the "Bolivars" and the "Boobs." It resulted in a victory for the former, by a score of 17 to 13. The lineups were, as follows: *Boobs*—Claybourne, Thompson, forwards; Feehan, center; Gray, Godwin, guards. *Bolivars*—Huber, Bingaman, forwards; Garrison, center; Dustheimer, Martinoff, guards.

CRISTOBAL.

Mr. H. D. Brittin, assistant secretary at Cristobal, will address the Discussion club on December 18, on "The benefits of physical education."

The Hagy films of the Canal were shown to a large audience on Wednesday, December 3.

The subscription lists for raising funds for the community Christmas celebration are now in the hands of committeemen in each department. The plans as now being arranged provide for entertainment every night during the holiday week.

An all-day all-Isthmian bowling tournament will be held at the Cristobal clubhouse on New Year's Day. Invitations have been sent to all the clubhouses to participate in it.

Rainfall, Dec. 1 to Dec. 8, 1913, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	.95	3	.95
Balboa	.68	3	.68
*Miraflores	.98	3	.98
Pedro Miguel	.52	3	.52
Rio Grande	.35	3	.35
Central Section—			
Culebra	.29	3	.31
*Camacho	.30	3	.41
Empire	.21	3	.27
Gamboa	.26	2	.39
*Juan Mina	.18	3	.27
Alhajuela	.16	3	.24
*El Vigia	.07	2	.14
Frijoles	.14	[illegible]	.22
*Monte Lirio	.66	3	.88
Atlantic Section—			
Gatun	2.54	1	2.69
*Brazos Brook	3.75	1	4.57
Colon	.47	6	.94
†Porto Bello	.20	3	.32

*Standard rain gage—readings at 5 p. m., daily Automatic rain gage at unstarred stations—values midnight to midnight. †To 5 p. m., December 5.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending December 20, 1913:

DATE.	Low	High	Low	High	Low
	A.M.	A.M.	A.M.	P.M.	P.M.
December 14	......	3 42	10.08	4 15	10 25
December 15	......	4 24	10.50	4 5[illegible]	11.08
December 16	......	5.06	11 32	5 38	11.53
			P.M.		.....
December 17	......	5 50	12 16	6.24	.....
December 18	12.40	6 37	1 02	7 12	.....
December 19	1.32	7.27	1.52	8.0	.....
December 20	2.27	8.22	2.47	8.59	....

75th meridian time.

OFFICIAL CIRCULARS.

Appointment of Depot Quartermaster and Purchasing Agent on the Isthmus.

CULEBRA, C. Z., December 2, 1913.

CIRCULAR No. 516:

Effective this date, Mr. Charles H. Mann is appointed Depot Quartermaster, Mount Hope, and Purchasing Agent on the Isthmus, vice Capt. Courtland Nixon.

GEO. W. GOETHALS,
Chairman.

Bathing or Swimming in the Canal.

CULEBRA, C. Z., December 3, 1913.

CIRCULAR No. 515:

In order to maintain the proper police supervision over the channels of the Canal to prevent interference with the floating equipment by persons using the Canal waters for swimming purposes, it is necessary to restrict bathing or swimming to certain defined places. Therefore, all persons are hereby notified that, except at the places hereinafter designated, bathing or swimming will not be allowed within the limits of the channel of the Canal, nor within fifty (50) feet of any part of said channel where water-covered areas exist contiguous to such channel nor in any channel leading to a dock or pier, nor in any or about the waters of any dock or pier.

Bathing or swimming is permissible at the points to be designated by the Chief Quartermaster in the following places: Cristobal, Gatun, Gamboa, Bas Obispo, Las Cascadas, Empire, Culebra, Paraiso, Pedro Miguel, Miraflores, Corozal, and Balboa.

The Chief Quartermaster is hereby authorized and directed to designate, by suitable signboards, one or more points at each of the abovementioned places at which bathing and swimming may be permitted, and to provide the same with floats and other necessary lifesaving appliances, except at Bas Obispo and Las Cascadas, and to that end he may utilize any second-hand material available for the construction of such floats and other equipment.

The bathing places to be designated by the Chief Quartermaster at Bas Obispo and Las Cascadas are intended for the use of Camp Elliott and Camp Otis, respectively, and, in consequence, it is expected that the necessary equipment for such bathing places will be furnished by the respective commanding officers.

The Division of Police and Prisons will require an observance of this circular by prohibiting all persons from bathing or swimming in the channels and waters abovementioned, except at the points to be designated by the Chief Quartermaster, and will compel a faithful compliance with the penal laws of the Canal Zone against indecent exposure of person.

Persons employed on floating equipment of the Isthmian Canal Commission, while engaged at work thereon in the channels of the Canal, may bathe or swim from such equipment provided the penal laws above mentioned are faithfully observed.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Handling of Second-Hand Railroad Ties.

CULEBRA, C. Z., November 29, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

Referring to Circular No. 323-F, dated September 12, 1913, Paragraph "C" of which reads, as follows:

> "Ties as taken up in compliance with instructions of August 22, 1913, from the Chairman and Chief Engineer, will be stored on dump right No. 5. Fastenings to be sent to Mount Hope."

The instructions referred to are contained in the following communication addressed to the acting division engineer of the Central Division under date of August 22, 1913:

> "In connection with the removal of tracks from the Cut, it is requested that all ties be stripped of fastenings and that ties and fastenings be loaded on separate cars. It is not desired that any effort be made to sort ties as they are released from service, but all ties should be loaded on cars as they are recovered, neither should any ties be burned, as it is contemplated that all ties recovered, whether good or bad, can be utilized to the advantage of the Commission, either by sale or otherwise."

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Construction Bridges at Miraflores Locks.

CULEBRA, C. Z., December 2, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

The contractor for the lock gates, McClintic-Marshall Construction Company, will disassemble and remove their bridge spanning the west chamber of upper Miraflores Locks, commencing Thursday, December 11, and after December 10, communication by rail with the west side of Miraflores Locks will, therefore, be permanently discontinued. Communication by rail over the bridge spanning the east chamber to the center wall will be maintained indefinitely. All departments and divisions concerned should make such arrangements as are practicable between this date and December 11, so that the inconvenience and increased expense due to transferring material and equipment to and from the west side of Miraflores Locks by water after that date, may be reduced to a minimum.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Transaction of Private Business with Employes During Working Hours Prohibited.

CULEBRA, C. Z., December 2, 1913.

CIRCULAR No. 121-A:

The transaction of private business with employes of the Commission and Panama Railroad Company during working hours is prohibited. Any infractions of this rule observed should be reported to this office for attention.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission,
President, Panama Railroad Company.

Amendments to Classified Expenditures.

EMPIRE, C. Z., December 3, 1913.

CIRCULAR No. 51:

The following amendments to the classified expenditures, Isthmian Canal Commission, are hereby authorized, effective December 1, 1913:

Account No. 381—"Alteration and Improvements Hotels, Messes, and Kitchens," amended to read:

> To this account will be charged all expenses in connection with alterations, improvements, and repairs of hotels, messes, and kitchens, including the Hotel Tivoli.

Account No. 409—"Alteration and Repair of Buildings, Department of Construction and Engineering," amended to exclude therefrom charges for the alteration and repair of hotel, mess, and kitchen buildings, including the Tivoli Hotel.

H. A. A. SMITH,
Examiner of Accounts.

Approved:
GEO. W. GOETHALS,
Chairman and Chief Engineer.

Rule 308, P. R. R.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., December 6, 1913.

G. S. BULLETIN No. 23:

To all concerned—A deviation from the last part of Rule 308 may be made under the following conditions:

When a train is stopped by an automatic signal in its horizontal position and the next signal in advance is plainly visible from that point and known to indicate "Proceed at normal speed," a train may then proceed, after having made the stop, without following a flag, provided they reduce speed to five miles per hour and observe carefully the condition of the track as to obstructions, misplaced switches, etc., between the "Stop aspect" and the signal in advance that shows "Proceed."

Under all other conditions the performance of train crews will be held strictly to Rule 308.

F. MEARS,
General Superintendent.

Examination by Board of Local Inspectors.

ANCON, C. Z., December 5, 1913.

The Board of Local Inspectors will conduct examinations at the Administration Building, Ancon, on Wednesday, December 17, 1913, beginning promptly at 2 p. m., for persons desiring to secure the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for licenses must procure from the Executive Office, Ancon, forms of application and information respecting the filling out of same, not later than the day previous to the examination. In addition, all persons desiring chauffeurs' licenses must provide themselves with automobiles with which to demonstrate their ability to properly operate the same.

NOTE.—The demonstration test for applicants for chauffeurs' licenses will be given on Tuesday, the day preceding the regular examination, at 2 p. m., at the Administration Building, Ancon, on Wednesday, the day of the regular examination, at 9 a. m., at the police station, Cristobal; for out-of-town applicants, on the day of the regular examination, at 2 p. m., at the Administration Building, Ancon.

W. V. JUDSON,
Chairman, Board of Local Inspectors.

Assistant Chief of Division of Police and Prisons.

DEPARTMENT OF CIVIL ADMINISTRATION,
DIVISION OF POLICE AND PRISONS,
ANCON, C. Z., December 5, 1913.

GENERAL ORDER No. 1800:

Effective this date, with the approval of the Head of Department of Civil Administration, and the Chairman of the Commission, Lieut. Guy Johannes, Zone police, is appointed assistant chief of Division of Police and Prisons, vice Andrew G. Belknap, resigned.

C. W. BARBER,
Chief of Division.

Married.

ARTHUR-HARLOW—In the Commission chapel, Gatun, on Saturday evening, December 6, Emma Hume, daughter of Mr. and Mrs. E. S. Harlow of Portland, Oregon, to Mr. Austin C. Arthur of Portland, Oregon, the Rev. C. O. Purdy officiating. Canal Zone residence, Gatun.

November Rainfall for Three Years.

STATIONS.	1911	1912	1913	Station Av.	Years of record	Rai'y days, '13
Pacific Section–						
Ancon	7.57	6.38	10.63	10.46	17	27
Balboa	5.55	6.14	9.30	9.10	15	25
Miraflores	9.24	11.89	9.15	11.72	6	24
Pedro Miguel	7.49	8.43	10.17	10.86	6	27
Rio Grande	13.62	7.01	9.15	10.90	9	26
Central Section–						
Culebra	12.37	7.59	11.21	12.26	25	26
Camacho	12.43	7.06	12.90	13.24	8	25
Empire	11.73	7.24	14.23	11.35	9	24
Gamboa	10.09	6.56	14.13	12.32	31	26
Juan Mina	10.45	12.75	16.34	13.48	4	25
Alhajuela	13.39	9.62	16.51	14.40	15	28
El Vigia	9.54	10.79	16.91	16.52	6	27
Frijoles	......	15.88	17.81	16.84	2	29
Trinidad	18.76	20.36	10.43	20.00	6	25
Monte Lirio	20.05	16.35	15.02	22.89	6	20
Atlantic Section–						
Gatun	15.78	19.18	15.88	21.67	9	28
Brazos Brook	18.86	21.86	21.32	24.27	8	28
Colon	15.81	21.81	16.75	21.74	43	26
Porto Bello	24.40	25.82	33.47	30.16	7	28

WEATHER CONDITIONS, CANAL ZONE, NOVEMBER, 1913.

Rainfall during the month of November was above the station averages at nine stations and deficient at 10 stations. The monthly rainfall was well above normal at Porto Bello and over the upper Chagres Basin, and, in general, slightly deficient elsewhere. The monthly totals ranged from 9.15 inches at Miraflores and Rio Grande to 33.47 inches at Porto Bello. The maximum precipitation recorded in one day was 5.13 inches at Porto Bello on the 8th.

The usual conditions of air temperature and relative humidity prevailed during the month, while the atmospheric pressure was slightly below normal.

Cloudiness and wind movement were generally above normal, except along the Pacific coast.

Forty-seven per cent of the fogs observed during the month were dissipated by 6.30 a. m., 69 per cent by 7.30 a. m., and 77 per cent by 8.30 a. m.

The following table summarizes the weather conditions for the month:

STATIONS.	Press're (reduc'd to mean of 24 hours.)	Temperature.					Mean relative humidity.	Precipitation.			Wind.				
		Mean.	Maximum.	Date	Minimum.	Date		Total inches.	Station average	Number of rainy days.	Total movement (in miles).	Prevailing direction.	Max. velocity (in miles).	Direction.	Date.
Colon	29. 31	79.2	88	Nov. 16	72	Nov. 14	80	16.75	21.74	6	6,515	N. E.	36	N.	Nov. 14
Culebra	29. 13	78.2	89	Nov. 7	70	Nov. 5	86	11.21	12.26	26	4,192	N. W.	40	N. E.	Nov. 19
Ancon	29.803	79.0	91	Nov. 7	70	Nov. 14	92	10.63	10.46	27	3,009	N. W.	25	N.	Nov. 21

CANAL DIRECTORY.

ISTHMIAN CANAL COMMISSION.

Col. Geo. W. Goethals, U. S. A., Chairman and Chief Engineer, Culebra.
Col. H. F. Hodges, U. S. A., Culebra.

Lieut.-Col. Wm. L. Sibert, U. S. A., Gatun.
Civil Engineer H. H. Rousseau, U. S. N., Culebra.
Col. W. C. Gorgas, U. S. A., Ancon.
Mr. Richard L. Metcalfe, Ancon.
Mr. Joseph Bucklin Bishop, Secretary, Ancon.

DEPARTMENTS.

Construction and Engineering.

Office of The Chairman.

Col. Geo. W. Goethals, U. S. A., Chairman and Chief Engineer.
William Howard May, Secretary to the Chairman.
C. A. McIlvaine, Chief Clerk.
W. P. Copeland, Assistant Chief Clerk.
Ad. Faure, Chief Accountant.
H. S. Farish, Surveying Officer.
Lieut. Geo. R. Goethals, U. S. A., Assistant Engineer, Fortifications

Office of The Chief Engineer.

First Division.

Col. H. F. Hodges, U. S. A., Assistant Chief Engineer.
C. O. Carlson, Secretary.
Edward Schildhauer, Electrical and Mechanical Engineer.
Henry Goldmark, T. B. Möuniche, Designing Engineers.
Walter F. Beyer, Assistant Engineer.
Ernest E. Lee, Superintendent of Erection.

Second Division.

Civil Engineer H. H. Rousseau, U. S. N., Assistant to the Chief Engineer.
J. J. Campbell, Secretary.
Lieut.-Col. T. C. Dickson, U. S. A., Inspector of Shops.
A. L. Bell, Mechanical Engineer.
Civil Engineer F. H. Cooke, U. S. N., Designing Engineer.
A. B. Nichols, Office Engineer.
J. A. Walker, Superintendent Balboa Terminals.
W. J. Holmes, Superintendent of Transportation.
James G. Craig, Traveling Engineer.
W. L. Phillips, Landscape Architect.
F. D. Willson, Supervisor.
O. E. Malsbury, Assistant Engineer.

Third Division.
(Abolished.)

Fourth Division.
Headquarters, Culebra.

A. S. Zinn, Resident Engineer.
J. M. Hagan, Superintendent Construction.
M. W. Tenny, Superintendent Construction.
Wm. Fullman, General Foreman, Water Service.

Fifth Division.
Headquarters, Corozal.

H. O. Cole, Resident Engineer.
J. C. Keller, Chief Clerk.
R. B. Tinsley, Superintendent.
W. D. Stanton, Assistant Engineer.
Jas. Dougherty, Supervisor.
H. W. Shearer, Supervisor.

Sixth Division.
Headquarters, Paraiso.

W. G. Comber, Resident Engineer.
J. E. Siler, Chief Clerk,
James Macfarlane, Superintendent of Dredging, Paraiso.
C. A. Black, Superintendent of Dredging, Gatun.
Geo. W. A. Palmer, Assistant Engineer.
C. L. Vanderburgh, Junior Engineer.
E. G. Porter, Junior Engineer.

Atlantic Division.
Headquarters, Gatun.

Lieut.-Col. Wm. L. Sibert, U. S. A., Division Engineer.
Lieut.-Col. Wm. V. Judson, U. S. A., Assistant Division Engineer.
Ben Jenkins, Chief Clerk.

Mechanical Division.
Headquarters, Empire.

John J. Eason, Assistant Superintendent.
F. G Swanson, Chief Clerk.
Naval Constructor C W. Fisher, U. S. N., Superintendent of Erection.
Hartley Rowe, Electrical Superintendent.
J. H. Moriarty, General Foreman, Empire Shops.
S. G. Shearer, General Foreman, Balboa Shops.
C. J. Reilly, General Foreman, Dry Dock Shops, Cristobal.
J. Macfarlane, Superintendent of Dredging, in charge of Paraiso Shops.
A. O. Herman, Assistant General Foreman, in charge of Car Department.

Division of Municipal Engineering.
Headquarters, Gatun.

Geo. M. Wells, Resident Engineer.
Geo. B. Carson, Chief Clerk.
E. H. Chandler, Superintendent, Northern District, Cristobal.
Dan E. Wright, Superintendent, Southern District Ancon,
W. J. Spalding, Assistant Engineer, Miraflores.
J. T. B. Bowles, Physiologist, Cristobal.

Subsistence.

Headquarters, Cristobal.

Lieut.-Col. Eugene T. Wilson, U. S. A., Subsistence Officer.
Capt. Frank O. Whitlock, U. S. A., Assistant Subsistence Officer.
John Burke, Manager, Commissary Department.
W. F. Shipley, Chief Clerk.

Quartermaster's Department.

Headquarters, Culebra.

Capt. R. E. Wood, U. S. A., Chief Quartermaster.
Robert K. Morris, Assistant to the Chief Quartermaster.
Joseph Birnie, Chief Clerk.

Frank Holmes, Resident Engineer, Building Division.
Chas B Cook, Assistant to the Resident Engineer.

Charles H. Mann, Depot Quartermaster, Mount Hope.
C. A. Gilmartin, Storekeeper, Empire.
X. D. Holt, Storekeeper, Balboa.

District Quartermasters.

B. C. Poole, Ancon and Balboa.
R. C. Shady, Corozal and Miraflores.
Harry Dundas, Pedro Miguel and Paraiso.
H. F. Sedwick, Culebra.
J. H. K. Humphrey, Empire and Las Cascadas.
J. T. Smith, Gatun.
Roy R. Watson, Cristobal, and Toro Point.
Jerome E. Carpenter, Porto Bello.

Civil Administration.

Headquarters, Ancon.

Richard L. Metcalfe, Head of the Department.
G. A. Ninas, Chief Clerk.
C. L. Luedtke, Assistant Chief Clerk.
Tom M. Cooke, Chief, Division of Posts, Customs, and Revenues, Ancon.
J. J. Gilbert, Deputy Collector, Ancon.
James Daly, Deputy Collector, Cristobal.
Capt. Chas. W. Barber, U. S. A., Chief of Police, Ancon.
Guy Johannes, Assistant Chief of Police, Ancon.
C. E. Weidman, Fire Chief, Cristobal.
Chas. F. Koerner, Assistant Fire Chief, Ancon.
A. R. Lang, Superintendent of Schools, Ancon.
Eugene H. Ash, Treasurer of Canal Zone, Empire.
Lieut.-Col. Wm. V. Judson, Chairman, James Macfarlane, L. A. Helliksen, Board of Local Inspectors.

Canal Zone Judiciary.

Headquarters, Ancon.

Supreme Court—H. A. Gudger, Chief Justice.
................Clerk, Ancon.
Thomas E. Brown, Jr., Associate Justice.
William H Jackson, Associate Justice.
Circuit Court, First Circuit—H. A. Gudger, Judge.
................Clerk, Ancon.
Circuit Court, Second Circuit—William H. Jackson, Judge.
Elbert M. Goolsby, Clerk, Empire.
Circuit Court, Third Circuit—Thomas E. Brown, Jr., Judge.
Nelson R. Johnson, Clerk, Cristobal.
J. W. Thompson, District Judge, Cristobal.
S. E. Blackburn, District Judge, Ancon.
Edgar S. Garrison, District Judge, Empire.

Law.

Headquarters, Ancon.

Frank Feuille, Counsel and Chief Attorney.
William K. Jackson, Prosecuting Attorney.
Charles R. Williams, Assistant Prosecuting Attorney.
R. S. Carlson, Land Agent.

Sanitation.

Headquarters, Ancon.

Col. W. C. Gorgas, U. S. A. Chief Sanitary Officer.
Col. John L. Phillips, U. S. A., Assistant Chief Sanitary Officer.
Maj. Robert E. Noble, U. S. A. General Inspector.
Harry E. Bovay, Chief Clerk.

Lieut.-Col. Charles F. Mason, U. S. A., Superintendent, Ancon Hospital, Ancon.
Capt. Llewellyn P. Williamson, Superintendent, Colon Hospital.
Surgeon J. C. Perry, U. S. P. H. S., Chief Quarantine Officer, and Health Officer, Panama.
Dr. C. A Hearne, Quarantine Officer, Colon.
Dr Matthew J. Hoey, Quarantine Officer, Panama.
Joseph A. LePrince, Chief Sanitary Inspector, Ancon.
Dr. M. E. Connor, Health Officer Colon

Disbursements.

Headquarters, Empire.

John H. McLean, Disbursing Officer.
Robt. W. Glaw, Cashier.
J. C. Wood, Chief Clerk.
E. W. Heverly, Paymaster, Ancon.
E. A. Keeling, Paymaster, Cristobal.

Examination of Accounts.

Headquarters, Empire.

H. A. A. Smith, Examiner of Accounts
T. L. Clear, Assistant Examiner of Accounts.

Purchasing Department.

Headquarters, Washington, D C.

Maj. F. C. Boggs, U. S. A., General Purchasing Officer.
C. E. Dole, Chief Clerk
Charles H. Mann, Purchasing Agent on the Isthmus.
R. E. Rutherford, Commissary Purchasing Officer, 24 State Street, New York City.
Capt. William O. Smith, U. S. A., Assistant Purchasing Agent, 614 Whitney-Central Building, New Orleans, La.

Panama Railroad Company.

Headquarters, Colon.
(General offices, 24 State Street, New York.)

Lieut. Frederick Mears, U. S. A., General Superintendent and Chief Engineer, Colon.
Robert Beverly, Chief Clerk.
C. W. Northrop, Chief Dispatcher.
E. S. Waid, Terminal Trainmaster, Colon and Cristobal.
S. W. Heald, Terminal Trainmaster, Panama and Balboa.

Misdirected Letters.

ANCON, C. Z., December 10, 1913.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be procured upon request of the addressees:

Broadhurst, George
Brown, R. B.
Caron, Alfred J.
Chainley, T. H.
Dowell, W.
Fotheningham, Alex. Y.
Galis, Harry
Halvosa, Mrs. William (2)
Hanna, Mrs. Ada F.
Kalzer, Albert
Kirby, W. H.
Jedis, Mrs. José O.
Jurso, Mr. G.
Lumby, Robt. C.
McConnely, Hampton
Maas, Emil
Maren, F. Von
Mayne, Thomas
Meyer, Mr.
Parker, H. V.
Sharp, Joshua
Thom, W. M.
Vardaman, Howard

COMMISSARY DEPARTMENT.

The commissary stores are open during the following hours:

Cristobal, 8 a. m., to 12.30 p. m., and 2 to 7 p. m.

Balboa, 8 a. m. to 12.30 p. m., and 2.30 to 7 p. m.

Ancon, 8 a. m. to 1 p. m., and 3 to 6 p. m.

All others, 8 a. m. to 1 p. m., and 3 to 7 p. m.

Retail prices of cold storage provisions for the week beginning December 11, 1913:

FRESH MEATS.	Price.
Mutton—Stewing, per pound	6
Shoulder, neck trimmed off (4 pounds and over), per pound	9
Entire forequarter (not trimmed, 10 pounds and over), per pound	8
Legs (8 to 10 pounds), per pound	17
Cutlets, per pound	18
Short cut chops, per pound	20
Lamb—Stewing, per pound	6
Entire forequarter, neck trimmed off, per pound	9
Legs (5 to 8 pounds), per pound	20
Chops, per pound	24
Cutlets, per pound	24
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	12½
Chops, shoulder, per pound	17
Chops, per pound	26
Loin, for roasting, per pound	26
Cutlets, per pound	30
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	8
Plate, per pound	9
Corned, No. 1, per pound	14
Corned, No. 2, per pound	12
Chuck roast, 3 lbs., and over, per pound.	12
Rib roast, second cut (not under 3½ pounds), per pound	16
Rib roast, first cut (not under 3 pounds), per pound	18
Pot roast, per pound	19
Rump roast, per pound	19
Porterhouse roast, per pound	20
Steak, Chuck, per pound	12½
Round, per pound	13
Rib, per pound	18
Sirloin, per pound	19
Rump, per pound	19
Porterhouse (not less than 1½ pounds), per pound	20
Tenderloin (Western), per pound.	30
Pork—Loin chops or roast, per pound	†19
Hams, fresh, per pound	§20
Shoulders, fresh, per pound	§17
Spare ribs, per pound	15
Backbones, per pound	15
Pigs' feet, each	7
Pigs' head, whole	60
Pigs' head, ½-head	*30
Sausage, homemade, per pound	20

MISCELLANEOUS.	
Livers—Beef, per pound	11
Calf, each	60
Half, each	30
Steak, Hamburger, package	13
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Devonshire Farm, per pound	20
Sweetbread, beef, per pound	34
Eggs, fresh, per dozen	†43
per ½-dozen	†22
Bluefish, per pound	12
Halibut, fresh, per pound	15
Salmon, per pound	15
Roe shad, each	75
Shad roes, pair	40
Oysters, per quart	*32

POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, large each..	1.40
Fancy roasting, milk fed, med., each.	1.10
Fancy roasting, corn fed, about 5½ pounds, each	1.25
Fancy roasting, corn fed, about 4½ pounds each	1.00
Fowls, each ††60, 70, 80, 90, and	1.00
Ducks, Western (about 4½ pounds), each	1.25
Broilers, milk fed, each	70
Broilers, corn fed, each	60
Turkeys, per pound	*25
Squabs, each	50
Rabbits, skinned and unskinned, each	30
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30

CURED AND PICKLED MEATS.	
Ham—Real York and Cumberland	37
Genuine Westphalia, per pound	40
Sugar cured, per pound	20
Sliced, per pound	22
Half, for boiling, per pound	21
Boiled, per pound	28
Hocks, per pound	‡8
Beef, salt, family, per pound	12
Bacon—Breakfast, whole piece, per pound	25
Sliced, per pound	26
Ham, lunch, per pound	32
Pork, salt, family, per pound	14
Ox tongues, each	1.00
Pigs' feet, per pound	7
Tongues, per pound	18

DAIRY PRODUCTS.	Price.
Butter—Creamery, special, per pound	†40
Sheffield Farms, extra fancy, per lb	46
Cheese—Philadelphia cream, cake	10
Roquefort, per pound	35
Yound America, per pound	22
Swiss, per pound	28
Edam, each	*75
Edam, tin	25
Parmesan, per pound	35
Gouda, per pound	30
Snappy, per cake	10
Milk (certified), per quart	**20
Cream (certified, per pint bottle	45
Fer-mil-lac, bottle	**20
Ice cream, quart	‡25
½-gallon	‡50

VEGETABLES AND FRUITS.	
Brussels sprouts, per quart	15
Beets, per pound	3
Celery, per head	†7
Cabbage, per pound	3½
Cucumbers, per pound	*10
Carrots, per pound	3
Cauliflower, per pound	5
Lettuce, per pound	14
Onions, per pound	3
Potatoes, white, per pound	3
sweet, tropical, per pound	2
Potatoes, sweet, Jersey, per pound	4
Parsley, bunch	5
Parsnips, per pound	4
Peppers, per pound	7
Squash, per pound	3
Turnips, per pound	3
Tomatoes, per pound	†10
Yams, per pound	3
Apples, per pound	†6
Grapes, Malaga and Tokay, per pound	†15
Cranberries, per pound	9
Grapefruit, American each	10
Grapefruit, tropical each	4
Lemons, per dozen	24
Limes, per hundred	80
Pears, per pound	7
Oranges, Jamaican, per dozen	12

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

††Fowls weigh each, about, as follows: 3, 3½, 4, 4½, and 5 pounds. Prices are based accordingly; when size ordered is not in stock, next lightest weight is supplied and refund note sent for difference.

‡Sold only from commissaries; no orders taken for delivery.

§Not less than half of a fresh ham or shoulder will be sold.

Supplies for the Canal.

The following steamers with supplies for the Isthmian Canal Commission and Panama Railroad Company, arrived at the ports of Balboa, Colon, and Cristobal during the week ending December 6:

Carrillo, November 30, from New York, with 778 bundles reinforcing bars, for Second Division; 31 packages structural material, for fortifications; 411 packages structural material, for First Division; 200 kegs paint, for stock.

Professor, November 30, from Liverpool, with 16 bundles dredge chain, one box springs for dredges, for Sixth Division.

Parismina, December 1, from New Orleans, with 90 pieces pipe, for Mechanical Division; 275 pieces lumber, for Sixth Division; 600 bags fire clay, 10 crates wood handles, for stock.

Prinz Joachim, December 1, from New York, with 10 boxes paint, 481 pieces pipe, for stock.

Pennsylvania, December 1, from San Francisco, with 2,612 pieces redwood lumber, for Mechanical Division.

Brynhild, December 2, from Baltimore, with 176 cases lock material, 46,797 pieces conduit, for First Division; 56 cases electric crane material, for Mechanical Division; 30 packages piledriver parts, for Atlantic Division; 109 pieces structural material, for Panama Railroad Company; 748 pieces pipe-fittings, for Division of Municipal Engineering; 16 cases paint, 250 barrels brick, 1,108 pieces sewer pipe, for stock.

Santa Marta, December 3, from New York, with 125 bundles splice bars, 41 cases electrical material, 12 reels cable, 632 packages structural steel, for First Division; 30 steel channels, for Mechanical Division; 867 bundles reinforcing bars, for Second Division; eight cases dredge sleeves, for Sixth Division; 24 boxes toe calks, 50 cases paint, 20 barrels pitch, for stock.

Samara, December 4, from Gulfport, with 2,525 pieces yellow pine lumber, for Mechanical Division; 1,209 pieces creosoted lumber, for Second Division.

Turrialba, December 4, from New Orleans, with 292 pieces pipe, for Division of Municipal Engineering; 24 boxes armament material, for Naos Island; 260 bales timothy hay, 980 pieces pipe, 23 bundles rosin, for stock.

Panama, December 5, from New York, with 66 rolls wire fabric, for administration building, Balboa; 25 cases lock material, 1,073 packages structural material, for First Division; 43 cases paint, 274 kegs bolts and nuts, 131 boxes lubricating grease, 980 kegs nails, 100 coils manila rope, for stock.

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings of the Panama Railroad Steamship Company; of the Royal Mail Steam Packet Company; of the Hamburg-American Line; and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.

Allianca	P. R. R.	Friday	Dec.	5
Colon	P. R. R.	Thursday	Dec.	11
Advance	P. R. R.	Wednesday	Dec.	17
Panama	P. R. R.	Tuesday	Dec.	23
Allianca	P. R. R.	Tuesday	Dec.	30

CRISTOBAL TO NEW YORK.

Panama	P. R. R.	Thursday	Dec.	11
Allianca	P. R. R.	Wednesday	Dec.	17
Colon	P. R. R.	Tuesday	Dec.	23
Advance	P. R. R.	Tuesday	Dec.	30
Panama	P. R. R.	Monday	Jan.	5
Allianca	P. R. R.	Sunday	Jan.	11

NEW YORK TO COLON.

Metapan	U. F. C.	Wednesday	Dec.	3
Thames	R. M.	Saturday	Dec.	6
Tivives	U. F. C.	Saturday	Dec.	6
Prinz August Wilhelm	H.-A.	Saturday	Dec.	6
Zacapa	U. F. C.	Wednesday	Dec.	10
Tenadores	U. F. C.	Saturday	Dec.	13
Emil L. Boas	H.-A.	Saturday	Dec.	13
Almirante	U. F. C.	Wednesday	Dec.	17
Magdalena	R. M.	Saturday	Dec.	20
Carrillo	U. F. C.	Saturday	Dec.	20
Prinz Joachim	H.-A.	Saturday	Dec.	20
Santa Marta	U. F. C.	Wednesday	Dec.	24
Pastores	U. F. C.	Saturday	Dec.	27
Carl Schurz	H.-A.	Saturday	Dec.	27
Metapan	U. F. C.	Wednesday	Dec.	31

COLON TO NEW YORK.

Santa Marta	U. F. C.	Thursday	Dec.	11
Carl Schurz	H.-A.	Tuesday	Dec.	16
Pastores	U. F. C.	Tuesday	Dec.	16
Metapan	U. F. C.	Thursday	Dec.	18
Prinz August Wilhelm	H.-A.	Tuesday	Dec.	23
Tivives	U. F. C.	Tuesday	Dec.	23
Danube	R. M.	Tuesday	Dec.	23
Zacapa	U. F. C.	Thursday	Dec.	25
Emil L. Boas	H.-A.	Tuesday	Dec.	30

NEW ORLEANS TO COLON.

Abangarez	U. F. C.	Saturday	Dec.	6
Heredia	U. F. C.	Wednesday	Dec.	10
Atenas	U. F. C.	Saturday	Dec.	13
Parismina	U. F. C.	Wednesday	Dec.	17
Turrialba	U. F. C.	Saturday	Dec.	20
Cartago	U. F. C.	Wednesday	Dec.	24
Abangarez	U. F. C.	Saturday	Dec.	27

COLON TO NEW ORLEANS.

Turrialba	U. F. C.	Thursday	Dec.	11
Cartago	U. F. C.	Saturday	Dec.	13
Abangarez	U. F. C.	Thursday	Dec.	18
Heredia	U. F. C.	Saturday	Dec.	20
Atenas	U. F. C.	Thursday	Dec.	25
Parismina	U. F. C.	Saturday	Dec.	27

The following ships arrived at, or departed from, the port of Balboa, during the week ending December 6, 1913:

Arrivals—December 1, *Ucayali*, from Callao; *Barracouta*, from Central America; December 2, *Chile*, from Guayaquil; December 3, *San Juan*, from San Francisco; *Aysen*, from south ports; December 4, *Lansing*, from Port Harford, Cal.

Departures—December 1, *Huallaga*, to south ports; *Mexico*, to south ports; *Manavi*, to intermediate ports; December 4, *Colusa*, to north ports.

Stages of the Chagres River, Gatun, and Miraflores Lakes.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes for the week ending midnight, Saturday, December 6, 1913. All heights are in feet above mean sea level.

DAY AND DATE.	STATIONS.					
	Vigia.	Alhajuela	Gamboa	Frijoles	Gatun Lake*	Miraflores Lake
Sun., Nov. 30..	128.0	94.2	81.9	82.0	82.0	51.0
Mon., Dec. 1...	127.5	93.8	82.2	82.2	82.2	51.2
Tues., Dec. 2...	127.4	93.7	82.3	82.3	82.4	51.2
Wed., Dec. 3...	127.2	93.6	82.5	82.5	82.5	50.8
Thurs. Dec. 4...	127.0	93.6	82.6	82.6	82.6	50.8
Fri., Dec. 5.....	126.9	93.4	82.7	82.7	82.7	50.8
Sat., Dec. 6....	126.8	93.2	82.7	82.8	82.8	50.8
Height of low water nearest ft.	125.0	91.0	44.6			

*Sluice gates in spillway at Gatun were closed on June 27, 1913, with surface of lake at elevation 48.25 feet above sealevel.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, DECEMBER 17, 1913. No. 17.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Channel through Cucaracha Slide.

The dredges working at the base of Cucaracha slide have cleared a channel of sufficient width to allow the passage of any of the vessels in the dredging fleet, which makes it possible to dump all spoil from the excavation beyond the north end of Culebra Cut, instead of partly in the completed channel south of the slide, and will allow more extended operations at the slide. The two Panama railroad barges that are used in moving the girders at Bridge 57½ were taken past the slide on Saturday, December 13, together with a derrick barge for Mr. Beyer. The Panama railroad barges were required on Sunday to lift the girder span at Gamboa. On Sunday, December 14, the ladder dredge *Corozal*, tugs *Reliance*, *La Boca*, and *Cocoli*, and six scows, were transferred to the north side.

The dipper dredge *Cardenas*, the ladder dredge *Badger*, clapets *No. 1* and *No. 7*, three dump barges, the tug *Miraflores*, the launches *Birdena* and *No. 26*, the wrecking barge *No. 17*, and a material pontoon were transferred from the Pacific entrance to Culebra Cut during the forenoon of December 15, and passed through bridge No. 57½ and to Cucaracha slide in the afternoon. The channel having been cut through the slide to a depth of 20 feet, with a width of about 150 feet, it is purposed to maintain simultaneous operations at the slide with three ladder dredges, two dipper dredges, and two pipeline suction dredges.

General Layout at New Town of Balboa.

Work will be started shortly on the erection of 10 concrete 4-family quarters on the southerly spur of Sosa Hill, which will be the first residences constructed in the permanent town of Balboa. Forces under the direction of the landscape architect are engaged in street construction in this part of the town, and on the fill between Ancon and Sosa Hills, the grade of which, including the old La Boca road is being raised to secure proper drainage by an additional fill of about 75,000 cubic yards.

The layout of the town, details of which have not been completed, provides a radiation of streets from the new administration building, which is situated on a spur of Ancon Hill, and faces Sosa Hill. A wide avenue, or prado, with double roadways and central parking, extends directly from an elliptical plaza below the administration building to the foot of Sosa Hill, terminating at the old La Boca road in a square around which will be grouped the commissary, post-office, and clubhouse, with the hotel and other community buildings like the dispensary, etc., nearby. At the Ancon Hill end of the avenue will be grouped the police station, courthouse, and such other buildings as may be devoted to the uses of civil administration in proximity to the administration building. The intervening stretch of prado will be lined with quarters, which will also be built on lateral streets, branching on either side from the prado, but irregular and picturesque in character. The propagation of plants for the townsite has been undertaken by the Sanitary Department at the Corozal farm. It is expected that these will be ready for planting out in from nine to 18 months. Additional sites for quarters are to be provided in rear of the administration building, on Ancon Hill.

Isthmian Rocks for Smithsonian Institution.

A collection of Isthmian rock specimens made by Mr. Donald F. MacDonald, formerly Commission geologist, has been presented to the Smithsonian Institution at Washington. In making the donation, the Canal Commission reserved the right to use whatever typical specimens it may require for exhibition purposes, such as in the permanent administration building at Balboa, or at the San Francisco exposition.

The Transisthmian Duct Line.

The study of the engineering features covering the transisthmian duct line has now been completed, and it has been decided to lay a 4-way, vitrified clay duct line from Colon to Balboa, to contain the signal cable and the telephone-telegraph cable. One duct is available for lease or rental, and the other spare duct is left for future requirements.

The duct will follow the line of the Panama railroad. It will be laid on a base of concrete approximately five inches thick, and encased with three inches of concrete on the top and sides.

Manholes will be located according to the theoretical spacing of loading points, which places the manholes every 774 feet. They are to be of the concealed type, and each composed of only three different pieces. The pieces will all be cast at one central point and distributed along the right-of-way. The light weight of the parts and the flat shape of the individual pieces will allow a knockdown shipment to be handled easily, and with a minimum of breakage.

The signal cable will consist of approximately 215,000 feet of 13 solid conductor and 50,000 feet of nine solid conductor No. 12, Brown and Sharpe gage.

The telephone-telegraph cable will consist of 257,730 feet, 38 pairs of 19-gage solid conductors, quadded, and 12 pairs of 16-gage solid conductors in pairs. This will offer an increase over the present telephone trunk lines of approximately 30 circuits.

Armored cable will be installed at bridges Nos. 140 and 309, crossing the Gatun and Chagres Rivers.

Specifications and requisitions covering the 4-way multiple duct, the cables, loading coils, and other adjuncts were completed by the telephone and signal department of the Panama railroad on November 17. Work will be started as soon as the duct arrives on the Isthmus. Duct will be laid at the rate of 1,500 feet per day.

Panama Railroad Baggage Business.

At the request of the contractor, the baggage contract between Albert Lindo and the Panama Railroad Company was terminated on November 17, when the railroad took over this branch of the business. It is now under the direct supervision of Mr. William E. Tragsdorf, general baggage agent, freight and passenger department, Panama railroad. A number of changes looking to the improvement of the baggage service have already been instituted, and more will be made from time to time in carrying out the plan of placing the business on a systematic basis.

Under the old arrangement, incoming passengers at the port of Colon were importuned by a crowd of independent baggage handlers, who had no established rate of service, but charged whatever price it was thought the passengers would pay, in many cases amounting to sheer robbery. These men are now excluded from the docks of the railroad company, as well as from the station platform at Colon, and those who desire their baggage transferred from the docks to the station, or to points in Colon are given a transfer check on payment of 25 cents for a trunk, weighing not over 150 pounds, 40 cents for a trunk over 150 pounds, or 15 cents for a grip, or other small pieces of baggage. In transferring baggage from the Colon docks to the Hotel Tivoli, or points in Panama, which means eight distinct handlings, rates of 50 and 75 cents will be charged for trunks, and 25 cents for each piece of hand baggage. The ticket agents at stations on the line of the railroad have been provided with transfer checks, so that now a resident of these villages can have his baggage checked through to the Colon docks. The status of transporting employes' baggage to and from the stations in the villages remains the same, being handled by the Quartermaster's Department.

A plan is being considered to establish branch ticket and baggage offices at the Colon docks. Under this arrangement, travelers will not only be able to check their baggage through to any hotel or residence in Panama but will be able to buy their tickets as well, thereby saving time and relieving them of the necessity of going to the Colon station baggage room to check their baggage. Four baggage wagons have been ordered, two for service in Colon, and two for Panama, and they are expected to arrive in the near future. For the present, equipment from the Quartermaster's Department is being used.

Canal Laborers Continue to Emigrate.

The excess in the number of persons leaving the Isthmus during the month of November, according to the figures of the quarantine service, as compared with the number landing, amounted to 2,037, making the net emigration from the Isthmus during the past four months 8,796, the most of which consisted of laborers on the Canal.

The total number of steamship passengers embarking from the ports of Colon and Cristobal for foreign ports during November was 4,410, consisting of 1,626 cabin, and 2,784 steerage passengers. The number of persons landing from foreign ports was 2,398, consisting of 1,407 cabin, and 991 steerage passengers. The number of persons who embarked over those who landed at these ports was 2,012. The immigration from the West Indian ports continues to decrease, only 119 cabin, and 505 steerage passengers landing during the month. Costa Rica furnished 185 steerage passengers, and Colombia, 109, while the immigration from Europe practically ceased, only 54 deck passengers landing during the month. The number of persons arriving "In transit" during November, nearly all tourists, was 1,618, a decrease of 169, as compared with October.

The number of persons landing at the ports of Ancon and Panama from foreign ports during the month was 482, consisting of 363 cabin, and 119 steerage passengers. The number of persons embarking for foreign ports was 507, consisting of 348 cabin, and 159 steerage passengers. The number of those who embarked over those who landed was 25.

The total number of vessels arriving at Colon during November was 93; at the port of Ancon, 21.

Progress of Wharf Construction at Balboa.

The section of the permanent quay wall at Balboa, which extends east from that part known as the Panama railroad concrete wharf, is practically completed. This quay wall is known as "Section g–h–i" and extends along the south side of No. 1 slip, a distance of 1,238 feet and north of the shop buildings, forming a part of the repair wharf of the terminal facilities, the design and location of which has been described in a previous issue. The work remaining to be done consists of grouting the railroad track which extends along the edge of the wharf, and laying the brick pavement. This pavement will not be laid until the dry season, as water standing between the curbs on the cinder concrete would make it difficult to roll the sand cushion to the proper grade.

All but four caissons, which latter have been under construction tracks, have been excavated to rock in the head wall section which forms the head of slips Nos. 1 and 2, a distance of about 807 feet.

On pier No. 1 there are yet to be placed 24 concrete caissons. A small steamshovel is excavating the fill on the site, which once formed a part of the west toe of Sosa Dam, and as soon as this is completed, the remaining piers can be sunk.

The total length of caisson remaining to be sunk is approximately that for an average month's work, but on account of the limited area to be covered it will probably require two months to complete.

The section of quay wall which will extend from the west end of the Panama railroad concrete dock, over the site of the present sand wharf, has not yet been begun. Preparations, however, are being made to begin driving the 6-inch steel cylinders. On account of the rock fill which has been placed in this vicinity it has been necessary to excavate the rock fill to the underlying mud, and the dipper dredge *Cardenas* has been at work clearing the site. The trestles from which the cylinders will be driven were begun on November 27. Eighty-foot piles are being used. This latter section of quay, which forms a continuous quay wall with those mentioned above, will be 718 feet long, and is known as "Section e–f".

Sale of Munitions.

In 1904, when Panama's standing army was disbanded, there was on hand a considerable amount of munitions of war. This material was turned over to the Canal Commission authorities for storage, and for a time was kept in one of the French buildings at the old Ancon corral. The Panama Government has decided to dispose of the supplies, and a public sale for the purpose will be held in the office of the Treasurer-General of the Republic on December 27, 1913. The stock to be sold consists of 1,000 Gras rifles, 246 cannon projectiles, and 1,141,000 rounds of ammunition for rifles and rapid-fire guns. The basis of the bids will be, as follows: Rifles, $1.50 each; cartridges, $2 for each 1,000, projectiles, $4 for each 100.

Canal Excavation in November.

The grand total of Canal excavation to December 1 was 213,904,031 cubic yards, leaving 18,448,969 cubic yards remaining to be excavated under the revised estimate of July 1, 1913.

The total excavation for November was 1,347,756 cubic yards. The wet excavation for the month was 1,020,246 cubic yards, and the dry excavation 327,510 cubic yards.

In the Atlantic section, the total excavation for the month was 280,185 cubic yards. Of this amount, all but 1,210 cubic yards was wet excavation and consisted of material dredged from the Atlantic entrance, the dock in connection with the proposed east breakwater to extend out from Coco Solo Point, and in the terminal basin. All of the above, with the exception of 20,525 cubic yards was "Work" excavation.

The total excavation in the territory of the old Central Division was 570,586 cubic yards, 160,900 cubic yards of which were removed by Fourth Division steamshovels in terracing operations in the zone of slides; 199.194 removed by dredges in the Culebra Cut section, including Cucaracha slide; 119,092 cubic yards of mud and gravel from the Canal channel near Gamboa cabin by suction dredges, all by forces of the Sixth Division, and 81,400 cubic yards sluiced in the vicinity of Gold Hill by forces of the Fifth Division.

In the Pacific section, operations by the dredging division resulted in the removal of 341,585 cubic yards from the Pacific entrance. The steamshovel output at the Balboa terminal site amounted to 113,630 cubic yards, and at locks, dams, and spillways, principally excavation for locks backfill, 41,770 cubic yards.

A detailed statement of excavation, and a summary of the work on the locks and dams, follow:

ATLANTIC DIVISION.

Locality.	"Work" Excavation.	"Plant" Excavation.	Total Excavation.
Dry Excavation—	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
Locks, dam and Spillway	1,210	....	1,210
Mindi	....	....	....
Terminal	....	....	....
Total	1,210	....	1,210
Wet excavation—			
Atlantic entrance	206,327	7,000	213,327
Dock at east breakwater	....	13,525	13,525
Terminal	52,123	....	52,123
Total	258,150	20,525	278,975
Total wet and dry excavation	259,660	20,525	280,185

CENTRAL SECTION.

Locality.	"Work" Excavation.	"Plant" Excavation.	Total Excavation.
Dry excavation—			
Culebra Cut	160,900	10,000	170,900
Wet excavation—			
Culebra Cut	199,194	....	199,194
Chagres Section	119,092	....	119,092
Hydraulic excavation—			
Culebra Section	81,400	....	81,400
Total	399.686	....	399,686
Total wet and dry excavation	560,586	10,000	570,586

PACIFIC SECTION.

Locality.	"Work" Excavation.	"Plant" Excavation.	Total Excavation.
Dry excavation—			
Locks, Dams and Spillways	6,970	34.800	41,770
Terminal	110,014	3,616	113,630
Prism	....	....	....
Total	116.984	38,416	155.400
Wet excavation—			
Pacific entrance	341,585	....	341,585
Miraflores Locks	....	....	....
Diversions	....	....	....
Terminal	....	....	....
Total	341,585	....	341,585
Total wet and dry excavation	458,569	38,416	496,985

TOTAL CANAL EXCAVATION.

Dry excavation	279,094	48,416	327,510
Wet excavation	999,721	20,525	1,020,246
Total	1,278,815	68,941	1,347,756

LOCKS AND DAMS.

Material.	Atlantic	Pacific	Total
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*
Concrete placed in locks	280	2,637	2,917
Concrete placed in dams and spillways	....	....	....
Fill placed in dams	40,902	11,480	52,382

Mean rainfall along Canal (nine stations), 13.18 inches.

By "Work" excavation is meant excavation actually made for one of the constituent parts of the Canal, such as prism, diversions, or locks, etc., that is, it represents material taken from the area to be occupied by the Canal and constitutes excavation useful for the completed Canal.

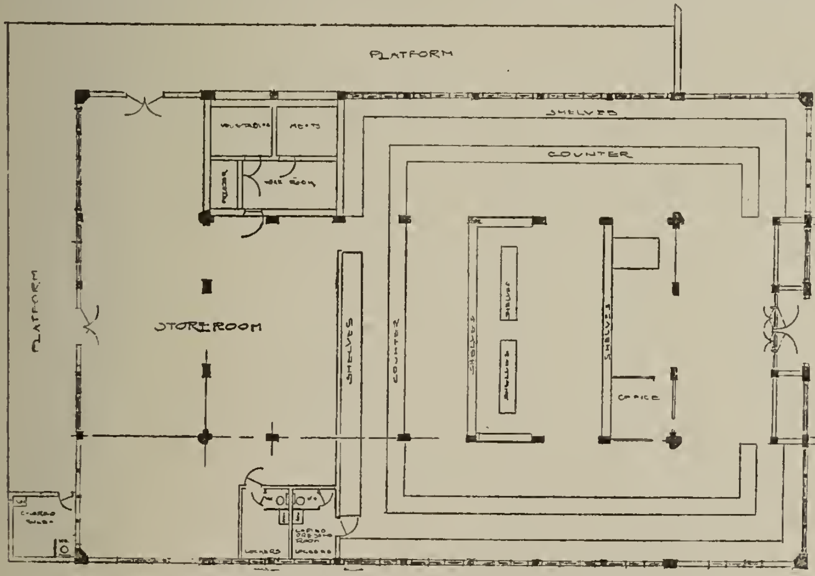
By "Plant" excavation is meant excavation outside any of the constituent parts of the Canal, such as prism, diversions, or locks, etc. It includes material necessary to be excavated for construction purposes only, and is chargeable against the particular plant item for which it is performed, such as prism, diversions, locks, etc.

ANCON COMMISSARY.

Building of a Permanent Type Now Under Construction.

The first commissary building of a permanent type to be erected in the Canal Zone will be at Ancon. It will have a modern store front, with a large display window on each side of the vestibule, which will be fitted with small pane glass panel doors, and will open on a porch about six feet wide and 40 feet long, the roof of which will be supported by concrete pillars. From the porch a flight of steps will lead to the ground level. The walls of the building will be of concrete, probably hollow concrete blocks, and the roof, built of reinforced concrete, will be nearly flat, and surrounded by a low parapet. A part of the roof will be elevated, as shown in the accompanying sketch, in order to admit light and air. The eaves will have an overhang of six feet, and directly underneath will be a 4-foot window space, also for ventilation and light, extending entirely around the building. The front wall will extend to the ground, but on the sides and rear, the walls will be supported by 3-foot concrete piers, leaving an open space which will be screened from public view by a hedge of foliage plants. A screen wall, also of concrete, will extend out from the commissary for a distance of about 30 feet on the front to obstruct the view from the street of operations in the rear. The interior arrangements will consist of a main salesroom, with tile floor, 68 by 70 feet in plan, a storeroom, 40 by 68 feet, and a refrigerator. The salesroom will have wall shelving for dry goods, furnishings, cigars and candies, groceries, and hardware. In the center of the salesroom there will be shelving for shoes, and a space for the office and order desk. The refrigerator, about 20 by 20 feet in plan, will contain four compartments; one, a workroom for the butcher and his assistants, and the other rooms for keeping butter, eggs, meat, and vegetables. In the rear of the building extending along the railroad track will be an unloading platform, 10 feet wide.

Front View of New Ancon Commissary Now Under Construction.



Ground Floor Plan of New Commissary Building at Ancon.

The Ancon commissary will be for the use of the gold employes exclusively, and is being erected on the site of the old French building, formerly used by the district quartermaster as a storeroom, which has been torn down as far back as the saw mill to make the necessary room. The building will front the road leading from the hospital gate into the Tivoli section.

◆

The members of the Wandering Herd, the local branch of the Benevolent and Protective Order of Elks, have arranged for an excursion to Taboguilla Island, on Sunday, January 11.

MUNICIPAL WORK AT LA BOCA.

Site of New Permanent Townsite for Silver Employes Nearly Prepared.

Municipal work for the new town of La Boca, exclusively for the silver employes of the Canal Commission and Panama railroad, had been advanced well toward completion by December 1. On that date, all of the sewers had been finished and the water system was 98 per cent completed. The grading of the blocks and of the streets, and the laying of concrete curbs and gutters, were all over 90 per cent complete; the remaining municipal work will be principally in macadamizing the streets and laying the 4-foot concrete sidewalks, which are 15, and three per cent complete, respectively.

The townsite is rectangular in plan, 1,046 feet long by 681 feet wide. It is laid out on a part of the large fill southwest of Sosa Hill, and its northernmost side lies approximately at right angles to the edge of the fill, back of the steel pier at Balboa. Its east and west streets, designated First, Second, Third, and Fourth streets, are, approximately, parallel to a section of the new Sosa road, which skirts Sosa Hill on the south and west, running from the Balboa commissary, past the electric plant, to the land end of the steel pier; First street is separated from Sosa road by the right-of-way of the electric street railway. The north and south streets intersect the cross streets at right angles, and are designated as First, Second, Third, and Fourth avenues, beginning with First Avenue, on the side nearest the Balboa commissary. The severity of the layout is relieved by 69-foot parking between Second and Third avenues, and a plaza between Third and Fourth streets.

On December 1st., 18 houses in the new town had been completed, of which eight are occupied by families, and seven by bachelors. The family quarters are all on the south side of the lengthwise park, and the other half of the town is to be devoted exclusively to bachelor quarters. A commissary store for supplying canned vegetables and cold storage goods to the inhabitants, has been opened recently near the northeastern corner of the town.

New Type of Water Hydrants.

An order for 200 water hydrants, modified to meet the requirements on the Isthmus, was awarded on October 18 to the Camden Iron Works of Camden, N. J., at a cost of $44.17 each, for delivery on the Isthmus not later than January 18, 1914. A supplemental order of 111 hydrants of the same type has just been placed, 45 of which are to be installed at the new Balboa townsite; 55 in the new Bella Vista addition, and 11 on the site of the Panama national exposition. These hydrants differ from those previously installed in that they have no drip holes, which are only necessary in cold countries; the valves are seated with, instead of against the pressure; the valve stems are slightly different, and the openings, one 4-inch for fire automobile connections, and one 2½-inch for the ordinary hose connections, are so made that they can be fitted with a special coupling to accommodate either the hose used by the Canal Zone fire department, or by the Panama fire department. The special coupling is desirable, because the couplings on the hose used by the Canal Zone fire department are made with the Chicago thread, while the Panama hose couplings are made with the English thread.

RECORD OF CANAL WORK SINCE AMERICAN OCCUPATION.

TOTALS BY CUBIC YARDS OF EXCAVATION AND LOCK AND DAM CONSTRUCTION.

[All figures are of work useful for the completed Canal.]

DRY EXCAVATION.

CENTRAL SECTION.

M'THS.	CULEBRA SECTION.*								CHAGRES SECTION.**				
	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1909.	1910.	1911.	1912.	1913.
Jan.	120,990	566,750	1.227,022	1,150,249	1,323,693	1,356,394	1,416,035	1,135,580	389,399	175.802	255.385	28,357	....
Feb ..	168,410	639,112	1,248,265	1,194,454	1,259,173	1,409,338	1,349,569	996,800	450,182	286,309	219,550	66.145	....
March .	239.178	815,270	1,290,885	1,434,597	1,509,728	1,728.748	1,539,618	1,183,900	619,491	484,846	297,339	172,607	....
April ..	213,177	879.527	1,242,574	1,272,746	1,288,845	1,414,336	1,455.216	1, 78,000	510,020	428,777	102,103	171,731	....
May....	196,209	690,365	960,840	1,126,963	1,099,279	1,299,100	1,405,760	921,000	386,170	248,974	29,783	12,524	....
June...	212,623	624,586	1,134,032	1,242,134	1,305,141	1,401,016	1,348,780	865,283	275,900	164,389	32,288	8,424	....
July ...	159,789	770,570	1,121,325	1,200,828	1,153,810	1,337,833	1,335,590	1,037,700	233,897	166,106	22,284	776	....
August	244,823	786,866	1,171,927	1,173,370	1,377,714	1,442,402	1,094,132	893,300	231,543	234,404	21,892	....	....
Sept. ..	291,452	753,468	1.122.860	1,235,978	1,339.948	1,340,173	922,712	448.200	235,818	234,290	21,272	....	.... ..
Oct	327,009	834,499	1,160,101	1,302,901	1,320,314	1,306,971	1,113,420	382,270	221,409	271,409	12,216	....	132,703
Nov....	221,642	790,632	1.022,576	1.070.792	1,209,554	1,209,498	973,071	441.494	93,619	260,882	12,248	....	119,092
Dec....	307,689	1,025,485	1.210,046	1,152,022	1,211,400	1,351,082	1,074,510	....	105,044	197,481	10,809	....	....
Totals .	2,702,991	9,177,130	13.912,453	14,557,034	15,393,599	16.596.891	15,028,413	9.483,527	3,752,492	3,153,669	1,037,169	460,564	251,795

Mos.	ATLANTIC DIVISION.†					PACIFIC SECTION.¶										
	GATUN LOCKS. DAM AND SPILLWAY.††					PEDRO MIGUEL LOCKS AND DAMS.‡					MIRAFLORES LOCKS. DAMS AND SPILLWAY.‡‡					BALBOA T'M'N'LS §
	1909.	1910.	1911.	1912.	1913.	1909.	1910.	1911.	1912.	1913.	1909.	1910.	1911.	1912.	1913.	1913.
Jan ..	102,690	125,011	65.889	1,330	46.773	83,726	27,320	15,690	24,969	1,147	61,202	31.479	48,744	95,609	26,483	54,114
Feb..	95,031	123,738	50,511	1,228	11,241	58,242	9,486	6,809	18,480	448	53,689	15,300	12.936	47.426	12,532	32,743
Mar..	90,051	132,007	51,431	254	35,705	95,624	6,784	674	1,777	800	51,417	18,184	72,739	28,352	28,700	51,387
Apl ..	70,009	103,243	12,548	27,134	29,649	101,365	9.129	255	13.269	620	60,060	12,148	79,751	29,094	23.255	68.296
May..	52,786	82,958	17,677	24,280	1,829	57,523	10,405	5,905	26 018	127	47,588	20,250	57,975	13,096	3,778	53,215
June ,	36,556	88,088	4,840	19,605	388	70,971	8,420	7,454	7,794	936	55,653	21,994	38,023	7,906	....	100 991
July ..	39,058	95,503	6,897	1,974	17,756	77,503	4,410	6,273	4,412	....	50,999	11,990	97.884	4,532	....	87,220
Aug .,	40,346	99.737	22.558	....	2,161	58,025	12,789	220	4,866	....	35,446	17,548	102,249	7,120	....	90,134
Sept,	49,945	103,040	3,489	1,025	1.091	48.825	10,405	3,472	1,613	....	31,803	8,590	96,112	5,192	....	69,432
Oct ..	57,321	118,327	112	1,700	1 383	39,002	7,433	5,365	1,257	....	25,349	9,850	107,790	14,107	6,980	122,241
Nov..	63,452	94,552	....	2,203	1,210	20.207	10,636	12.962	2,408	....	18.644	9,400	84,894	27,728	6,970	110,014
Dec..	96,590	72.030	....	16,677	....	28,342	11.195	17,320	3,176	....	20.083	17,906	79,480	30,319	....	....
Tot'ls	793,835	1,238,234	235,952	97.410	149,186	739.355	128,412	82,399	110,039	4,078	511,933	194,639	878,577	310,481	108,698	839,797

*Total to Dec. 1, 1913 98,014,764 c. yds. Excavated 1904, 243.472 cu. yds; 1905, 914,254; by sluicing, 591,074 c. yds.; by dredging, 259,564 c. yds.

**Total to Dec, 1, 1913, 12,636 450 cu. yds. 1907, 192,769 cu. yds; 1908, 4,819,797 cu. yds,; by sluicing, 188.239 cu. yds. by dredging, 251,795 c,yds.

†Dry excavation Mindi Hills 1907-1912, 2,196,198 cubic yards

¶Excavated various points in prism to Nov. 1. 1913, 4,819 797 cu. yds.: Balboa Locks and Dams, 1907, 78,233 cu yds.: Outside prism 1908, 172 cu. yds.

††Total to Dec. 1, 1913, 6.655,988 cubic yards; including 26,628 cu. yds in 1906; 1,340,179 cu. yds. in 1907; 2,774,561 cu. yds. in 1908.

‡Total to Dec. 1 1913, 1,321,063 cubic yards; including 256,780 cu. yds. in 1908.

‡‡Total to Dec, 1, 1913, 2,851,248 cubic yards; including 846,920 cu. yds in 1908.

§Total to Dec. 1, 1913. 1,158,528 cubic yards; including 318,731 cu. yds in 1912.

WET EXCAVATION.

Mos.	ATLANTIC DIVISION.†						PACIFIC SECTION.††								
	ATLANTIC ENTRANCE.§						A'L'TIC T'NALS *	PACIFIC ENTRANCE.§§						BALBOA TERMINALS**	
	1908.	1909.	1910.	1911.	1912.	1913.		1908.	1909.	1910.	1911.	1912.	1913.	1912.	1913
Jan	490,701	521,050	510,055	520.181	520,228	508,338	....	460,250	469,529	518,936	379,810	334,735	215,025	77,383	216,540
Feb..	427,722	444,910	493,448	455,318	581,399	303,94[illegible]	....	663,519	671,477	285,791	386,866	432.796	239 032	....	175,225
Mar	546,886	461,208	412,325	391,736	103.373	380,243	....	783,281	865.696	462,588	639,761	404.939	379,845	... .	166,800
Apl..	496,366	470,635	190,574	492,579	134,261	436,605	....	676,539	731,767	534,322	439,622	383,995	356,942	....	182,125
May	564,386	315,370	447.578	514,178	229,626	685,163	....	530,466	720.753	484,509	548,047	388,310	369.703	....	194.510
June	572,749	182,575	458,021	452,098	343,804	814,592	....	656,621	844.685	475.486	576,100	338,006	604 080	28.668	31,179
July ,	625,497	348,451	423,092	425,195	495,398	921 948	....	696,170	733,181	515,782	520,692	392,511	756,930	89,618	231,105
Aug..	638,217	422,846	508,829	367,456	429,415	512,089	....	737.774	623,263	506,969	630,241	441,644	726,256	131,111	286,127
Sept ,	624,776	410,574	451,873	420,434	372.302	478,189	36,338	750,080	662.976	473,585	534,667	455,059	581,958	14,257	178.579
Oct..	505,260	314,778	549,788	470,400	572,783	288,760	98,928	762.276	720,920	467,873	329.224	435,726	433,098	....	110.660
Nov	570,832	457,889	600,708	742,242	670,247	206,327	52,123	609,089	627.791	425,870	346,089	534,273	341,585	13,809	....
Dec	679,604	489.121	482,370	533.409	814,373	.......,	....	729,960	727.460	387,034	141,189	349.747	....	191,968	.. ..
Tot'ls	6,742.996	4.839,407	5,528,661	5,785.226	5,267,209	5,536,703	187.384	8,056,025	8.399,498	5.538,745	5,472,308	4,891.741	5 004,454	546,814	1,772,850

†Dredging, Gatun Dam, 1907, 38,425 cu. yds.; Gatun Locks, 1908-13, 1,776,791 cubic yards.

††Miraflores Locks and Dam, 1909-12, 652,246 cu. yds,; total to Dec. 1, 1913, 652,246 cu. yds,

§Total to Dec 1, 1913, 37,749,581 cu. yds.; including 4,049,379 cu. yds. in 1905-07.

§§Total to Dec. 1, 1913. 41,182,946 cu. yds,; including 3,820,175 cu. yds. in 1905-07.

**Total to Dec. 1, 1913, 2,584.220 cu. yds., including 246,556 cu. yds. in 1911.

*Total to Dec. 1, 1913, 187,384 cu. yds.

CONCRETE IN LOCKS AND DAMS.*

MONTHS.	GATUN LOCKS.†			PEDRO MIGUEL LOCKS.††			MIRAFLORES LOCKS.‡		
	1911.	1912.	1913.	1911.	1912,	1913,	1911,	1912.	1913.
Jan	72,919	34,983	28,085	38,513	15 003	4,652	24,018	48,416	50,456
Feb............	72,103	26,664	30,780	37.011	12,639	4,294	20,896	63,893	34,979
March	86,884	27.532	48,180	44,716	9,331	13,412	31,173	83,706	21,030
April,...........	67,361	11,600	22.732	28,635	9,460	2,145	38,758	97,735	13.266
May.............	67,844	7,746	13,046	19,135	10,736	1,144	36,154	92,095	6,956
June	55,305	6,095	5,509	18,243	10,061	773	26,536	68,398	3,836
July	71,046	8,093	3,431	19,906	11,480	1,829	32,840	66,026	3,810
Aug..............	66,928	6,855	6,258	20,736	5,995	1,884	57,003	75,388	3,643
Sept............	57,298	3,162	442	15,379	3,039	1,1 4	56,083	46,122	1,907
Oct,............	53,636	3,252	174	25,637	6,587	412	60,873	54,790	1,152
Nov............	43,907	6,029	280	19.622	7,972	630	41.726	39,874	2,007
Dec.............	43,590	5.697	......,	14,360	6,958	....	48,772	46,746	......
Total........	758,821	147,708	158,917	301,893	109,261	32,319	474,832	783.189	143,042

*Coucrete in dams to Dec. 1. 1913—Gatun spillway, 231,410 cu. yds.; Miraflores dam and spillway, 79,001 cu. yds.; Pedro Miguel dam, 1,289 cu. yds.

†1,002,523 cu, yds. in 1909 aud 1910. ††478,803 cu. yds. in 1909 and 1910. ‡97,603 cu. yds. in 1909 and 1910.

FILL PLACED IN DAMS—1906-1913.

YEAR.	GATUN.		PEDRO MIGUEL	MIRAFLORES.	
	Wet	Dry	Dry	Wet	Dry
	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.
To January 1, 1911..............	5,833,076	6,128.105	260.852	294.712	609,863
1911....	3,493.388	2,613,066	57,669	366,336	460,514
1912....	1,402,501	2,499,092	352,159	....	418,042
1913..............................	....	890,256	25,258	....	236,005
Totals....................	10,728,965	12,130,519	695,938	661 048	1,724,424

CANAL EXCAVATION TO DATE.

By French Companies..		78,146,960
French excavation useful to present Canal..........................		29,908.000
By Americans—		
Dry excavation..	128,441,766	
Dredges	85,462,265	
Total..		213,904,031
May 4 to December 31, 1904..............................	243,472	
January 1 to December 31, 1905..............................	1,799,227	
January 1 to December 31. 1906.	4,948,497	
January 1 to December 31, 1907..............................	15,765,290	
January 1 to December 31, 1908..............................	37,116,735	
January 1 to December 31. 1909..............................	35,096,166	
January 1 to December 31, 1910..............................	31,437,677	
January 1 to December 31, 1911..............................	31,603,899	
January 1 to December 31, 1912..............................	30,269,349	
January 1 to December 1. 1913	25,623,719	

TOTALS BY SECTIONS AND AMOUNT TO BE EXCAVATED.

SECTIONS,	Amount excavated.		Remaining to be excavated,	
Atlantic—				
Dry excavation........................	8,852,183	48.604.364	2.817	4,562,636
Wet	39,752,181		4,559,819	
Central—				
Culebra Cut..........................	98,014,764	110,651,214	6,997,236	7,045,786
All other points..........................	12,636,450		48,550	
Pacific—				
Dry excavation..........................	10,229,041	54,648,453	558,959	6,840,547
Wet	44,419,412		6,281,568	
Grand total	. . ..	213,904,031		18,448,969

STATUS OF LOCK GATE WORK.

Completion Expected within Contract Time—Contractor's Forces have been Reduced.

The force of the McClintic-Marshall Construction Company in the Canal Zone has been greatly reduced during the past six months, as the erection and finishing of the miter gates for the Canal locks have been drawing toward completion. The contractor is now cleaning up at Gatun and Pedro Miguel, where the only work on the gates yet to be done is a small part about some of the handrails, and the interior finishing of several leaves, the latter being done under subcontract by the American Bitumastic Enamel Company.

The remaining gate work at Miraflores Locks comprises finishing and cleaning the six leaves, which include placing the handrails and babbitting under the bearing plates at the miter ends of the 82-foot leaves of the lower operating gates. The last erection bridge, spanning the lock chambers, which has been left across the upper level at Miraflores for the accommodation of forces of the Canal Commission, is to be dismantled on December 10. The last of the 5,800,000 rivets in the gates were driven at Miraflores about the middle of November, with the exception of a few which were subsequently replaced. It is estimated that the rivets used weigh approximately a pound each, and that all the gates together contain about 2,900 tons of rivets. The completion of the work is being supervised by Mr. W. M. Sterrett, who has been local manager for the contractor since September 1, 1912; he anticipates that the gates at Gatun and Pedro Miguel will be finished on contract time, that is, by January 1, 1914, and that the completion of his company's work at Miraflores Locks will run slightly ahead of the contract date for completion, which is March 1, 1914.

The contract awarded to the McClintic-Marshall Company for the fabrication and erection of the lock gates was dated June 21, 1910. The first material erected under the contract was bearing plates, attached to hollow quoins in the upper level of Gatun Locks, on March 21, 1911. The erection of the locks proper was begun on May 17, following, when the bottom girders for the upper guard gates at Gatun were lowered into position. The largest force employed by the contractor at one time on the gates was 5,050 men, in April, 1913. No women were employed in any branch of the local work. The falling off in the force during the last six months is shown in the following tabulation of the roll at the first of each month:

MONTH.	GATUN.		PEDRO MIGUEL.		MIRAFLORES.		TOTAL.
	Gold	Silver	Gold	Silver	Gold	Silver	
July	123	1,085	96	584	148	1,366	3,402
August	86	803	87	564	112	1,080	2,732
September	63	544	68	410	96	1,024	2,205
October	56	464	41	193	76	803	1,633
November	32	420	2	79	72	531	1,136
December	4	31	1	4	23	262	325

Sailing of the "Fram."

The polar ship *Fram*, which arrived at Colon from Buenos Aires on October 3, departed on its trip around South America on Monday, December 15. On its arrival at San Francisco, it will be met by Captain Amundsen and outfit for a voyage to the Arctic region. During the stay of the vessel at Colon, Captain Thorvald Nilsen, its master, gave several lectures in the Commission clubhouses, and disposed of a number of postal cards, which will be mailed by him to the addressees, at points farthest north.

Steamshovel Work on Sides of Culebra Cut.

During the month of November, the total amount of material excavated by the Fourth Division in Culebra Cut was 170,900 cubic yards. Of this amount, 160,900 cubic yards were primary excavation for the Canal, and 10,000 cubic yards were classified as "Plant excavation"; 36,808 cubic yards were classified as earth excavation, and 134,092 cubic yards as rock excavation.

In addition thereto, the Fourth Division excavated at Sosa Hill 36,100 cubic yards of rock for use on the Naos Island breakwater.

All of the yardage handled by this division was excavated by steamshovels.

The Fifth Division of the Chief Engineer's office removed by sluicing at Gold Hill 81,400 cubic yards, 56,400 cubic yards of which were classified as earth, and 25,000 cubic yards, as rock excavation.

Additional Motor Boat for Sixth Division.

The motor boat *Search*, one of the three motor boats purchased from the Welin Marine Construction Company of New York for the use of the Sixth Division in inspection service, arrived on the *Carrillo* on November 30. This boat is 45 feet long, plainly fitted, equipped with twin screws, actuated by two gasoline engines of 45–75 horsepower, and is capable of developing a speed of 16 knots an hour. It was swung overboard in the dock at Colon, and taken to Gatun Lake through Gatun Locks, on Wednesday morning, December 3.

Arrival of Submarines at Colon.

The First Division of the submarine flotilla of the United States Navy arrived in Colon Harbor from Guantanamo, Cuba, on Friday, December 12, and will be stationed in Isthmian waters indefinitely. The division, consisting of submarines *C-1*, *C-2*, *C-3*, *C-4*, and *C-5*, and the tender *Severn*, was accompanied by the monitor *Ozark*, the supply ship *Cæsar*, and the tug *Potomac*. The *Ozark* sailed for Guantanamo on December 15, and the *Cæsar* and *Potomac* will follow shortly.

The submarines of the "C" type are 105 feet long and have a displacement, when at the surface, of about 240 tons. The first of the group, *C-1*, was built in 1908, and the four others within the two years following. The division is in command of Lieut. R. S. Edwards, who is also in command of *C-3*; the *Severn* is in command of Ensign S. A. Manahan; and *C-5*, *C-1*, *C-4*, and *C-2*, are in command of Lieut. J. W. Rankin, Ensign T. E. Van Metre, Ensign F. A. Daubin, and Ensign L. Hancock, Jr., respectively. The other officers with the division are Ensigns D. J. Friedell, P. T. Wright, C. M. Elder, G. L. Dickson, G. A. Rood on submarine assignment, Passed Assistant Surgeon A. J. Foulon, Assistant Paymaster D. T. Chalmers, and Paymaster's Clerk L. A. Klauer.

The sale of 1,634,840 pounds of old steel lock forms has been made to M. Rovetta of Genoa, Italy, at the price of $3.40 per ton of 2,240 pounds. There was only one other bidder, the Chicago House Wrecking Company, which offered $2.50 per ton of 2,240 pounds.

Civil Service Examinations.

Examinations will be held, probably on January 25, for the positions of stenographer and typewriter, Isthmian Canal Service; stenographer and typewriter, Philippine Service; and typewriter, Isthmian Canal Service. Applications will not be received after January 3; this date may be changed if necessary. Persons interested should request a copy of form No. 1,424, which contains information in regard to the abovenamed examinations.

Competitors in the abovenamed examinations must bring their own typewriting machines to the examination room.

The examinations will be held probably in the Commission clubhouse at Empire, but the place and date should be omitted in applications.

A card of admission will be sent to those found eligible to be admitted, just before the examination.

In answer to questions as to residence, applicants must show residence in a State or Territory of the United States, and county thereof, up to the time of filing application.

ISTHMIAN CIVIL SERVICE BOARD,
D. BUCKLEY, *Secretary*.
Culebra, C. Z., December 13, 1913.

Obituary.

The death of Ernest W. Heverly, a paymaster of the Disbursing Office, with headquarters at Ancon, occurred at Rogers, Arkansas, on Thursday, November 27, after a short illness. He left the Isthmus on his annual leave of absence on November 15. He was 28 years old, unmarried, and had been on the Isthmus since November 29, 1906. He was first employed in the office of the Local Auditor of the Canal Commission, but was transferred to the Disbursing Office on January 3, 1907. His father S. G. Heverly, and a brother, J. H. Heverly, reside at Rogers, Ark. His former home was at Center Point, Iowa.

Mrs. Albert C. Lokerson, the wife of Mr. Albert C. Lokerson, an employe of the Second Division, died at Ancon Hospital on December 11. She was 28 years of age and had been on the Isthmus only one day when admitted to the hospital. She is survived by her husband, living in Ancon.

Resolutions on the Death of Lieutenant-Colonel Gaillard.

The following resolutions have been passed by the Senate of the United States:

> *Resolved*, that the Senate of the United States has heard with profound sorrow of the death of Lieut.-Col. David DuBos. Gaillard, to whom the American people are under lasting obligations for the splendid service he rendered in overcoming some of the most perplexing difficulties in connection with the Panama Canal.
>
> *Resolved*, that in further testimonial of our esteem the Secretary of the Senate be authorized to forward a copy of these resolutions to the family of Lieutenant-Colonel Gaillard.

Similar resolutions were passed by the House of Representatives on the same day.

Married.

BREWBAKER-CHAFFEE—At the Union Church, Cristobal, on December 5, Gay Lyon Chaffee, to Milo Wilson Brewbaker, both of Chicago, Ill., the Rev. Carl H. Elliott officiating. Canal Zone residence, Gatun.

LOST—At Gatun, on Thursday, December 11, a small black purse containing a sum of money. A liberal reward is offered if returned to H. M. O., Gatun, P. O. box 160.

CHRISTMAS SERVICES.

Canal Zone Churches and Sunday Schools Will Celebrate the Day.

The Christmas service at the Methodist church in Panama will be held on Sunday, December 21. On Christmas Eve, the celebration of the Sunday school will be held, when a program consisting of songs, recitations, and a Christmas cantata will be given. The program will be repeated on Christmas afternoon at the new church in Guachapali, and on the Sunday following, the same will be given for the inmates of Chiriqui prison.

At St. Luke's Hospital chapel, Ancon, there will be services on Christmas Day at 10 a. m.

At the chapel of the Sacred Heart, Ancon Hospital, midnight mass will be celebrated on Christmas Eve.

At the church of St. Mary, Star of the Sea, Balboa, mass will be celebrated at 9 a. m., on Christmas Day.

At St. Ferdinand's Church, Empire, the mass will be celebrated at midnight on Christmas Eve and the early masses will be said in accordance with the usual custom. At the Church of the Redeemer, Culebra, mass will be celebrated at midnight as usual.

The Baptist church, New Gatun, will celebrate Christmas on Tuesday, December 23. In Colon, the celebration will be on Friday, December 26.

There will be a celebration of mass at midnight on Christmas Eve at the Church of the Immaculate Conception, Colon, and the usual early morning masses will be said. On Christmas Day, there will be a tree for the children of the parish in the new parish hall adjoining the church. It is expected that about 700 native and colored children will participate. This is the first time the parish has held an extensive celebration for the children.

At Christ Church, Colon Beach, the first vespers of Christmas will be sung on December 24 at 7.30 o'clock; choral eucharist will be sung at midnight on Christmas Eve; Christmas carols and service at 5 a. m., and a second celebration of the Holy Communion will be at 7.30 a. m.

Balboa Catholic Club.

The Catholic Club of Balboa held a meeting in the lodge hall of that village on Thursday evening, December 4. This was the first meeting of the club, and there was a large attendance. The Rev. Father McDonald, assistant priest at St. Ferdinand's Church, Empire, was the speaker, and delivered an address on club life, pointing out the ways in which successful clubs are conducted. The Catholic club will meet every Thursday evening. It is purposed to conduct the club on a plan similar to that of the Empire Catholic Club.

Proposed Federation of Union Church Work.

A meeting has been called by the executive council of the Union Church of Cristobal to convene at the Commission clubhouse at Corozal on Sunday afternoon, December 21, at 2.30 o'clock, for the purpose of discussing plans for the continuance of the undenominational church work on the Isthmus. Much interest is being shown in the movement and any persons who wish to attend this general conference at Corozal are cordially invited to be present.

Exchange Libraries.

Twelve exchange libraries for circulation among the dredges engaged on the Canal work have been purchased from a fund in the hands of the Union Church of Cristobal. Each library contains a dozen books, and will be forwarded and exchanged according to certain arrangements. Information concerning this library extension work may be obtained by addressing the Union Church Work Bulletin, Cristobal.

Strangers Club Election.

The annual election of officers of the Strangers Club was held on Saturday, December 13, and resulted, as follows: Chairman, John Burke; vice-chairman, C. E. Landers; treasurer, R. A. Brayton; secretary, R. W. Wilson. The report of the treasurer showed a marked improvement in the finances over the corresponding period of 1912. The membership is exactly as it was last year. An enjoyable "Smoker" followed the business session.

I. B. of S. S. and D. M.

A regular meeting of Local No. 19, International Brotherhood of Steamshovel and Dredgemen, will be held at the Empire lodge hall on Sunday, December 21, at 1 p. m. All members are requested to be present.

PERSONAL.

Capt. Charles W. Barber, accompanied by Mrs. Barber, sailed for New York on the *Allianca*, on Wednesday, December 17, on his annual leave of absence.

Dr. Roland P. Falkner, has resigned from the Joint Land Commission effective on his arrival in the United States. He sailed for New York on the *Panama* on Thursday, December 11.

The resignation of Dr. E. P. Beverley became effective on Monday, December 15, and on Tuesday, December 16, he sailed for New York on the United Fruit Company's steamer *Pastores*. He entered the Canal service on July 6, 1904, and was on the Ancon Hospital medical staff until May 1, 1905, when he was promoted to be district physician. On October 1, 1905, he was transferred to Colon Hospital, and performed the duties of physiological chemist, with the rating of physician, until August 1, 1907, when he was appointed chief of the medical clinic of that hospital. On October 16, 1907, he was again made district physician, but was reappointed chief of the medical clinic at Colon Hospital on July 12, 1911, and held that post until it was abolished on November 15, 1913. Dr. Beverley is from Broad Run, Va., and was graduated from the University of the South at Sewanee, Tenn., with the degree of Doctor of Medicine, in 1900. He recently accepted a position with the Pension Bureau at Washington.

Mr. C. P. Fortney, supervisor of machinery installation for the First Division of the Chief Engineer's Office, at Gatun Locks, has resigned to accept a position in the United States under Major Oakes, on one of the dams of the Ohio River near Louisville. Mr. Fortney entered the service of the Commission on August 22, 1907, as a draftsman, and was engaged on masonry and valve design. At this time the designing was done under the head of Department of Locks and Dams. On April 26, 1909, he was transferred to the field in charge of certain construction for the Gatun Locks handling plant. On September 1, 1909, he was promoted to superintendent of masonry construction at Gatun. On September 11, 1911, he was transferred to the First Division, charged with the installation of the permanent lock operating machinery. This position he held until his resignation was accepted.

Mr. Charles F. Koerner resigned the position of assistant chief of the Canal Zone fire department on Wednesday, December 10, and sailed on the *Panama* on the following day for New York. He became a member of the fire department in September, 1906, and was stationed at Cristobal. In September, 1907, he was made assistant fire chief, with headquarters at Ancon.

Mr. M. J. Schiavoni, who has been employed as architect in connection with the permanent structures of the Canal, resigned from the Canal service on December 4, and sailed for New York on the *Panama*, on Thursday, December 11.

Mr. H. E. Bartlett, the architect in the employ of the Panama Railroad Company, who designed the company's new passenger terminal in Panama, and supervised its construction for the railroad, has resigned. He sailed for New York on the *Carl Schurz* of the Hamburg-American Line on Tuesday, December 16.

Mr. W. K. Jackson sailed for New York on Thursday, December 11, on the *Panama*, on his annual leave of absence.

Justice S. E. Blackburn, returned from his annual leave of absence on the *Ancon*, which docked on Monday, December 8.

Mr. Charles R. Williams returned from his annual leave of absence on the *Panama*, which arrived on Thursday, December 4.

Rainfall, Dec. 1 to Dec. 13, 1913, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	1.27	12	3.93
Balboa	1.36	12	2.92
*Miraflores	1.60	12	2.69
Pedro Miguel	1.24	12	1.76
Rio Grande	.90	12	1.37
Central Section—			
Culebra	.81	12	1.27
*Camacho	.61	8	1.85
Empire	.74	12	1.81
Gamboa	.80	12	1.26
*Juan Mina	.65	12	1.20
Alhajuela	.39	10	1.38
*El Vigia	.20	13	.46
Frijoles	1.29	12	3.04
*Monte Lirio	......	......	......
Atlantic Section—			
Gatun	2.54	1	4.22
*Brazos Brook	3.75	1	9.01
Colon	.82	12	3.06
†Porto Bello	2.49	10	4.45

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight. †To 5 p. m., December 12.

Stages of the Chagres River, Gatun, and Miraflores Lakes.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes for the week ending midnight, Saturday, December 13, 1913. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.					
	Vigia.	Alhajuela	Gamboa	Frijoles	Gatun Lake	Miraflores Lake
Sun., Dec. 7	126.6	93.2	82.8	82.8	82.9	50.7
Mon., Dec. 8	126.5	93.1	82.9	82.9	82.9	50.7
Tues., Dec. 9	126.4	93.0	83.0	83.0	83.0	50.8
Wed., Dec. 10	126.4	93.0	83.1	83.1	83.1	50.7
Thurs. Dec. 11	127.3	93.6	83.2	83.2	83.2	50.9
Fri., Dec. 12	126.6	93.2	83.4	83.4	83.4	50.9
Sat., Dec. 13	129.3	95.0	83.5	83.5	83.5	51.0
Height of low water nearest ft.	125.0	91.0	44.0			

OFFICIAL CIRCULARS.

Christmas and New Year's Days.

CULEBRA, C. Z., December 12, 1913.

CIRCULAR No. 517:

Christmas Day, December 25, 1913, and New Year's Day, January 1, 1914, will be observed as holidays in the Canal Zone, and as far as practicable all public business will be suspended on those days.

GEO. W. GOETHALS,
Chairman.

Amendment to Rules for Employment or Promotion of Laborers "D" at, or to, the 20-cent Rate.

CULEBRA, C. Z., December 6, 1913.

CIRCULAR No. 229-z-7:

Effective December 10, 1913, the present rules governing the employment or promotion of laborers "D" at, or to, the 20-cent rate are abolished or amended, as follows:

No European contract or noncontract laborer, other white laborer, or black American laborer, shall, after December 10, be employed at a higher rate of pay than 16 cents per hour, or promoted to a rate of pay in excess of 16 cents per hour, no matter how long he has been in the service. Laborers of these classes who are now receiving the 20-cent rate may be retained in their present employment or transferred from one division to another without reduction, but if discharged will be reemployed at the 16-cent rate only.

Any European contract laborer now or heretofore receiving the 20-cent rate. who voluntarily leaves the service and later applies for reemployment, or who is discharged on account of reduction of force, may be furnished transportation to the European port from which he sailed, or, if he prefers, may be reemployed at the 16-cent rate, provided that there is a need for such laborer at the time and he agrees to waive any contract right he may have to the 20-cent rate.

Office timekeepers will see that no laborer of above classes, whose date of employment is subsequent to December 10. is allowed on the roll at more than 16 cents per hour unless this transfer (service slip form C. E. 262-2) is attached to the time book and shows a *bona fide* transfer from some other gang or division in which he was formerly employed at the 20-cent rate.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Accountable Officer, Fifth Division.

CULEBRA, C. Z., December 11, 1913.

CIRCULAR No. 514-A:

Circular No. 514, issued November 19, 1913, is hereby amended to show Mr. H. O. Cole, resident engineer, Fifth Division, as accountable officer for the Fifth Division, effective January 1, 1914, in place of Mr. R. B. Tinsley, superintendent.

GEO. W. GOETHALS,
Chairman.

Changes in Manual Block Signal Operation Approved.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., December 8, 1913.

G. S. BULLETIN No. 24:

All concerned—The changes in the manual block signal operations, requiring a numbered block clearance card between Summit and Pedro Miguel Junction, as enumerated in joint transportation bulletin No. 7 dated December 8, and issued by the chief dispatcher is hereby approved.

F. MEARS,
General Superintendent.

Sailing of the "Ancon."

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., December 13, 1913.

CIRCULAR No. 309:

All concerned—The sailing date for the steamer *Ancon*, which was set for Wednesday, December 17, at 4 p. m., is now changed to December 19 at 3 p. m., from Pier 11, Cristobal, Canal Zone. This cancels circular No. 300, dated December 9.

F. MEARS,
General Superintendent.

Family Quarters.

Applications for married quarters on file on November 30, were, as follows:

DISTRICT.	List No. 1.	List No. 2.
Ancon	25 (21)	134 (52)
Ancon Hospital	....	7 (3)
Balboa	7 (5)	66 (19
Corozal	14 (11)	148 (52)
Cristobal	....	103 (10)
Culebra	2	55 (15)
Empire	....	71 (20)
Gatun	....	77 (6)
Paraiso	1	81 (13)
Porto Bello	1 (1)	10 (9)
Toro Point	....	2 (2)
Total	50 (38)	754 (201)

NOTE—The figures in parentheses show the number of applicants already occupying regular or nonhousekeeping family quarters at stations other than those at which applications are filed.

Misdirected Letters.

ANCON, C. Z., December 15, 1913.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be procured upon request of the addressees:

Barber, John Gordan (paper)
Beatty, Branch
Briggs, Thronton
Burleigh, Sam
Campbel, Charles
Danville, Jr., B. B.
DiBaun, Jr., Albert T.
Frazier, Miss Jane
Freight, J. N.
Gause, Mr. and Mrs. Charles E.
Graham, Percy C.
Green, J. A.
Hinzen, Paul B.
Jennings, Micheal
Lewis, Charles
Logan, Frank
McLean, Annie
McNight, James
McPherson, James L.
Mason, Walter
Massen, Joseph (Mrs.)
Moran, Wm. M. (paper)
O'Brien, Miss Margaret
Omplnoy, Casper
Pacific, Ernest F.
Petgrave, J. (paper)
Plankenhorn, Geo. N.
Rose, Charles
Seaholm, Karl
Shipos, John P.
Staff, Raymond
Turner, Donald
Vokes, Geo.
Zane, Jr., H. J.

Supplies for the Canal.

The following steamers, with supplies for the Isthmian Canal Commission and Panama Railroad Company arrived at the ports of Colon, Balboa, and Cristobal, during the week ending December 13:

Pastores, December 7, from New York, with 31 packages structural material, for fortifications; 7 cases brass tubing, for Sixth Division; 8 cases electric pumps, for First Division.

Ancon, December 8, from New York, with 137 crates plumbing material, for Administration building, Balboa, 27 pieces structural steel, for Panama Railroad Company; 22 pieces structural steel for First Division; 15 crates structural material, for fortifications; 467 kegs wire nails, 34 bundles picks, 55,961 bags cement, for stock; and a miscellaneous cargo, the whole consisting of 722 packages, weighing 2,960 tons.

Cartago, December 8, from New Orleans, with 47 crates iron doors, for First Division; 772 pieces cast iron pipe, 1,161 bales hay, 20 boxes putty, 120 bags feed, 267 bundles fire clay, for stock.

Carl Schurz, December 8, from New York, with 1,099 pieces pipe, 40 barrels avenarius carbolineum, for stock.

Fort Morgan, December 8, from New York, with 40 boxes armament material, for fortifications.

Odland, December 9, from Jacksonville, Fla., with 19,146 board feet, car lumber, for Mechanical Division; 250 pieces untreated piling, for Atlantic Division; 340 pieces untreated piling, 463,739 board feet, yellow pine lumber, 4,725 pieces cross-ties, for stock.

Metapan, December 11, from New York, with 14 packages crane material, 27 packages structural material, for fortifications; 16 crates electrical material 725 crates insulators, 962 pieces structural material, for First Division; 15 boxes window glass, for stock.

Abangarez, December 11, from New Orleans, with 26 boxes electrical material, for First Division; 700 cases kerosene, 531 bales hay, 125 pieces pipe, for stock.

Allianca, December 11, from New York, with 50 barrels cement, for administration building, Balboa; 100 barrels cement, for commissary building, Balboa; 84 rolls paper, for Sanitary Department; 1,034 bundles reinforcing bars, for Division of Municipal Engineering; 270 packages metal caging; 124 packages electrical material, for First Division; 22 crates steel, 26 packages armament, for fortifications; 800 kegs nails, 80 bundles wire, 387 pieces pipe, for stock; and a miscellaneous cargo, the whole consisting of 3,649 pieces, weighing 350 tons.

Red Cross Finances.

The financial statement of the Canal Zone Chapter, American National Red Cross, for the month of November, 1913, follows.

RECEIPTS.

November	1, On hand	$2,674.96	
	6, Balance of fund raised for purchase of artificial leg for Pablo Abello, donated to Red Cross	4.75	
	30, Received during November, account of Red Cross ball held Sept. 17	1,168.71	
	30, Membership dues during month	3.00	
Total receipts			$3,851.42

DISBURSEMENTS.

November	1, Sending destitute baby from Colon Hospital to Jamaica	$5.00	
	17, Electric sign for Red Cross ball	21.30	
	17, Relief of destitute ex-employe at Ancon Hospital	3.00	
	17, Postage	3.00	
	25, Treasurer, Amican National Red Cross, Washington, D. C., one-half membership dues, May to October, inclusive	10.58	
Total disbursements			$42.88
November 30, Balance on hand			$3,808.54

JOHN L. PHILLIPS,
Treasurer.

Approved:
EDW. SCHILDHAUER,
Chairman.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending December 27, 1913:

DATE.	High	Low	High	Low	High
	A.M.	A.M.	A.M.	P.M.	P.M.
December 21	......	3.25	9.22	3.47	10 00
December 22	......	4.30	10.32	4.53	11.03
December 23	......	5.34	11 44	5.57	......
			P.M.	...	......
December 24	12.10	6.38	12 55	7 02	......
December 25	1.12	7.37	1 58	8 01	......
December 26	2 10	8.32	2 53	8.55	......
December 27	3 02	9.23	3.43	9.46	......

75th meridian time.

CLASSIFIED EXPENDITURES—ISTHMIAN CANAL COMMISSION.

A statement of classified expenditures of the Isthmian Canal Commission to September 30, 1913, follows:

PERIODS.	Department of Civil Administration.	Department of Law.	Department of Sanitation.	Department of Construction and Engineering	General Items.	Fortifications.	Total.
Total to June 30, 1909	3,427,090.29	....	9,673,539.28	69,622,561.42	78,022,606.10	....	160,745,797.09
Total—Fiscal Year, 1910	709,351.37	....	1,803,040.95	26,300,167.05	2,863,088.83	....	31,675,648.20
Total—Fiscal Year, 1911	755,079.44	....	1,717,792.62	27,477,776.19	3,097,959.72	....	33,048,607.97
Total—Fiscal Year, 1912	820,398.57	24,729.16	1,620,391.12	28,897,738.10	2,819,926.53	1,212,881 66	35,396,065.14
Total—Fiscal Year, 1913	681,389.06	20,253.11	1,435,400.96	33,017,852.99	1,063,322.52	1,901,475.86	38,119,694.50
July, 1913	61,472.81	1,597.91	121,487.47	2,138,540.39	237,534.13	131,333.71	2,691,966.42
August, 1913	57,950.95	1,469.10	112,802.29	2,299,554.75	244,860.32	150,364.19	2,867,061.60
September, 1913	63,469.40	1,835.57	106,731.16	2,276,467.78	242,779.94	149,735.89	2,841,019.74
Grand total	6,576,201.89	49,884 85	16,591,185.85	192,030,658.67	88,592,078.09	3,545,791.31	307,385,800.66

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The moving picture schedule of the week, December 22 to 27, is, as follows: Monday, Empire; Tuesday, Gatun; Wednesday, Cristobal; Friday, Culebra; Saturday, Corozal.

The standing of the all-Isthmian bowling league is, as follows:

Team.	*Won.*	*Lost.*	*P. C.*
Cristobal	19	5	.792
Empire	20	10	.667
Corozal	16	11	.593
Culebra	14	13	.519
Gatun	8	16	.333
Camp Elliott	3	22	.120

The final standing in the all-Isthmian chess tournament is, as follows:

Team.	*Won.*	*Lost.*
Culebra	33	15
Empire	26½	21½
Gatun	20½	27½
Cristobal	16	32

COROZAL.

High bowling scores for the past week are, as follows: *Duckpins*—Sims, 103; Seebt, 101, 102; Hutchins, 109, 115; Ownes, 100, 108; Steele, 105. *Tenpins*—Ziller, 207, 214, 222, 211; Smith, 211; Edwards, 222; Parkhurst, 220, 227.

The Gatun bowling team bowls here on Saturday, December 20. It is the last game in the Isthmian tournament.

The pool and billiard table have recently been recovered and are now in good condition. It is requested that members will exercise proper care of them in future.

The Corozal boys will visit Gatun on Saturday for the purpose of playing basketball and enjoying a swim.

CULEBRA.

High scores in duckpins for the past week are, as follows: Kiernan, 109, 103, 103, 104, 119; R. Koperski, 105, 108; Case, 101, 126, 104, 115, 101, 113; DeCora, 101, 100; Fitzpatrick, 111; Jefferics, 100: Start, 101; Finley. 104; Bechlem, 100, 103; E. Koperski, 126; Chadbourne, 101.

A local duckpin tournament has been started with six 5-men teams, as follows: "Blacks" (Cornthwaite, captain); "Blues" (DeCora, captain); "Greens" (Kiernan, captain); "Oranges" (Palmer, captain); "Reds" (R. Koperski, captain); "Whites" (Ferguson, captain). The members of the winning team, winner of high average, and high single score will receive gold medals. Each team will play each other team three games, the total pinfull for the entire series to determine the winner.

The "Blues" and "Blacks" bowled three games on the 11th, the scores being 1,236 and 1,249, respectively. The "Reds" and "Greens" met on the 12th, the scores being 1,275 and 1,310, respectively.

Stereopticon views of "From Egypt to Canaan" were shown on Sunday evening, December 14.

Dr. Frederic Poole will give his moving picture lecture on China, assisted by Mrs. Poole, who will display Chinese costumes, on Monday, December 22. The admission fees will be, as follows: Members, free; adult nonmembers, 25 cents; children, 15 cents.

EMPIRE.

The last interassociation tenpin tournament was bowled on the Empire alleys on Thursday evening, December 11, between Empire and Corozal. The Empire team won two out of three games, and made the high team score of 1,012. "Dusty" Huson won the high single score with 266 pins and high three games with 646 pins. The teams scores were: Empire, 980, 1,012, 876; total pinfall, 2,868. Corozal, 916, 928, 941; total pinfall, 2,785.

The basketball game played between Empire and Corozal on December 11 was won by the Empire team by the score of 49 to 17. The Empire team will play at Cristobal on Saturday, December 27.

In future, Wednesday evening will be known as "Chess night," at the clubhouse. All those interested in the game are invited to be present.

On Saturday evening, December 13, an Isthmian chess carnival was held, the Cristobal, Gatun, Culebra, and Empire clubs taking part. The program was, as follows: From 7.30 to 8 o'clock, reception of visitors, and greetings; from 8 to 10 o'clock, "Rapid transit" chess tournament; from 10 to 11.15 o'clock, toasts, speeches, and good of the order. The toastmaster was Mr. A. M. Warner of Culebra. The committee on arrangements consisted of Messrs. W. H. Warr, William Dubois, E. M. Goolsby, J. B. Shropshire, and J. F. Warner. This was the first time in the history of the chess clubs that all the teams were brought together. The matter of promoting other tournaments was referred to a committee. In the "Rapid transit" tournament after three rounds of play, eliminating most of the 22 players, two players were left, Mr. Wm. Dubois of Culebra and Mr. T. Marquand of Gatun. This proved an exciting contest and was finally won by the latter who received an honor medal.

GATUN.

A brass band from the Swedish cruiser *Fylgia* gave a pleasing concert on Monday evening, December 8.

The motion pictures given by Mr. Hagy on Tuesday evening, December 9, included several of recent events on the Isthmus.

The gymnasium classes continue to be well attended. Mr. Kjellander, the new physical director, announces that special classes will be formed for those who cannot attend the senior class. These will meet twice a week at 5.15 p. m.

A member of the Y. M. C. A. may join the Spanish classes at any time. There are also classes for women, which are held at 4 p. m., on Tuesdays and Thursdays of each week.

Dr. Poole lectures at the Gatun Y. M. C. A. on Thursday evening, December 18.

The Pennsylvania State College Quartet will be at the clubhouse on Christmas night.

An informal song service was held at the clubhouse after the motion pictures on Saturday evening. D. R. Homer was the accompanist.

CRISTOBAL.

There will be no more meetings of the discussion club until after the holiday season. The first meeting of the new year will be held January 8. The speaker will be Lieut.-Col. Eugene T. Wilson, and his subject, "Tolls and traffic of the Panama Canal."

The schedule for Christmas week is, as follows:

Wednesday, December 24—Cantata, "Santa Claus' arrival." Ninety in cast. Children participating from Cristobal and Colon Beach.)

Thursday, December 25—Cantata, repeated.

Friday, December 26—Pennsylvania State College male quartet. (Regular States entertainment prices.)

Saturday, December 27—Basketball game, Empire vs. Cristobal.

Monday, December 29—Gymnastic games and calisthenics. Combined gymnasium classes.

Tuesday, December 30—Community dance, under the auspices of the Cristobal Dancing Club.

Wednesday, December 31—Demonstration of folk and gymnastic dancing. Combined gymnasium classes. Beginning of all-Isthmian tenpin bowling tournament.

Thursday, January 1, 1914—Continuance of all-Isthmian tenpin bowling tournament. "Smoker" for men only.

First night of the cantata will be reserved for relatives of children participating. Second night, open to general public. All entertainments will begin at 8 o'clock and will endeavor to be closed by 11 o'clock, except bowling tournament.

Bowling tournament from 7 p. m., to 11 p. m., December 31, and 8 a. m., to 11 p. m., January 1. No entries accepted after 10 p. m., January 1. Entry fee $1 for each entry. Bowling to be in singles and doubles.

On Monday night, December 8, the monthly married folks' bowling tournament was held on the local alleys. Mr. and Mrs. Raymond Bell were the winners in the first-class event, and Mr. and Mrs. Britton won first place in the second-class.

The last series of games to be rolled on the local alleys in this year's tenpin league was rolled on Saturday night, December 13, Cristobal winning three games from Camp Elliott by the following scores:

Cristobal.				*Camp Elliott.*			
Barrett	179	181	...	Darnell	178	133	141
Russell	151	...	...	Thompson	170	143	...
Barnum	180	...	190	Hobart	150	154	146
Barte	212	161	175	McClain	147	152	167
Bullard	170	189	140	Weis	176	166	153
Hess	...	128	170	Coleman	...	...	90
	...	159	166				
Total	892	818	841		821	748	697

Entries are now being received for the single folks' duckpin tournament, which will be held Monday night, December 22.

PORTO BELLO.

Messrs. Guy Allen and Charles Chase have been appointed members of the advisory council of the Porto Bello association to fill the places made vacant by Messrs. Toler and Cornelison, who have moved away.

There was no moving picture entertainment last week on account of the machine being overhauled in the Empire shops.

The children of the Sunday school are daily rehearsing their pieces and songs for the Christmas entertainment to be held in the clubhouse on Christmas eve.

The financial committee appointed to raise funds for the Christmas celebration, of which Charles Urwiler is chairman, succeeded in raising about $100 to purchase presents for the gold employes of Porto Bello.

Mr. Charles Chase led the evening song service on Sunday of last week.

A new rug was received from the superintendent of clubhouses last week and was placed in the reading room.

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings of the Panama Railroad Steamship Company; of the Royal Mail Steam Packet Company; of the Hamburg-American Line; and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.*

Colon	P. R. R.	Thursday	Dec.	11
Advance	P. R. R.	Wednesday	Dec.	17
Panama	P. R. R.	Tuesday	Dec.	23
Allianca	P. R. R.	Tuesday	Dec.	30

CRISTOBAL TO NEW YORK.*

Allianca	P. R. R.	Wednesday	Dec.	17
Colon	P. R. R.	Tuesday	Dec.	23
Advance	P. R. R.	Tuesday	Dec.	30
Panama	P. R. R.	Monday	Jan.	5
Allianca	P. R. R.	Sunday	Jan.	11

NEW YORK TO COLON.

Zacapa	U. F. C.	Wednesday	Dec.	10
Tenadores	U. F. C.	Saturday	Dec.	13
Emil L. Boas	H.-A.	Saturday	Dec.	13
Almirante	U. F. C.	Wednesday	Dec.	17
Magdalena	R. M.	Saturday	Dec.	20
Carrillo	U. F. C.	Saturday	Dec.	20
Prinz Joachim	H.-A.	Saturday	Dec.	20
Santa Marta	U. F. C.	Wednesday	Dec.	24
Carl Schurz	H.-A.	Saturday	Dec.	27
Metapan	U. F. C.	Wednesday	Dec.	31
Prinz August Wilhelm	H.-A.	Saturday	Jan.	3

COLON TO NEW YORK.

Metapan	U. F. C.	Thursday	Dec.	18
Prinz August Wilhelm	H.-A.	Tuesday	Dec.	23
Danube	R. M.	Tuesday	Dec.	23
Zacapa	U. F. C.	Thursday	Dec.	25
Emil L. Boas	H.-A.	Tuesday	Dec.	30
Almirante	U. F. C.	Thursday	Jan.	1
Prinz Joachim	H.-A.	Tuesday	Jan.	6
Carrillo	U. F. C.	Tuesday	Jan.	6
Santa Marta	U. F. C.	Thursday	Jan.	8
Carl Schurz	H.-A.	Tuesday	Jan.	13
Pastores	U. F. C.	Tuedsay	Jan.	13
Metapan	U. F. C.	Thursday	Jan.	15

NEW ORLEANS TO COLON.

Atenas	U. F. C.	Saturday	Dec.	13
Parismina	U. F. C.	Wednesday	Dec.	17
Turrialba	U. F. C.	Saturday	Dec.	20
Cartago	U. F. C.	Wednesday	Dec.	24
Abangarez	U. F. C.	Saturday	Dec.	27
Heredia	U. F. C.	Wednesday	Dec.	31

COLON TO NEW ORLEANS.

Abangarez	U. F. C.	Thursday	Dec.	18
Heredia	U. F. C.	Saturday	Dec.	20
Atenas	U. F. C.	Thursday	Dec.	25
Parismina	U. F. C.	Saturday	Dec.	27
Turrialba	U. F. C.	Thursday	Jan.	1
Cartago	U. F. C.	Saturday	Jan.	3
Abangarez	U. F. C.	Thursday	Jan.	8

COLON TO BOSTON.

Tivives	U. F. C.	Sunday	Dec.	21
Carrillo	U. F. C.	Sunday	Jan.	4

*Amended schedule, resulting from temporary withdrawal of the *Allianca* for repairs.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 1 p. m.; for Southampton, on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays and Saturdays at 3 p. m.; ships for New York via Kingston, on Tuesdays at 1.30 p. m., and Thursdays at 1.30 p. m.; for Bocas del Toro, on Mondays at 5 p. m.; for Limon, via Bocas del Toro, on Tuesdays at 5 p. m.; and for Limon direct, Tuesdays at 3 p. m.

Hamburg-American steamers sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays; the *Prinz August Wilhelm* and the *Prinz Joachim* at 10 a. m.; the *Carl Schurz* and the *Emil L. Boas* at 2 p. m.

◆

The following ships arrived at, or departed from, the port of Balboa, during the week ending December 13, 1913:

Arrivals—December 7, *Rupanco*, from intermediate ports; December 8, *Guatemala* from Callao, *Pachitea*, from Callao; December 9, *Quito*, from intermediate ports; December 13, *Pleiades*, from San Francisco.

Departures—December 7, *Chile* to Guayaquil; December 8, *Ucayali*, to Callao, *Aysen*, to Valparaiso; December 9, *Pennsylvania*, to San Francisco.

◆

Commissary Cold Storage.

No changes are reported in the list of cold storage supplies sold at the commissaries published in THE CANAL RECORD of December 10.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, DECEMBER 24, 1913. No. 18.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Arrival of Two 1,000-yard Barges.

Two of the six 1,000-cubic yard steel dump barges, for the manufacture and delivery of which by January 1, 1914, contract was let by the Isthmian Canal Commission to the Maryland Steel Company, arrived at Colon on December 18, having left the yards of the contractor at Sparrows Point, Md., on December 2, in tow of the Merritt and Chapman Derricking and Wrecking Company's tug *Rescue*. On December 19, they were passed through Gatun Locks and towed to Culebra Cut, in which they are now moored alongside the west bank, about 800 feet north of Contractor's Hill. These barges, designed for service with the two 15-cubic yard dipper dredges now under manufacture, have just twice the capacity of the largest barges previously in the Canal service; the French clapets have capacities as great as 250 cubic yards. Further description of the new barges is to be found in THE CANAL RECORD of April 9, 1913.

Dredging in Culebra Cut.

The channel through the base of Cucaracha slide has been widened during the past week from a clearance of about 50 feet to a minimum width of about 150 feet, the draft in both cases averaging about 16 feet. The amount of material removed during the seven days ending at 6 p. m., December 22, aggregated 72,000 cubic yards. Excavation is being carried on by the dipper dredges *Cardenas*, *Chagres*, and *Mindi*, advancing from the north in an oblique arrangement, so close together that the barge into which one dredge loads touches the hull of the dredge next in line; by the ladder dredge *Marmot*, now at about the center of the slide and working south, and the ladder dredge *Badger*, 100 feet south of the *Marmot* and working toward it; and by pipeline suction dredges *No. 86* and *No. 4*, about 200 and 300 feet, respectively, south of the *Badger* and working toward the north.

With the exception of the pipeline suction dredges, which are excavating principally clay brought down by the slide after the preliminary excavation in that area by the *Corozal*, and disposing of it through the relay line leading up the west bank of the Canal and down the Rio Grande valley, all the dredges deposit their spoil in barges and clapets, in which it is conveyed about nine miles to the dumping grounds north of Gamboa. The length of the haul and the unusual concentration of dredges necessitate careful planning to keep all the vessels busy and prevent their interfering with one another. At present, loaded barges are all handled by three tugs to a point about 3,000 feet north of the slide, and then taken in tow by other tugs assigned to haul them to the dumping grounds and back. At the same point, the empties are taken in tow by the tugs which tend the barges. In spite of the congestion, the dredges have been making fair records. The ladder dredges are working in loose rock and clay, and the dipper dredges are handling large rock. A great many pieces brought up are too large to be dumped through the dippers, and the discharge of "Dobey" blasts, breaking the rocks, so that the dippers may drop them into the barges, is an almost continual accompaniment of the work of these dredges.

The ladder dredge *Corozal*, which was transferred to the north side of the slide on December 14, is excavating at the base of the west Culebra slide, and ladder dredge *No. 5* is working to the north, at the base of a slide on the east bank, approximately opposite the Culebra passenger station.

Finishing Concrete Work at the Locks.

Forces of the First Division are preparing supports for the return tracks along the upper and lower walls of Pedro Miguel Lock by driving, with a steam hammer, 10-inch steel pipe, fitted with cast iron slip couplings, into which concrete is poured to make piles. At intervals of about 15 feet, two pipes, five feet apart, are driven to refusal, filled, and covered with a reinforced concrete cap. Steel beams encased in concrete are laid between the caps, to form the lengthwise stringers for supporting the steel cross-ties of the track, which will also be encased in concrete. The return tracks on the lower approach walls at both Pedro Miguel and Miraflores will be supported in the same manner, but the return track on the Miraflores wing walls will be supported upon reinforced concrete brackets built as part of the wing walls.

Since taking over the finishing of the locks, on October 15, 1913, the First Division has laid 335 cubic yards of concrete at Gatun, 962 at Pedro Miguel, and 2,850 cubic yards at Miraflores Locks. About 14 per cent of the reinforced concrete appertaining to First Division work was mixed and placed by the Atlantic Division, prior to September 1, 1913. The remaining concrete work for the actual finishing of the locks, dating from December 1, 1913, consists principally in concreting manholes, towing and return tracks, finishing handholes in the cable ducts, paving under the emergency dams at Pedro Miguel and Miraflores, and decking and floors for chain fender rooms. After December 1, 1913, there remained about 9,000 cubic yards of concrete to be placed at Gatun Locks, and about 13,000 at the two Pacific locks.

Final Work on Gatun Dam.

The two wings of Gatun Dam have been practically finished, the crests being raised as much as three feet above final level, in order to allow for settlement, and the remaining work on the dam proper will be in grading the top after the settling. Spoil from the borrow pit beyond the west end of the dam is now being placed at the west end of the east wing, next to the spillway, to cover the draft tubes leading to the hydroelectric station, and to connect the dam by suitable slopes with the side wall of the spillway discharge channel. The total amount of material placed in the dam to December 1, 1913, was 22,052,666 cubic yards.

Railroad Instruction for Marines.

In response to a request from the commanding officer of the battalion of the United States Marine Corps stationed at Camp Elliott, that a detachment of his men be given instruction in locomotive running and train handling, arrangements have been made for such instruction on trains and in the yards and engine houses of the Isthmian Canal Commission railway service. A committee consisting of Mr. James C. Craig, traveling engineer, chairman; Mr. W. T. Snyder, assistant superintendent of transportation, and Mr. J. C. Barnett, yardmaster at Empire, met in the office of the last named on December 11, in conference with Mr. J. J. Eason, assistant superintendent of the Mechanical Division, and Lieut. Howard W. Stone, U. S. M. C., and formulated the following plan, which was approved, and was placed in effect on December 22:

1. Twenty-four men are to be designated by the Commanding Officer at Camp Elliott for instruction.

2. The 24 men are to be divided into Class A and Class B, of 12 men each.

3. Class A to go on duty one week. To be composed of five men as student enginemen, five as student trainmen, and two noncommissioned officers as student yardmasters, when they can be spared from military duties.

One student engineman to be assigned to the wrecker engine; two student trainmen to be assigned to the wrecking train crew; four student enginemen to be assigned to I. C. C. locomotives in various services running out of Empire; three student trainmen to be assigned to conductors in various services running out of Empire. Assignments to be made by Mr. Barnett.

4. Class B, second week, to go through tbe same routine as Class A.

5. Class A, second week's training. Student enginemen to put in half a day for one week at Empire shops, under the supervision of Mr. Eason, for instruction in locomotive machinery and air brakes.

Student trainmen to report to Mr. Barnett at Empire for half a day in train service and half a day in instruction in the Book of Rules.

6. Class B, second week's training. To go through the same routine as Class A.

7. Class A, third week's training. Student enginemen to go in hostler service at the Empire and Gold Hill roundhouses, under supervision of the night foremen. Student trainmen to go in train service during the day.

8. Class B, third week's training. To go through same routine as Class A.

9. Class A, fourth week's training. To go through the same routine as for the first week.

10. Class B, fourth week's training. To go through the same routine as Class A.

11. At the end of this period of instruction, the committee will take the force to the 95-foot level, with a locomotive and four cars, where the men will demonstrate their ability to perform the work they have been instructed in.

12. The traveling engineer will keep in close touch with the men assigned to locomotives.

13. Engineers, conductors, yardmasters, and night foremen, who have charge of students in their respective duties, will make a written report at the end of each week's service as to the progress made, and the efficiency and adaptability of students.

14. Students will carry lunches with them if they are to be absent during the whole day or night.

15. Suitable passes, countersigned by the superintendent of transportation, are to be supplied to the students in the various services, on a form prescribed by the committee.

16. Locomotive students are to be furnished a copy of the standard rules for the guidance of firemen on coal and oil-burning locomotives.

New Colon Hospital Organization.

The organization for a 50-bed hospital to take the place of the former staff at Colon Hospital has been approved. It provides for a superintendent, one physician, one clerk, one storekeeper, who will also perform the duties of druggist and look after the hospital property; six nurses; 10 attendants, seven for ward work in the main hospital, one for the chronic ward, and two for use as utility men about the grounds and buildings, one to relieve the ambulance driver occasionally, as the latter is usually on duty all day and has frequent night calls; one cook, who will do the cooking for the patients, both in the main and chronic wards, the nurses, and other employes; two kitchen helpers; two maids to look after the linen, and the effects of any women patients who may be admitted to the hospital as emergency cases; one ambulance driver; two waiters, who will look after the nurses' mess, the employes' dining room, and the serving of food to patients; two messengers, one for carrying the mail, running errands, and accompanying deported individuals to their ships, as most of the deportations from the Isthmus are made from the Atlantic side through Colon Hospital, and the other for service about the hospital and grounds; one watchman to look after the hospital at night and answer telephone calls after 6 p. m.; one policeman, who is on duty at the main gate and guards the medical storehouse; and two attendants for the chronic ward, who are to perform the necessary ward work.

The petition, signed by a large number of the American employes of the Canal Commission and Panama railroad living in Cristobal and Colon, asking that the maternity ward at Colon Hospital be reinstated, has been denied.

Rock in Storage at Ancon Crusher.

A considerable quantity of what is designated "No. 1" crushed rock is being placed in a storage pile below Ancon quarry and crusher, to be used later in the mass concrete work for the dry dock and fortifications, and in highway construction. In crushing rock for use in reinforced concrete, designated as "No. 2" size, No. 1 rock is a by-product. During the construction of the locks, the output of the quarry was about 75 per cent of No. 1 and 25 per cent of No. 2. Owing to the demand, which is now nearly altogether for No. 2, the crushers and screens have been so arranged as to give an output of 60 per cent of No. 2, and 40 per cent of No. 1. A considerable quantity of screenings is also being shipped for the manufacture of concrete blocks used in the permanent building work, and for use in finishing road surfaces and sidewalks.

Panama City Improvements.

Forces of the Division of Municipal Engineering (southern district) have begun the construction of a storm sewer on Eighteenth and B streets in the city of Panama. The work is being done under a special appropriation of $76,500 made by the Panama Government for certain improvements of streets and grounds in Panama city, and is estimated to cost about $18,000. The sewer is for taking care of the surface water that drains off from Ancon Hill in this section of the city, and extends from the beach at the foot of Eighteenth street to B street, a distance of 1,097 lineal feet, and west on B street for a distance of 306 lineal feet, stopping at a gully that formerly carried off the water in this locality. During heavy rains, this gully often became clogged and overflowed, inundating B street near its intersection with Ancon Boulevard, and flooding some of the stores along the street. The new work will relieve this situation, and also furnish drainage for a tract of land lying just north of B street which will be laid off into town lots. The section of the sewer on Eighteenth street will be five and one-half feet wide and six feet high; on B street five feet three inches wide and three feet six inches high. It is being constructed of concrete, reinforced at the sides and bottom with $\frac{1}{2}$-inch and $\frac{5}{8}$-inch reinforcing rods, and on top, where there is but little depth between the slab and the street surface, with 70-pound iron rail, spaced one foot on centers. The material removed in the progress of excavation is transported on Decauville track, and used to advantage in filling in low areas on either side of Eighteenth street in the vicinity of the beach.

Fire Protection at Balboa Shops and Terminal.

A number of measures have been taken to furnish the new shops and terminal works at Balboa with suitable protection against fire, including the adoption of a series of whistle signals, an extension of the water service, and the installation of additional hydrants at easily accessible points. The whistle was made at the Empire shops, and is readily distinguishable from all the other steam whistles in the vicinity. The signals are, as follows: One long blast, repeated four times, when a fire originates south of the new dry dock; two long blasts, repeated four times, when the fire is north of the dry dock and east of building No. 4 (boiler and shipfitter shop,) and three long blasts, repeated four times, when the fire is north of the dry dock and west of building No. 4.

Additional 2-way hydrants will be installed, as follows: One each near the east and west ends of building No. 12 (foundry); one each near the east and west ends of building No. 10 (lumber and equipment shed); one near the south end of center of building No. 3 (steel storage shed); one near the south side of center of building No. 1 (machine, erecting, and tool shops), and one near the shore end of the new cofferdam at the shipways.

The water facilities have been increased by the installation of an 8-inch main extending along the branch line of the Panama railroad to Balboa, which taps the 20-inch Rio Grande main near the Hotel Tivoli, a 6-inch main extending to the north side of the dry dock, and another 6-inch main across the east end of buildings No. 7 and 10 (car shop, and lumber and equipment shed) to the water front. These three lines will be cross-connected at their westerly ends.

A paid fireman from Ancon No. 3 fire station is now on duty at Balboa during the day, and another fireman is regularly detailed there at night. Arrangements have been made to set up a dismounted box car to be used as quarters for a paid fireman at Balboa, and after this car is ready a paid fireman will be detailed at Balboa continuously, day and night, as at other one-man stations. This arrangement is temporary, until the new fire station at Balboa is constructed. There has also been installed a fire alarm box for temporary use, near the planing mill at the shops. The fire department is supplying the necessary fire apparatus, and has equipped the shop buildings with fire extinguishers.

Ancon Crusher.

Following is a statement of rock crushed at Ancon quarry during the two weeks ending December 20:

DATE.	Hours worked.	Cubic yards.
Dec. 8	7 40	1,509
Dec. 9	8 25	1,943
Dec. 10	7 45	1,871
Dec. 11	8 10	1,927
Dec. 12	8 35	1,333
Dec. 13	7.55	1,974
Total	48.30	10,557
Dec. 15	6.55	1,627
Dec. 16	8.45	1,210
Dec. 17	8.25	1,632
Dec. 18	8.10	2,323
Dec. 19	8.40	1,587
Dec. 20	5.15	1,107
Total	46.10	9,486

Accidental Drowning.

Arthur Lagan, a private in Company G, Tenth Infantry, Camp E. S. Otis, was accidentally drowned on Monday, December 15, in the old channel of the Mandingo River, where the water has backed up account of the rise of Gatun Lake. He was born in Brooklyn, N. Y., was 22 years of age, unmarried, and had been on the Isthmus two years, ten months, and five days. His mother, Mrs. Julia Wagner, resides at No. 461 Willow street, Allentown, Pa.

Missing Man.

Any one having knowledge of the whereabouts of J. C. Cope, formerly of Canton, Miss., believed to be on the Isthmus, is requested to communicate with the Office of the Chairman, Culebra.

Rock is being supplied from the steamshovels operating on the upper levels of the east Culebra slide for use in backfilling the northeast wing wall of Miraflores Locks. The steamshovel excavating in the borrow pit, opposite the Corozal corral, has been shut down and is being removed from the site.

CANAL ZONE CHRISTMAS.

Americans will Celebrate on about the Same Scale as During the Past Eight Years.

The American force is celebrating its eighth Christmas this week. Prior to 1906, when the Canal force was being assembled, the celebrations were more private in character and could not be classed with the large community entertainments that have been held each year since that time in the Canal villages. From 1907, these community celebrations have been held in the Commission clubhouses and social halls, and generous expenditures has been made for gifts and treats for the children. The estimates taken each year of the number of children entertained at these celebrations show that an average of 1,200 American boys and girls have participated. Notwithstanding the reduction in the Canal force this year, the number will not be much less. The number of villages in which these public celebrations have been held is reduced, however, by the abandonment of Gorgona, Bas Obispo, and Las Cascadas.

At Porto Bello, the entertainment was held in the Commission clubhouse on Christmas Eve, the children of the Sunday school participating in the program.

The Union Church Sunday school at Cristobal celebrated Christmas on Sunday evening, December 21, with a Christmas service, in which members of the school participated. The first part of the program consisted of the singing of carols and hymns by the older members of the school, and the congregation. The features of the entertainment were special parts given by the beginners' class, and the primary department, respectively. The following members of the beginners' class took part in the program; Catherine Glick, Clunis Ross, Emery Fleming, Marie Farrell, Cybell Austin, Stella Newboldt, Rachel Weaver, Florence Zidbeck, Dorothy Sloan, Emma Banks, Doris Ellison, Gay Turner, Gwendolyn Ragsdale, Zenola Bliss, and Julia Verner.

The program of the primary department was given by the following: Dorothy Orr, Viola Bell, Hyacinth Eden, Nacinia Baxter, Florence Stewart, Harriet Herz, Hazel Foster, Nell Appleton, Helen Herz, Gladys Blakely, Edna Devol, Verdry Vaughn, Virginia Raymond, Florida Edwards, Etta Davis, Mary Hearne, Esther Green, Ruth Foster, Marjorie Carter, and Eugenia Baxter.

The Gatun Sunday school celebration was held in the Commission chapel on Tuesday evening, December 23. A program was given in which the following children took part: Elizabeth Baker, Helen Housal, Minnie Buckholdt, Charlotte Housal, Nina Hansen, Katherine Garwood, George Carkeet, Lois DeForce, Ferdinand Buckholdt, Steve Westbrook, and Alfred Morgan. Carols were sung by the school; there was a drill by a class of girls, and one by a class of boys, and the infant class sang a carol. Each child received a box of sweets, and a gift from the Christmas tree.

At Empire, the Sunday school joined with the Young Men's Christian Association in preparing for the community celebration, and an entertainment was held in the Commission clubhouse on Christmas Eve. A cantata, "Santa Claus comes", was given by the children, the following taking part: Helen Huber, Margaret Campbell, Mary Halligan, Mildred Sawtelle, Marjorie Golden, Margaret Halligan, Flora Smith, Helen Johnston, Kitty Arthur, Dorothy Hudson, Elvis Pearson, Gertrude Kenyon, Sarah Smith, Clarence Watkins, Jerry Drake, Herman Conrad, Irving Brown, Karl Campbell, Robert Engelke, Raymond Smith, and Muro Golden. Gifts of fruits and sweets were distributed to about 280 children. A special reel of moving pictures was shown.

On Sunday, December 21, the Empire Sunday school celebrated Christmas with a special program at its regular morning session.

The Culebra Sunday school made special preparations for the celebration of its eighth and probably last Christmas. The exercises were held in the social hall in the schoolhouse on Christmas Eve. A short play was given by the children and Christmas carols were sung. Following the program, gifts were distributed among the children from the Christmas tree, which was provided and decorated by the Young Men's Christian Association. A class picture of the members of the cradle roll was presented to each one of the little ones whose name appears on the roll. The present enrollment of the Sunday school, exclusive of the auxiliary departments, is 80. There are 32 in the cradle roll, and 15 in the home department, making the entire enrollment of the organization 126.

On Christmas afternoon, there will be an entertainment for the children of the Paraiso Sunday school in the chapel.

On Christmas Eve the community celebration was held in the Commission clubhouse. The members of the Sunday school took part in the program, which included a special feature, consisting of selections by the young ladies' chorus, organized recently. The members of this society are: Miss Hackenberg, the Misses Albright, Miss Otis, Miss Swinehart, Miss Mumma, Miss Harris, Miss Christison, Miss Violet, and Miss Lindley. Several Christmas trees prettily decorated were placed in the hall. Gifts of candies and fruit were distributed to the children, and, following the program, a treat was served to the bachelors of the village.

In three Sunday schools, gift giving rather than gift receiving has been made a special feature of the Christmas celebration. At the Methodist church on the seawall, Panama, the Christmas cantata, "The heart of Santa Claus", was sung by the children at the entertainment given in the church on Christmas Eve. The gifts brought by the children were presented by a class of gift bearers, during the singing of the ancient Christmas carol, "O Santissimo." On Christmas Day, the gifts will be distributed among the negro children of the church in Guachapali.

The children's service at St. Luke's Hospital chapel, Ancon, was held on Christmas Eve, at 6.30 o'clock. The children brought gifts for distribution among the sick children in the wards of the hospital on Christmas morning. In the Cristobal Sunday school, the children were requested to bring gifts to the Commission clubhouse for distribution among the poor children of Colon.

The Sunday school of the Roman Catholic chapel, Ancon Hospital, will hold its celebration in the rectory adjoining the chapel of the Sacred Heart on Christmas morning, immediately following the 9 o'clock mass.

On Christmas morning, the Sunday school at Balboa will hold its celebration in the social hall, at 9.30 o'clock. There will be a program in which the children are to participate, and gifts will be distributed.

The Christmas tree and entertainment of Christ Church, Colon, will be held in the schoolroom on Monday evening, December 29, at 7 o'clock. On New Year's Eve, the watch night service will be held in the church, beginning at 11 o'clock, and ending with the ringing of the bells at midnight.

The Las Cascadas Sunday School.

The Christmas entertainment that was planned for the Sunday school at Las Cascadas has been abandoned owing to the removal of the children from the village, and the difficulty of assembling them and returning them to their homes in suitable time. The teachers of the school have, however, provided a Christmas treat, consisting of boxes of candy, and one each will be mailed to the address of every pupil still on the Isthmus. The enrollment of the school was about 80 when the school closed for the holiday vacation.

Union Church Work.

In response to the call for a meeting issued by the executive council of the Cristobal Union Church for the purpose of discussing the plans for the continuance of undenominational work in the Canal villages, representatives from Cristobal, Gatun, Empire, Culebra, Paraiso, Pedro Miguel, Corozal, and Balboa were present at the meeting which was held in the Commission clubhouse, Corozal, on Sunday afternoon, December 21. The possibility of maintaining union church work in the Canal Zone by private subscription was discussed, and a committee was appointed to take up the question with religious bodies in each village with a view of securing the cooperation and support of those interested in church work. The reports of the representatives present, while not expressing with finality the views of the general public in regard to the subject, were nevertheless encouraging and showed that there is a spirit in favor of carrying on the work hitherto supported by the Canal Commission. The members of the committee are: Mr. L. Larson, Cristobal; Mr. B. F. Sisson, Gatun; Mr. W. E. Hoffman, Empire; Mr. J. F. Warner, Culebra; Mr. L. S. Kiser, Paraiso; Mr. W. H. Faulkner, Ancon; Mr. W. E. Lyon, Corozal, and Mrs. William Tomey, Balboa. The committee was instructed to be ready to report at a meeting to be held in January.

Ancon Study Club.

The Ancon Study Club has entered upon its Christmas recess, and will reconvene on Thursday afternoon, January 8, at 2.30 o'clock. The program on Thursday afternoon, December 18, consisted of readings by Mrs. Wanson, Mrs. Mountain, and Mrs. Morley. Mrs. Shigley read an original Christmas poem. The subject of the afternoon was "Christmas." Tea was served at 4 o'clock, with Mrs. McDonald as hostess, the table showing Christmas decorations.

LIGHTING CRISTOBAL DOCKS.

Modern Facilities Being Installed Inside and Outside of the New Pier Sheds.

An extensive system of lighting is being installed in the new docks at Cristobal, formerly known as docks Nos. 17 and 16, but recently renumbered 8 and 9. It provides for a total of three hundred and fifty 250-watt electric lights inside and outside of the superstructure, 870 feet long, on dock No. 8, and about two-thirds that number in connection with the superstructure, 1,122 feet long, on dock No. 9. These lights will be arranged in nine rows, spaced 30 feet apart, seven rows extending the length of the dock structures on the inside, and one row along each side of the docks outside, and also across the ends. In addition, there will be a fixture on the outside corners of both buildings, consisting of a concrete bracket and reflector, similar to the ones employed in lighting the Canal locks. Each of the outside lights will be provided with a cast iron protector hood painted with two coats of lead paint and sanded, giving them the appearance of having been made out of concrete. It is estimated that about 26 miles of wire will be required for the electrical installation at both docks. The work at dock No. 9 is being performed by the contractor, the Central American Construction Company, and on dock No. 8, by forces of the telegraph and signal department of the Panama railroad; this department is also responsible for the inspection of electric work on dock No. 9.

All the main cables are No. 4 insulated, lead-covered, and extend from the underground cable duct line in Cristobal to transformers in manholes near the docks. From the transformers, the cables are drawn into the buildings under the floors of the docks, terminating in a main panel situated in one corner of each dock structure. This panel is of slate, contains the usual switches and other operating apparatus, and was made by the Crouse-Hinds Company of Syracuse, N. Y. From this main panel, individual varnished cambric, lead-covered, No. 2, 3-conductor cables lead to eight smaller distributing panels in each dock structure, situated in the side walls, four to each side, spaced at about equal distances apart. These eight cables are carried in 2-inch galvanized iron ducts embedded in the roof concrete. From these points, the lights, in groups of four each, are supplied with current carried by No. 12 rubber-covered duplex wire enclosed in ½-inch galvanized iron conduit, embedded in the roof concrete. The fixtures are of the Holophane steel type S.E.E. 250 reflectors, with 250-watt tungsten lamps.

At each of the distributing panels, there will be a telephone of the type used in the Hotel Washington, connected with the Cristobal exchange, and a fire alarm box, with a red light indicator situated directly above. Provision will also be made along the depressed track in the center of the dock structure for temporary plugging for a flexible cord, with a portable lamp, to be used inside of freight cars when light is required in loading or unloading cargo. These receptacles for plugging in will be situated on each side of the depressed track at intervals of 60 feet.

On each side of the docks, outside of the dock structures, there will be four places where a temporary connection can be made by inserting a plug and flexible cord, so that electric current for lighting can be supplied to ships in connection with the handling of cargo. At the same points, there will also be located receptacles to receive plugs and flexible cords for furnishing telephone connection on board ships when alongside the dock.

In the center of each side of the dock, at intervals of 120 feet, there will be located receptacles, where, by the insertion of a plug and flexible cord connection, current can be produced for the operation of portable electric winches, three of which have been purchased for use in hauling heavy pieces of freight along the dock. These winches will be able to move 3,000 pounds at the rate of 100 feet a minute in a single line.

It is expected that 500 feet of the east end of dock No. 8 will be ready for use by January 4, 1914.

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PERSONAL.

Under authority of the Chairman of the Canal Commission, Col. William C. Gorgas, Maj. Robert E. Noble, and Dr. S. T. Darling, now in South Africa, have been granted an extension of 30 days on their special leave of absence, which will make the date of their return to duty with the Commission about March 15.

Mr. W. W. Warwick, Assistant Comptroller of the Treasury, who has been on the Isthmus for some time past in connection with plans for the permanent accounting system of the Canal, returned to Washington, accompanied by his family, on the *Ancon*, sailing from Cristobal, on Friday, December 19.

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Gatun Spillway-Mindi Levee.

The levee built between the lower end of the discharge channel of Gatun Spillway and the Mindi Hills, to prevent the passage of discharge water from the spillway to the French canal, west of Gatun Locks, and thence to the American Canal at Mindi, causing currents and silting, is being raised and reinforced. The levee was begun early in 1910, in consequence of the inundation of the area it now protects by floods during the preceding November and December, and was completed in about a year, 197,556 cubic yards of material having been placed in its length of approximately 8,000 feet, and in the old bed of the Chagres River to the east, cut off by the levee. All material for raising the levee has been placed, but some additional work is being done by the Atlantic Division in armoring the outer side of the levee with large rock, where it might otherwise be scoured by currents.

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Levelman and Transitman Examination.

Examination for promotion to the positions of levelman and transitman is scheduled to be held in the Commission clubhouse at Empire, on Sunday, January 18.

The examination will commence promptly at 9 a. m., and will be divided into three parts, which will be given in the order indicated, viz.: Written and oral examination, and a statement of education and experience. Competitors will be required to complete the written portion of the examination before 1 p. m.

Applications for the examination should be addressed to the undersigned, through the head of department or division, before the close of business on Thursday, January 15.

Applicants should bring to the examination room, pens, pencils, triangles, and tables of circular functions, but no paper, ink or blotters.

Applicants who fail to appear for examination before 9 a. m., or who do not apply for examination through the proper channels before the close of business on Thursday, January 15, will not be admitted to the examination. No card of admission will be needed.

A. B. NICHOLS,
Chairman, Examining Board.

Culebra, C. Z., December 22, 1913.

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Panama Railroad Restaurant.

A popular price restaurant, for gold employes of the Canal Commission and the Panama Railroad Company only, was opened in the old Washington House at Colon on Wednesday, December 10, under the direction of the Subsistence Department. It has a seating capacity for 64 people at one time, but accommodations for double that number can be provided, if necessary. The restaurant is largely an experiment, and has been established to meet the demand for a greater choice of food than is afforded by the regular 30-cent meal; it will be operated with the utmost economy commensurate with a maximum of efficiency. The hours are from 6 to 8 a. m., from 11.30 a. m. to 1.30 p. m., and from 5.30 to 8 p. m. Only commissary coupons and hotel meal tickets are taken in payment for meals; no cash is accepted.

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Settlement of Land Claims.

Settlement has been made with practically all of the occupiers of land shown on the property map of Talenquera, Obispo, and Gamboa; in the territory along the Chagres River from Cruces to Alhajuela, including the village of Juan Mina; and in the upper Chagres valley from the 5-mile Canal Zone limit, below the 100-foot contour line. There are still a few occupants of these lands with whom settlement has not yet been made, but fair proposals have been submitted to all. The police department has been instructed to serve written notice on all persons occupying the above districts to remove therefrom on or before February 1, 1914, and it has been invested with the authority to see that the notice is made effective by destroying any houses remaining on the lands after that date. At Juan Mina, there are a number of valuable orange and lime trees, and along the Chagres River, above Juan Mina; and below the 100-foot contour line, on the lands known as Las Guacas, some exceptionally good banana cultivations exist. These have been turned over to the Subsistence Department for exploitation in connection with its plantation work at Frijoles.

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Concrete in the Locks and Auxiliary Works.

The following is a statement of the concrete laid in the Canal locks and auxiliary works up to December 1, 1913.

Gatun Locks	2,067,969
Gatun spillway	231,410
Gatun hydroelectric station	7,167
Gatun control house, ducts, etc	2,698
Pedro Miguel Lock,	922,276
Miraflores Locks	1,498,666
Miraflores dam and spillway	79,001
Pedro Miguel-Miraflores duct line	4,616
Total	4,813,803

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81st Coast Artillery Arrives.

The 81st Coast Artillery, numbering 155 officers and men, in charge of Capt. A. Hasbrouck, arrived on the steamship *Cristobal*, on Monday, December 22, to take up station at the Pacific end of the Canal.

CANAL WORK IN NOVEMBER.

Monthly Report of the Chairman and Chief Engineer to the Secretary of War.

CULEBRA, C. Z., December 17, 1913.

The Honorable the Secretary of War,
Washington, D. C.

SIR: I have the honor to submit the following report of operations on the isthmus for the month of November, 1913:

Department of Construction and Engineering.

The following table summarizes the principal items of work accomplished by the construction divisions during the month:

ITEM.	Unit.	Atlantic.	2d. Div.	4th Div.	5th Div.	6th Div.	Total.
Work excavation, dry	Cubic yds...	1,210	110,014	160,900	6,970		279,094
Work excavation, wet	Cubic yds...			*81,400		918,321	999,721
Total work excavation	Cubic yds...	1,210	110,014	242,300	6,970	918,321	1,278,815
Plant excavation, dry	Cubic yds...		3,616	10,000	34,800		48,416
Plant excavation, wet	Cubic yds...					20,525	20,525
Total	Cubic yds...		3,616	10,000	34,800	20,525	68,941
Total Canal excavation	Cubic yds...	1,210	113,630	252,300	41,770	938,846	1,347,756
Concrete placed, locks, dams, and spillways	Cubic yds...	280			2,637		2,917
Fill placed in dams	Cubic yds.	40,902			11,480		52,382
Explosives used	Tons (Gross)	13.82	13.29	21.41	9.64	47	105.16
Rock drilled	Feet	9,154	42,846	57,915	16 192	31,046	157,153
Tracks removed	Miles	0.53	2.51	6.36			9.40
New track laid	Miles	1.24	2.89	5.32	1.09		10 54
Rock crushed	Cubic yds...				38,537		38,537
Cement used	Barrels		6,660				6,660
New roads built	Miles						
Water mains laid	Feet	320					320
Sewers laid	Feet						
Open drains and ditches dug	Feet		4,135				4,135
Average daily force		2,050	2,838	2,331	1,155	1,818	10,242
Average rainfall	Inches	16.31	9.30	13.30	10.17	13.02	13.18

*Excavated by the Fifth Division for the Fourth Division.

First Division—Office of the Chief Engineer.

LOCK GATES AND PROTECTIVE DEVICES.

Work is in progress on all the leaves of all the lock gates. At Gatun and Pedro Miguel, erection, reaming, and riveting have been completed; finishing is 98.2 per cent completed at Gatun, and 98.8 per cent at Pedro Miguel. At Miraflores, erection is 99.96 per cent completed, finishing 95.7 per cent, and reaming and riveting are completed. The total tonnage of gate material erected to date is 57,492, about 99.99 per cent of the total.

Satisfactory progress was made in the United States in connection with the fabrication of material for the chain fenders. Out of the 46 operating valves required, 11 right and seven left hand valve bodies have been cast; the casting of the smaller parts is well under way and machining of the various parts has been started, and, out of the 92 resistance valves required, 45 have been machined, but not assembled.

PONTOON BRIDGE.

Plans for lifting the apron girders of the pontoon bridge across the Canal at Paraiso have been completed, and details of the girders are in the shops. Work is continuing on the plans for the machine for revolving the bridge and the smaller details of the devices for locking the bridge in position and assuring continuous rails and roadway. The committee appointed by the Chairman reported in favor of making the approaches of pile trestle, and plans are being prepared in accordance with that report.

The erection of the bridge is progressing satisfactorily, although it is somewhat delayed by the nonarrival of the timber required for the deck beams and floor. About one-third of the length of the barge is now in frame. Before erection, all surfaces are thoroughly coated with carbolineum, and, when completed, the entire interior will be given an additional coat.

LOCK ENTRANCE CAISSON.

During the month, satisfactory progress was made in the United States in connection with the fabrication and inspection of material for the first lock entrance caisson. Fifty tons of shapes and 190 tons of plates have been delivered in the Union Iron Works' yard at San Francisco, and up to November 7, out of a total of about 3,500,000 pounds of rolled steel, 1,972,752 pounds, or approximately 50 per cent, had been authorized for shipment from the east.

EMERGENCY DAMS.

The emergency dams at Gatun and at Pedro Miguel locks have been completed, tested, and accepted. All material for the two dams at Miraflores has been delivered. Riveting on the east dam is completed. Concrete for the counterweight has been poured, the switchboard house has been completed, and the final painting has been begun. On the west dam riveting is about 75 per cent completed.

OPERATING MACHINERY AND ELECTRICAL EQUIPMENT.

All valve machines have been delivered. On cylindrical and auxiliary culvert valve machines, the mechanical erection is completed, on rising stem valve machines 98 per cent completed. Electrical installation is 73 per cent completed on rising stem valve machines, 92 on cylindrical valve, and 72 per cent on auxiliary culvert valve machines. Mechanical erection of the 18 guard valve machines is 90 per cent completed, and electrical installation 23 per cent.

All miter gate moving machines have been received, the mechanical erection is 97 per cent completed, and electrical installation 56 per cent. The delivery of miter gate forcing machines is completed, the mechanical erection 53 per cent, and the electrical installation 50 per cent completed.

Ninety-nine per cent of track has been completed at Gatun Locks, 97 per cent at Pedro Miguel, and 77 per cent at Miraflores. Single crossovers are 51 per cent completed and double crossovers 75 per cent.

The spillway gate machines have been erected, and electrical installation is 55 per cent completed at Gatun, and 80 per cent at Miraflores.

Mechanical erection of miter gate sump pumps is 96 per cent complete, electrical, 65 per cent; chain fender sump pumps, 11 per cent mechanical, and electrical has been started; drainage sump pumps, mechanical erection complete, electrical, 61 per cent; culvert pumps, mechanical complete, electrical, 20 per cent.

Installation of transformer rooms at all locks is approximately 89 per cent completed; 99 at Gatun, 83 at Pedro Miguel, and 85 at Miraflores.

Ninety-six per cent of the 2,508,296 feet of cable on order for the Gatun duct line, and the Pedro Miguel-Miraflores transmission line, has been delivered, and 946,587 feet have been pulled into ducts.

Work at the hydroelectric station consisted chiefly of installing the smaller electrical equipment. It is expected that about December 10, 1913, the building construction will have advanced to a stage which will permit of unhampered electrical and mechanical installation. The turbogenerators are 45 per cent completed. The headgates have been set and the operating machinery installed. The steel work at the gate house has been completed.

The control house at Gatun is completed, except the roof, which is about 90 per cent completed, and some finishing work on the second floor. The control house at Pedro Miguel is about 94 per cent complete, and the one at Miraflores is about 75 per cent complete.

Reflectors for interior and exterior illumination are being manufactured from concrete on the Isthmus. The manufacture of interior reflectors is about 65 per cent complete. Ninety-nine per cent of the lamp posts are erected with cross-arms at Gatun. Forty-one posts with single arms, 14 with double arms, and 14 posts at Pedro Miguel have been erected. Seventy-one posts with single arms, 22 with double arms, and 19 posts have been set at Miraflores.

Practically all control apparatus for the locks and spillways is on the Isthmus, except interlocking system and part of indicators for the main control board. All but one of the main control boards have been received. The material is being erected complete in the shops, and is being shipped as the status of the work will permit.

A total of 109 foundations was placed during the month, making 488 to date. Concrete amounting to 4,001.4 cubic yards, (844.2 cubic yards during the month), and 199 tons of steel reinforcement, have been used in foundations of track-span bridges. Eighty-eight track-span bridges were placed on permanent foundations during the month, and 164 to date.

Excavation was started for substations at Gatun and Miraflores.

TESTING.

Gatun Locks—Rising stem valve No. 243 was tested and accepted, and tests were made on 12 transformer rooms. Six lockages were made through the west chamber.

Pacific locks—Final tests and adjustments were made on the six remaining rising stem valve machines at Pedro Miguel. The miter gate moving machines for the east lower gates at Miraflores were tested and adjusted without struts. The struts were then attached, and the gates are now ready for operation.

Special tests were made to determine whether a rising stem valve closed at the normal rate would safely stop a flow of water through the culvert under a 50-foot head. This test was made at low tide, by discharging water at Miraflores Lake level, upper lock, Miraflores, to sealevel in the lower chamber. The operation was satisfactory. No surge, vibration, or racking of the machine occurred. Four lockages were made through the east chamber at Pedro Miguel, and two through the east chamber at Miraflores.

AIDS TO NAVIGATION.

During the month, work was in progress constructing range towers Nos. 12 and 14, Gatun Lake section; clearing, and delivering material at the site for the construction of range tower No. 8, lake section; constructing reference target at Frijoles, P. I.; completing foundation for beacon at Bas Obispo north; completing water stage register at Pedro Miguel south, and excavating for water stage register at the Gatun spillway; painting and assembling gas buoys at Gatun; on preparatory work for the west breakwater light; towing caisson foundation for the west breakwater light from Limon Bay, where it had been temporarily sunk, to Toro Point, and sinking it at the permanent site.

Second Division—Office of the Chief Engineer.

COAL PLANTS.

The contractor for coal handling machinery at Cristobal and Balboa visited the Isthmus during the month. Most of the outstanding doubtful points were settled during his visit, and confirmed by correspondence. Revised and approximately final general layouts for coal-handling machinery at each of the two plants were made. Studies for the Cristobal wharf structure were proceeded with, and what appears to be a satisfactory type of construction was designed. Bills of material for cylinder shells, as a basis for a requisition, were started. Questions of contractor's designs and loads as affecting substructures were incorporated in letters to the Washington Office for the expeditious attainment of information necessary to the design of the wharf structure. Studies and calculations for the adaptation of the berm cranes for the Balboa coaling plant were proceeded with.

RADIO STATION.

Considerable study was devoted to the footings for the three 600-foot towers, the results of which showed that a change in location of each tower would be advantageous.

DRY DOCK.

Studies were made of wall sections, flooding and drainage arrangements, entrances, supports for 50-ton crane track, and of modifications of the quoin post and pintle of the gate for dry dock No. 1.

Excavation was confined to the north side of the entrance basin and dry dock No. 1, and to removing the upper level of the coal pocket. The removal of the south end of the shipways permitted the excavation work to be extended northward in the entrance basin, and, together with the removal of a part of the old Balboa shops, allowed the dry dock excavation to be made to the channel lines of the north wall, thus clearing the whole area of the large dry dock. The excavation amounted to 82,949 cubic yards, about half of which was rock.

MACHINE SHOPS.

Designing and preparation of specifications were continued during the month. The lumber and equipment shed was practically completed, and was turned over to the Quartermaster's Department for use. Erection of structural steel was completed in the machine and erecting shop, general storehouse, paint mixing shop, and roundhouse. The paint mixing shop was nearly completed, and the laying of cement tile roofing on nine buildings was finished. Excavation for shop foundations amounted to 2,957 cubic yards; concrete placed, 762 cubic yards.

PIERS AND QUAY WALLS.

Designing and checking of designs were continued on pier No. 1, and studies were made of different anchorages for snubbing post and for column of pier shed. Nearly all the caissons for the foundations are close to rock and the penetration was, therefore, small, amounting to 943 feet. All the caissons at the west end are on rock. The total sunk to rock is 125, remaining 26.

The floor slab for the superstructure of Quay Wall g-h-i was completed, 242 linear feet having been built during the month. Two of the elevator towers were removed. The curb was constructed along the rear of the dock, and the track along the face of the dock was extended 293 feet and grouted in. Cinder concrete was placed over the floor slab to bring the floor to the proper grade for the sand cushion. On account of the wet weather, it was decided to discontinue the laying of the brick pavement, except between the rails of the track, and but 2,340 square feet of brick were laid down. The dock, however, can be used for commercial purposes as it now stands, as soon as the slip can be dredged.

The sinking of caissons for Quay Wall e-f has been delayed, because of the rock fill, it having been considered advisable to dredge the rock fill out before attempting to go further with the caisson work. This was done, and a double trestle is now being constructed from which to work. It is proposed to set all the caissons between the sand dock and the lumber dock in December.

METEOROLOGY AND HYDROLOGY.

The rainfall was above normal at Porto Bello and over the upper Chagres basin, and generally slightly below normal elsewhere. The average over the basin was 16.76 inches, against a 13-year average of 19.88 inches.

A pronounced seismic disturbance was registered at Ancon and Gatun on November 13. The pens were thrown from the register sheets at Ancon, so the record of the maximum amplitude of motion was lost. The shock was estimated at Intensity III on the Rossi-Forel scale. Its origin seemed to be at a point southwest of Ancon about 115 miles, in the same section that was visited by heavy shocks during the preceding month. This shock resulted in no damage to the Canal works.

The total water yield of Gatun Lake watershed was eight per cent below the 6-year normal for November. The lake rose from 72.46 feet above sealevel to 82.04, a storage increase of 39.65 billion cubic feet.

Miraflores Lake rose from 45.26 feet above sealevel to 51.03, a storage increase of 146.9 million cubic feet.

Fourth Division—Office of the Chief Engineer.

Dry excavation in Culebra Cut amounted to 160,900 cubic yards, all from outside prism lines, from slides and high levels as preventive against slides. This division also excavated 36,100 cubic yards at Sosa Hill rock quarry, and 10,000 cubic yards at the pontoon bridge basin at Paraiso. The daily average number of steamshovels at work was 9.09, and the total of shovel days 209. Naos Island trestle fill was increased by 49,362 cubic yards, total to date 1,632,808 cubic yards. The daily average number of laborers at work was 2,299, and of "Gold" employes, 82.

Fifth Division—Office of the Chief Engineer.

PEDRO MIGUEL.

Tracks from Culebra Cut that passed through the northeast core wall were removed, the concrete work was completed, and the backfilling south of the wall was begun. Backfill placed amounted to 8,530 cubic yards, total to date 1,032,783 cubic yards.

MIRAFLORES.

Excavation from borrow pits south of the spillway, for the substation, and the transmission duct line amounted to 41,850 cubic yards. Dry filling in the prism of the west dam was increased by 11,480 cubic yards, and backfill by 16,020 cubic yards.

ANCON QUARRY AND CRUSHER.

Excavation in the quarry amounted to 35,730 cubic yards of which 2,010 yards were stripping, and 33,720, rock. The output of the crusher was 38,537 cubic yards.

GOLD HILL HYDRAULIC PLANT.

Excavation amounted to 81,400 cubic yards, of which 25,000 were rock and the balance earth. The booster station started operating with one unit, and the second unit was completed during the month.

Sixth Division—Office of the Chief Engineer.

FIRST DISTRICT.

The excavation by dredging remaining at the end of the month in the district from Gamboa to the Pacific Ocean was, as follows:

LOCATION.	Earth. *Cubic yards*	Rock. *Cubic yards*	Total. *Cubic yards*
Miraflores Locks to sea..........	1,545,796	559,293	2,105,089
Miraflores Lake...	346,741	....	346,741
Gamboa to Pedro Miguel........	1,227,018	3,767,082	4,994,100
Total Canal prism..........	3,119,555	4,326,375	7,445,930
Inner harbor.....	6,039,429	372,062	6,411,491
Total, First district...........	9,158,984	4,698,437	13,857,421

Dredging, Culebra Cut—Seven dredges removed 47,592 cubic yards of earth, and 151,602 cubic yards of rock, from the Canal prism. Following is a statement of the excavation in detail:

LOCATION.	Earth.	Rock.	Total.
Gamboa dike (1473 to 1478).................	11,900	11,900	23,800
Hagan's slide (1848 to 1853).................	4,114	37,026	41,140
East Culebra slide (1781 to 1787)..............	2,240	20,160	22,400
West Culebra slide (1777 to 1784)..............	4,773	38,102	42,875
Cucaracha (1805 to 1820)	24,565	44,414	68,979
Total.................	47,592	151,602	199,194

Material from dredges on the north side of Cucaracha was dumped north of Gamboa, and that from the south side was dumped into the old drainage ditch, Stations 1873 plus 00 to 1896 plus 00, and along the east bank of the Canal to Station 1860.

Miraflores Locks to the sea—Six dredges removed 195,948 cubic yards of earth, and 115,602 cubic yards of rock, from the prism during the month, and, in addition, 6,912 cubic yards of earth, and 2,688 of rock, at the lumber and sand wharves.

Miraflores Lake—A suction dredge excavated 30,035 cubic yards of earth from the channel in Miraflores Lake.

SECOND DISTRICT.

Ocean to Gatun Locks—Six dredges removed 202,531 cubic yards of earth, and 3,796 yards of rock, from the prism between the Atlantic Ocean and Gatun Locks. The total excavation remaining in this section is 466,973 cubic yards, of which only 1,204 are rock.

Cristobal coaling station—Drilling on the site of the coaling station amounted to 9,788 feet; 41,230 pounds of dynamite were used, and the total breakage was 58,009 cubic yards of coral. A suction dredge removed 17,374 cubic yards of earth, and 34,749 yards of coral rock. Foundation fills were started.

Gatun Lake—Suction dredges removed 114,057 cubic yards of earth, and 5,035 yards of rock, from the Canal near Gamboa.

Division of Municipal Engineering.

NORTHERN DISTRICT.

The construction of the new Colon waterworks was continued during the month, the work consisting principally of laying of exterior pavement, curb, and gutter, and macadam around the buildings; and on the interior consisted of installation of equipment in the laboratory and quarters; the waterproofing of filter tanks; the installation of windows, screens, handrailings, controllers, etc. Sand and gravel will be placed in the filter beds during the coming month.

SOUTHERN DISTRICT.

Construction of the storm sewer on the new townsite of Balboa was advanced 838 linear feet, and the sewer is 84 per cent completed. Work at the new townsite of La Boca was advanced, and is 70 per cent completed. Work on the improvements for the permanent town of Pedro Miguel was begun with the laying of sewers and construction of curb and gutter.

NEW PANAMA WATERWORKS.

At Miraflores pump station No. 1, sluice gates and equipment in the intake house were installed. The side walls of the pump station were completed up to the sole plates of the trusses for the roof. This building was ready for installation of piping in the floors and the placing of the roof as soon as the steel arrives.

Work at the high service reservoir consisted of the completion of the excavation, and the construction of approximately 90 per cent of the concrete floors.

At Miraflores filter plant, steamshovel work was continued during the entire month in double shifts on the filter site proper, and at the end of the month was practically completed. Excavation by hand at the site of the head house and aeration basin was completed. Excavation for the wash water tank on top of Miraflores Hill was completed, and the concrete floor was laid.

Atlantic Division.

GATUN LOCKS.

Grading operations were continued, 34,913 square yards being finished to final grade. The backfill was not increased, the total remaining at 2,234,187 cubic yards, 99.52 per cent completed.

GATUN DAM.

The fill was increased by 40,902 cubic yards from borrow pits, the total in place being 22,052,666 cubic yards, 10,124,082 cubic yards of wet and the balance of dry fill. The placing of fill is practically completed. Surfacing, or smoothing up the slopes of the dam, was extended by 6,900 square yards, total to date 345,920 square yards. The Gatun-Mindi levee was raised by the addition of 16,949 cubic yards.

BREAKWATERS.

Porto Bello rock was dumped on the east breakwater at Colon to the amount of 21,489 cubic yards, making the total of hard rock for armoring 367,639 cubic yards, and the total fill, 3,089,682 cubic yards. The rock was handled in 73 barges, and plant steamed 1,360 miles.

Preliminary work was continued on the east breakwater, 4,315 linear feet of track being laid, 6,715 cubic yards of ballast placed, 234 linear feet of trestle driven at the dock, 13,525 cubic yards of sand and coral excavated by suction dredge, and surveys, and borings completed at the proposed quarry.

Quartermaster's Department.

LABOR AND QUARTERS.

The force report of November 26 showed a total of 28,287 men actually at work, a reduction of 1,576 men since the previous month. Of this number, 700 represent a decrease in the forces of contractors.

Employes moved from Bas Obispo and Las Cascadas have been quartered at Empire, Culebra, Corozal, and Ancon. The transfer of employes to the Ancon-Balboa district has resulted in a congestion at Ancon.

BUILDINGS.

The removal of buildings from Bas Obispo and Las Cascadas has continued. Eleven buildings with quarters for 64 families have been reerected at the La Boca townsite for silver employes.

Construction of the new administration building at Balboa was advanced by the excavation of 550 cubic yards from the basement floor area, placing of 455 cubic yards of concrete, and of 2,130 8-inch concrete blocks, the total placed to date. Work was also advanced on the hydroelectric station at Gatun, on the gatehouse, tunnel extension, spillway, and substation. The total number of cement blocks manufactured at the end of the month was 45,721, of which 30,521 were made in November. The permanent building force was about 1,300 men.

Subsistence Department.

A total of 443,008 meals was served during the month, 168,994 at the line hotels, 263,085 at laborers' messes, and 10,929 at the Hotel Tivoli. The operation of the line hotels, restaurants, and laborers' messes resulted in a loss of $604.89. The Hotel Tivoli was operated at a net loss of $3,898.92. The total net loss on subsistence operations for the month of November was $4,503.81.

Department of Civil Administration.

COURTS.

One civil and one criminal case were disposed of in the Supreme Court, 69 civil and 44 criminal cases in the circuit courts, and 75 civil and 292 criminal cases in the district courts.

POSTS, CUSTOMS, AND REVENUES.

Money order sales amounted to $360,566.91; stamp and card sales, $7,093.90; deposits in postal savings accounts $149,508; withdrawals, $142,915.

Revenues were collected to the amount of $12,348.55; on account of fines, costs, and fees, $2,708.35.

Twenty-one vessels entered and cleared at Ancon, 17 entered and 16 cleared at Cristobal.

Thirty estates were settled, and 39 were in course of settlement.

POLICE AND PRISONS.

The effective force, officers and men, at the end of the month numbered 161. The number of people arrested was 317, of whom 291 were men. Six persons were committed to the penitentiary, 18 were discharged, total confined 125.

FIRE PROTECTION.

Five fires occurred during the month, four in Commission, and one in private property. The total loss was $63.

SCHOOLS.

The net enrollment in the schools was 1,136 white, and 1,137 colored, children. Forty-six teachers were employed in the white schools, and 25 in the colored schools.

Department of Sanitation.

The total number of deaths from all causes among employes was 45, from disease 22, violence 23, giving an annual average per thousand of 4.89 and 5.12, respectively.

In segregating according to race, the annual death rate per thousand from disease among employes was: For whites 4.84, and for blacks, 4.91, giving a general average for disease of 4.89. For the same month during 1911, the annual death rate per thousand from disease among whites was 6.62, blacks, 8.27, giving a general average of 7.85; and in 1912, from disease among whites, 2.80, blacks, 8.77, giving a general average of 7.31.

Among employes deaths from the principal diseases were, as follows: Lobar pneumonia, one; hemoglobinuric fever, one; malaria fever E. A., two; tuberculosis, 5, leaving 13 deaths from all other diseases, and 23 deaths from external violence.

No case of yellow fever or plague originated on, or was brought to the Isthmus, during the month.

Respectfully,
Geo. W. Goethals,
Chairman and Chief Engineer.

Preservation of Maps, Etc.

A committee consisting of Mr. A. S. Zinn, chairman, Mr. A. B. Nichols, and Mr. John H. Smith, Jr., appointed to consider and recommend a course of procedure looking to the preservation and consolidation of valuable maps, tracings, and blueprints covering features of the Canal construction under the various divisions, and the elimination of useless or obsolete drawings, has made the following recommendation, which has been accepted: That on account of the congestion in the present administration building at Culebra, the collection of the drawings should be deferred until the occupation of the permanent administration building, in the vaults of which will be plentiful provision for their filing and storage; that for the present the various divisions should preserve them, and in case any division be abolished, the maps and drawings should be kept intact, with indices, and allowed to remain in their present location in charge of the force taking over the office; and that, as each division is best informed as to the value of its own drawings, each should be instructed to delegate some competent employe to look through them, classifying and eliminating those which he considers useless, these to be listed and submitted to the Chairman in the regular manner on form C. E. 402, in accordance with Section 5 of the Act making appropriations for the fiscal year ending June 30, 1913.

GAS BUOYS ALONG THE CANAL.

White Lights, with Flashing Devices Being Installed for Most of Its Length.

Forces of the Lighthouse Subdivision are placing in Gatun Lake, flashing gas buoys, assembled in the abandoned borrow pit, east of Gatun Locks, preparatory to towing them away and placing then on their stations along the Canal channel. Up to December 15th, 24 of the 43 buoys required in the lake had been launched. Six others had been placed in the Pacific entrance during last March, and the four to go along the Atlantic entrance channel were placed on December 10 in temporary positions, where they serve to guide the operations of the seagoing suction dredge *Caribbean*. Two buoys will be hauled by rail to Miraflores and swung off by wrecking cranes into the waters of the lake, alongside the railroad embankment. The assembly of all the 57 buoys of this type including two spare buoys, has been completed, with the exception of placing the lanterns, and making the final pipe connections.

In conformity with Section 4678 of the Revised Statutes of the United States all the buoys in the Canal are colored and numbered, so that in entering the channel at Colon, and extending south to Miraflores Locks, red buoys with even numbers shall be passed on the starboard hand, and black buoys with odd numbers on the port hand. On entering the channel at Naos Island, and extending north to Miraflores Locks, at the Pacific entrance, red buoys with even numbers are placed on the starboard hand, and black buoys with odd numbers on the port hand.

All of the buoys are equipped with floating devices, as described in THE CANAL RECORD of January 15, 1913. Buoys on the port side will use double flashes, those on the starboard, single flashes, as follows: Buoys on starboard tangents have a characteristic of five seconds light, five seconds dark; on port tangents, two seconds light and one second dark, two seconds light, 3.8 seconds dark. Turning buoys on the starboard hand have a characteristic of .3 second light, 2.7 seconds dark; on the port hand, .3 second light, .7 second dark, .3 second light, 1.7 seconds dark.

The general custom for channel or river lighting is to have red lights on the starboard hand and white lights on the port hand, but with the perfection of devices which produce rapid flashes of whatever duration desired, it is likely that this method will eventually be superseded by the method of single and double flashes of white light on either side of the channel, especially in localities frequented by heavy fogs and rains, where the maximum efficiency of a light is required. To obtain a red light it is necessary to use ruby glass, and such glass absorbs about 75 per cent of the light. At the Atlantic and Pacific entrances to the Canal, parts of which may be navigated without Canal pilots, red flashing lights willl be tentatively used on the starboard hand, but in all other parts of the Canal white lights will be used until they are proved to be confusing.

Inventory of Rolling Stock.

Pursuant to instructions of the Chairman and Chief Engineer, dated October 31, a committee, of which the surveying officer is chairman, arranged to take a complete inventory of all rolling stock, of both the Isthmian Canal Commission and Panama railroad, on Sunday, November 30. Forty-three inventory gangs, each gang consisting of two monthly gold men and two monthly silver men, were utilized as far as practicable in taking this inventory, these men being detailed for this work from the Quartermaster's Department, Department of Examination of Accounts, Panama railroad, and the divisions having rolling stock in service. Both sides of all rolling stock were checked and information was secured as to individual numbers appearing on equipment, stencil marks, special service marks, and other data that might be of interest to divisions to which assigned. All equipment inventoried was stencilled on both sides with the number of the gang over a 2-inch disc, both being enclosed in a triangle.

The work was commenced at 7 a.m., and all gangs completed work by 4.30 p. m. Approximately 7,000 items of equipment were listed. It is expected that the final report of the committee will be transmitted to the Chairman by the end of December.

LABOR FORCE AND QUARTERS IN NOVEMBER.

The force report for November 26 shows the actual working force of the Canal Commission to be 28,287; of the Panama railroad, 5,557, and of the contractors, 1,123, a total effective working force of 34,967, a decrease of 1,459, as compared with the statement for October. The gold force on the Canal work, composed almost exclusively of white Americans, was 3,695, an increase of 10, as compared with the previous month. A statement of the Canal force, by divisions, follows:

DEPARTMENT OR DIVISION.	SILVER EMPLOYES*													Total silver	Total gold.	Grand total
	Artisans.						European laborers.		West Indian laborers.							
	Monthly	44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents.	7 cents.			
Construction & Engineering..	3,398	9	10	390	1,263	3,356	2,193	419	144	302	4,661	2,501	199	18,845	2,638	21,483
Civil Admin....	142	..	..	...	.....	....	......	......	...	...	.....	......	....	142	331	473
Sanitation	569	.	..	1	2	4	.....	.....	...	...	8	342	14	940	293	1,233
Quartermaster's	941	..	..	236	426	482	38	62	5	...	631	1,148	28	3,997	275	4,272
Subsistence	630	..	..	1	2	4	......	......	...	...	.....	.....	20	657	46	703
Disbursements..	7	..	..	.	.. ..	.....	.....	......	...	..	.....	......	....	7	17	24
Examination of Accounts ...	4	..	..	...	.....	. .	......	.....	...	..	.....	......	....	4	95	99
Total......	5,691	9	10	628	1,693	3,846	2,231	481	149	302	5,300	3,991	†261	24,592	3,695	28,287
Month previous.	6,171	9	11	581	1,763	3,881	2,708	559	109	354	5,986	3,538	‡362	26,032	3,685	29,717

I. C. C. force, 28,287, Panama railroad force, 4,151; Panama railroad commissary force, 1,406. Total, 33,844

*All wages specified are in gold. †Includes 14 at five cents. ‡Includes 17 at five cents.

The force report of the Department of Construction and Enginering, including the employes of contractors, as of November 26, was, as follows:

DIVISION.	SILVER EMPLOYES*													Total silver	Total gold.	Grand total
	Artisans.						European laborers.		West Indian laborers.							
	Monthly	44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents.	7 cents			
Chief Engineer.	2,714	..	..	252	1,027	2,719	1,660	236	144	302	3,322	2,171	169	14,716	1,668	16,384
Mechanical Div.	239	9	9	128	183	512	12	......	...	...	1,186	68	17	2,363	803	3,166
Atlantic Div...	445	..	1	10	53	125	521	183	...	...	153	262	13	1,766	167	1,933
U. S. Steel Products Co......	......	..	..	. .	.....	.....	......	......	..	...	.....	......	....	258	179	457
Chicago House Wrecking Co.	......	..	..	...	.....	.....	......	.....	...	...	.....	......	....	16	.....	16
McClintic-Marshall Co.....	......	..	..	...	.....	.....	......	......	...	...	.....	......	....	592	78	670
Total.....	3,398	9	10	390	1,263	3,356	2,193	419	144	302	4,661	2,501	†199	18,845	2,638	21,483
Month previous	3,763	9	11	362	1,298	3,355	2,681	558	109	334	5,620	2,183	‡300	20,783	2,661	23,444

*All wages specified are in gold. †Includes three at five cents. ‡Includes four at five cents.

QUARTERS.

A report of Commission and Panama railroad quarters occupied on November 30, follows:

PLACE.	Gold.			Europeans.			West Indians.		
	Men	*Women*	*Children*	*Men*	*Women*	*Children*	*Men*	*Women*	*Children*
Ancon[1]	614	314	235	6	....	....	947	6	5
Balboa	480	33	37	551	7	13	924	36	48
Bas Obispo[4]	65	22	38	32	8	12	212	52	64
Corozal[2]	761	241	194	620	....	....	544[3]	19	10
Cristobal[5]	864	355	421	114	....	....	1,140[6]	200	377
Culebra	371	149	154	227	41	80	351	97	151
Empire	834	262	333	291	46	77	484	145	239
Gatun	546	190	159	643	20	15	930	30	12
Las Cascadas	57	48	43	20	12	21	326	132	173
Paraiso	222	82	87	175	5	14	230	104	159
Pedro Miguel	201	81	90	245	....	....	136	....	....
Porto Bello	61	27	18	118[7]	1	2	300	3	4
Toro Point	50	14	16	80	. ....	.....	264	....	......
Total	5,126	1,818	1,825	3,122	140	234	6,788	824	1,242

(1) Includes Sabanas police station, Taboga Island, Culebra Island, Palo Seco, and Naos Island. (2) Includes 66 Panamanians. (3) Includes Miraflores. (4) Includes Gamboa. (5) Includes Colon Beach and Colon Hospital. (6) Includes 61 East Indians, 10 American citizens, and 55 Panamanians. (7) Includes 21 Asiatics. Gold force of contractors (included above): 18 families, 307 bachelors.

COMMISSARY OPERATIONS.

Last Fiscal Year's Business Largest in the History of the Panama Railroad Stores.

The business of the commissary department of the Panama Railroad Company during the fiscal year ending June 30, 1913, aggregated $7,630,402.75, an increase of $928,047.07, as compared with the previous year, and an increase of $1,875,447.06, as compared with the fiscal year ending June 30, 1911. It was the largest year's business since the organization of the commissary department. Merchandise was imported to the value of $6,029,731.95. A classified statement of importations, the figures being for cost, insurance, and freight paid delivered on the Isthmus, follows:

Class.	*Amount.*
Groceries	$1,596,292.24
Hardware	147,580.82
Dry goods	1,015,896.92
Tobacco	258,327.88
Cold storage supplies	2,288.844.13
Boots and shoes	266,344.71
Stationery and furniture	85,777.12
Raw material	370,668.13
Total	$6,029,731.95

The relative percentage of goods under each classification sold during the fiscal year ending June 30, 1913, as compared with the previous fiscal year, follows:

Class.	*1913*	*1912*
Groceries and staples	27.25	28.85
Cold storage supplies	38.06	37.97
Dry goods, gents' furnishings, etc.	16.33	16.38
Boots and shoes	4.43	4.27
Tobacco and confectionery	4.27	3.88
Hardware	2.31	1.84
Stationery and furniture	1.46	1.48
Raw material	5.89	5.33
Total	100.00	100.00

The stock on hand as of June 30, 1913 was valued at $1,148,520.01, as compared with $1,166,481.76 for the preceding fiscal year, a decrease of $17,961.75. Efforts were directed toward keeping the stock down to the lowest figure consistent with good service in anticipation of a decrease in business due to reduction in the Canal force. There were heavy increases in the importations of hardware, dry goods, tobacco, and cold storage supplies, especially the latter, where the increase amounted to over 10 per cent. In general, the prices of the previous year were maintained. There was a marked advance in the wholesale prices of shoes, and on a few lines, the retail prices were advanced. Although high wholesale prices of beef continued throughout the year, no increases were made in the selling price, except in a very few instances.

Up to June 30, 1913, there had been no changes in the number or location of the commissaries established, a total of 19 stores being in operation.

The following table gives the importation of meat and dairy products, in comparison with the statistics for the fiscal year 1912:

Article.	*1913*	*1912*
Fresh meats, lbs	6,821,029	6,453,138
Poultry, lbs	577,657	503,590
Cured and pickled meats, lbs.	1,035,491	896,445
Cheese, lbs	172,375	142,786
Butter, fresh, lbs	524,268	427,683
Milk, fresh, gals	103,893	81,388
Cream, fresh, gals	49,500	37,750
Eggs, doz	786,250	725,580

Importations of fresh vegetables for the two years, were, as follows:

Article.	*1913*	*1912*
Potatoes, white, lbs	5,728,738	5,843,692
Potatoes, sweet, lbs	1,190,452	1,016,392
Onions, lbs	1,049,797	896,850
Cabbage, lbs	735,760	677,234
Yams, lbs	381,901	300,045
Carrots, lbs	151,904	135,256
Turnips, lbs	129,539	129,310
Beets, lbs	79,896	61,747
Other vegetables including celery, tomatoes, and other northern seasonable vegetables	850,573	741,627

Fresh fruits were purchased for the two years, as follows:

Article.	*1913*	*1912*
Apples, lbs	1,320,000	916,622
Peaches, lbs	65,504	99,467
Pears, lbs	52,733	83,457
Plums, lbs	53,218	36,226
Grapes, lbs	73,753	92,534
Oranges, doz	145,914	171,787
Lemons, doz	35,250	36,850
Limes, doz	6,708	11,225
Grapefruit, doz	20,724	11,254
Canteloupes	106,290	62,750
Watermelons	23,851	34,358
Other fruits, lbs	34,496	104,857

The following statement shows the value of stock on hand, the value of goods received, the amount of sales and issues to departments, and the total of the average sales and issues per month:

*Stock on hand June 30, 1912	$1,166,481.76
*Total stock received during year	6,029,731.95
Total	$7,196,213.71

†*Sales and issues to departments.*

Sales to Isthmian Canal Commission	$1,809,176.44
Sales to United States Government	231,202.47
Sales to others for cash	116,660.33
Sales to others for coupons	5,055,728.83
Issued to Panama Railroad Steamship Line	12,076.84
Issued to departments of the railroad and used in operation of the commissary	277,561.31
Condemned and damaged goods, shrinkage, etc	127,996.53
Total	$7,630,402.75
†Average sales and issues per month	656,272.74
*Stock on hand June 30, 1913	1,148,520.01

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*C. I. F. value.

†Selling value after adding surcharge.

MANUFACTURING PLANTS.

Laundry—There was a large increase in the amount of business handled in the laundry. The total number of pieces handled amounted to 5,035,620 as compared with 4,243,614 for the previous year. The total gross revenue amounted to $122,913.28, as against $108,096.85, an increase in the number of pieces handled of 729,006, and an increase in gross revenue of $14,816.45. To meet the increased business an entire rearrangement of the wash rooms and mangle rooms was necessary. One new 6-roll mangle of the latest type was installed, and to meet the overcrowded condition of the dry rooms on account of the increase in the work, a new dry room tumbler was installed. With this increased equipment the work was handled satisfactorily and economically.

Bakery—During the year, there were 22,454 barrels of flour used, as against 20,233 the previous year, an increase of 2,221 barrels. There were 6,779,726 loaves of bread, 710,334 rolls, and 135,435 pounds of cake baked, as against 6,014,667 loaves of bread, 651,844 rolls, and 114,134 pounds of cake baked the previous year. The gross revenue of this department amounted to $284,639.63, as compared with $260,865.53 the previous year, an increase of $23,774.30.

On June 1, 1913, the price of bread to all was reduced to 3 cents a loaf, and a corresponding reduction was made in other similar products, This was made possible by the general decrease in the price of flour, and the large output.

Coffee roasting—During the year, 368,870 pounds of green coffee were roasted, as against 341,780 pounds the previous year, an increase of 27,090 pounds. The number of pounds of roasted coffee produced was 301,801, as against 280,909 the previous year, an increase of 20,892 pounds. The gross revenue of this department amounted to $69,200.21, as against $64,220.98 the previous year, an increase of $4,979.23

Ice manufacture—The number of tons of ice manufactured during the year was 38,884, as against 37,248 the previous year, an increase of 1,636 tons. The quantity produced represented the full capacity of the plant. The gross revenue of this department amounted to $241,858.02, as against $229,535.98 the previous year, an increase of $12,322.04.

Ice cream manufacture—The results obtained in this department justified the expenditures for modern equipment made during the previous year. During the year, 169,850 gallons of ice cream were made, as against 138,551 gallons the previous year, an increase of 31,299 gallons. The gross revenue amounted to $134,327.50, as compared with $110,993.68 the previous year, an increase of $23,333.82.

Corned beef department—The number of pounds of corned beef produced during the year amounted to 265,906, as against 263,573 pounds the previous year, an increase of 2,333 pounds. The gross revenue was $33,819.74, as compared with $29,594.24, an increase of $4,225.50. The result of this experiment is satisfactory. A much more satisfactory corned beef is being produced, and, in addition, it is now possible to buy full carcasses of fresh beef, resulting in obtaining fresh beef at a cheaper cost.

Butter department—The number of prints of butter made during the year was 382,321, as against 333,658 the previous year, an increase of 48,663. The value was $148,740.66, as compared with $122,660.26 the previous year, an increase of $26,080.40. In addition to the printed butter, 144,145 pounds of butter in bulk were sold, the value being $51,363.69.

Hamburger steak department—In this department, 8,774 pounds of Hamburger steak were made during the year. The total gross revenue amounted to $1,140.62.

Industrial laboratory—The value of the product of this department for the year amounted to $28,185.29, as compared with $10,275.49 for a part of the previous year, an increase of $17,909.80. The principal items manufactured were extracts of pineapple, strawberry, almond, vanilla, lemon, coffee, orange, witch hazel, rose water, preserved fruits, tooth and talcum powders, antiseptic preparations, laundry soap, and bay rum. In this department there were also bottled during the year, denatured alcohol and salad oil to the value of about $8,000.

Packing department—During the year, 4,902,368 pounds of goods were packed in this department. In addition to this, sanitary wrappers were placed around 1,129,037 loaves of bread. The principal articles packed were, as follows:

Rice, 2,030,794 pounds; flour, 1,940,569 pounds; coffee, 303,427 pounds; beans, 265,195 pounds; peas, 206,778 pounds; starch, 91,358 pounds; nuts, 17,644 pounds; garbanzos, 655 pounds; corn meal, 5,848 pounds; Central American sugar, 40,100 pounds, making a total of 4,902,368 pounds.

Electric light, power, and refrigerating plant—All the equipment of this plant was maintained during the year. Renewals were made where required, and the high efficiency of the plant maintained.

Cold storage plant—The efficiency of the plant and organization was maintained during the year. The large increase in the amount of products handled justified the increase in facilities made during the previous year.

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Postal Savings Bank Transactions.

A statement of the postal savings bank transactions at Canal Zone post-offices for the month of November, follows:

OFFICE.	Postal savings certificates issued.	Postal savings certificates paid.
Ancon	$15,995.00	$14,083.00
Balboa	18,587.00	16,167.00
Bas Obispo	390.00	710.00
Corozal	29,614.00	29,937.00
Cristobal	10,815.00	9,712.00
Culebra	10,071.00	7,101.00
Empire	18,615.00	13,643.00
Gatun	15,190.00	16,634.00
Las Cascadas	4,475.00	6,817.00
Paraiso	10,749.00	14,445.00
Pedro Miguel	11,333.00	12,260.00
Cristobal, Station A.	1,597.00	700.00
Cristobal, Station B.	2,077.00	806.00
Total	$149,508.00	$143,015.00
Balance on hand, Nov. 1, 1913	$590,116.00	
Deposits during month	149,508.00	
Withdrawals during month		$143,015.00
Balance on hand November 30, 1913		596,609.00
	$739,624.00	$739,624.00

◆

Stages of the Chagres River, Gatun, and Miraflores Lakes.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes for the week ending midnight, Saturday, December 20, 1913. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.					
	Vigia.	Alhajuela	Gamboa	Frijoles	Gatun Lake	Miraflores Lake
Sun., Dec. 14	127.4	94.0	83.5	83 6	83 6	50.8
Mon., Dec. 15	126.9	93.4	83.6	83.7	83.7	50.7
Tues., Dec. 16	126 6	93.1	83.7	83 8	83 8	50.8
Wed., Dec. 17	126.4	93.0	83.8	83.8	83.8	50.7
Thurs., Dec. 18	128.4	94.1	83.9	84.0	84.0	51.1
Fri., Dec. 19	128.4	94 4	84.0	84.1	84 0	51 0
Sat., Dec. 20	127.4	94.0	84.1	84.2	84.1	50.9
Height of low water, nearest ft.	125 0	91.0	44.0			

*Sluice gates in spillway at Gatun were closed on June 27, 1913, with surface of lake at elevation 48.25 feet above sealevel.

◆

Married.

GENAC–RICKMAN—At Empire, on October 26, 1913, Lula M. Rickman of Lousiville, Ky., to Daniel J. Genac, of Empire, the Rev. J. L. Wise officiating. Canal Zone residence, Empire.

KNOX–HUBER—At Empire, on November 2, 1913, Theodora Huber to Roland P. Knox, the Rev. J. L. Wise officiating. Canal Zone residence, Empire.

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Balboa Sand Service.

A report of the sand shipped from Balboa, during the month of November, follows:

DESTINATION.	Number cars.	Cubic yards.
Fifth Division	793	13,783
Fortifications	200	3,720
Division of Municipal Engineering	80	1,488
First Division	41	759
Panama railroad	4	100
Quartermaster's Department	7	137
Mechanical Division	12	188
Central American Construction Company	11	275
Miscellaneous	44	862
Total	1,192	21,312

COMMISSION CLUBHOUSES.

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Activities of the Young Men's Christian Association.

GENERAL.

The moving picture schedule for the week December 29 to January 3 is, as follows: Monday, Gatun; Tuesday, Balboa; Wednesday, Culebra; Thursday, Corozal; Friday, Empire; Saturday, Cristobal.

COROZAL.

The Corozal bowlers won two out of three games with Gatun on Saturday night, December 20. This was the last game of the local team in the present tournament.

A 5-foot addition is being built to the clubhouse for the purpose of relieving the congestion at the soda fountain.

Dr. Frederick Poole gave an interesting illustrated lecture on China to a crowded house on Tuesday, December 23.

An old-fashioned Christmas is expected at the Corozal clubhouse, and the Sunday school and Y. M. C. A. are cooperating for the occasion.

CULEBRA.

The "Greens," won from the "Blues" by a score of 1,265 to 1,296, in the local bowling tournament, on Monday night, December 15. On Tuesday night, the "Reds" defeated the "Blacks" 1,225 to 1,212. On Friday night, the "Greens" defeated the "Whites" 1,320 to 1,184.

High scores for the week are, as follows: DeCora, 101, 116, 105, 108; Palmer, 112; Kiernan, 112; Finley, 100, 102; Case, 104, 110, 105, 101, 129, 104; Ferguson, 121, 102; Koperski, R., 115; Fitzpatrick, 106; Whiting, 112, 104.

The Cristobal tenpin team won three games from the local team on Saturday night, December 20, by the following scores:

Cristobal.				Culebra.			
Barrett	193	205	148	Case	155	171	149
Barnum	171	156	127	Herrington	150	156	131
Collins	140	187	191	Hansli	196	149	130
Barte	177	197	209	DeCora	146	158	149
Bullard	194	166	140	Dougherty	172	168	172
Totals	875	911	815		819	802	731

Mr. S. P. Verner of Cristobal gave an address on the subject, "There's a good time coming," on Sunday night, December 21. An optimistic forecast for the future was presented by tracing the steps of progress that have been made in the social, educational, and religious life of the world during the last 2,000 years.

Dr. Poole will give a talk on personal experiences in China 20 years ago, on Sunday night, December 28. No admission will be charged.

The Pennsylvania State College quartet will give an entertainment in the schoolhouse on Friday night, January 2, at 8 o'clock. Admission, members, free; adult nonmembers, 50 cents; children, 25 cents.

GATUN.

A large audience greeted Dr. Poole on his initial appearance in his Canal Zone tour, on Thursday evening, December 18, when he gave his lecture on "Peking and the great Chinese wall." The lecture was illustrated with slides and motion pictures. He was assisted in his lecture by Mrs. Poole, who wore a Chinese wedding costume. Dr. Poole will reappear at Gatun on Thursday evening, January 1.

The boys of the local clubhouse were hosts to 29 of the Corozal boys on Saturday, December 20. Corozal was victorious in indoor baseball, the score being 8 to 7, and in bowling, it won two out of three games. The Gatun boys, however, won both games of basketball. The afternoon was spent in swimming in the lower forebay of the locks. Fancy diving and under water swimming were among the special events. Mr. Page was in charge of the Corozal boys.

The Gatun Y. M. C. A. will have a service in the clubhouse at, on Christmas morning at 10 o'clock, which will be in charge of the secretary. Judge Thomas E. Brown, Jr., of the Canal Zone Supreme Court, will be the speaker. Mrs. A. C. Arthur will sing. and Miss Lang will play the piano. The Y. M. C. A. male glee club will sing a selection.

The Pennsylvania State College male quartet will make its first appearance at Gatun on Christmas night, December 25. The quartet is accompanied by an excellent reader.

A song service for men only was held at the clubhouse on Sunday evening, December 21. D. R. Homer played the piano.

A basketball game will be played at the clubhouse on Friday evening, December 26.

Mrs. Walsh and Eddie Walsh won first prize, and Mr. and Mrs. Grover won second prize in the ladies' bowling tournament, held on Wednesday evening, December 17.

On Christmas Eve, December 24, an informal social was held for the members of the association.

The clubhouse will be appropriately decorated for the Christmas holidays. The color scheme will be green and red.

CRISTOBAL.

Unusual interest was evinced in the local French pool tournament, which closed Saturday night, December 20. Messrs. J. H. Orr, H. Smithers, and J. H. Gill, won first, second, and third prizes, respectively. The other men taking part in the tournament were, as follows: Messrs. Hagan, Raymond, Farrell, Herz, Vance, Tuttle, Dwyer, Schofield, McCullough, Roscoe, Ashton, Herrington, Brugge, McLaney, E. F. Orr, Barte, Bevington, and Nash.

The attention of the tenpin bowlers is respectfully called to the tournament to be held New Year's Eve and all of New Year's Day. It is an open tournament.

Hon. Richard L. Metcalfe, Governor of the Canal Zone, will deliver an address on Sunday, January 11, at 3 p. m., in the social hall of the clubhouse; subject; "Measuring a man." Special music will be provided for the occasion. The general public is invited to attend.

The opening night of the new year is to be observed by a "Smoker." All men of Cristobal are invited to be present. A good program is assured.

In the discussion following Mr. H. D. Brittin's paper on "The pros and cons of physical education," before the discussion club, Thursday, December 18, it was agreed that outdoor exercise is preferable. A committee, consisting of Messrs. Cousineau, Anderson, and A. Fraser, was appointed to confer with the district quartermaster as to the possibility of procuring grounds suitable for tennis and other sports.

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Supplies for the Canal.

The following steamers with supplies for the Isthmian Canal Commission and Panama Railroad arrived at the ports of Colon, Balboa, and Cristobal during the week ending December 20:

Tivives, December 14, from New York, with 195 pieces structural steel, for Panama railroad; 19 crates structural steel, for fortifications; 400 pieces structural steel, for First Division; 30 cases paint, 29 kegs horseshoes, for stock.

Heredia, December 15, from New Orleans, with 34 crates iron doors, for First Division; 207 pieces oak lumber, for Mechanical Division; 89 pieces oak lumber, 66 pieces piling, for Atlantic Division.

Mountby, December 15, from Mobile, Ala., with 1,910 pieces pipe, for Division of Municipal Engineering.

Pleiades, December 14, from San Francisco, with 124,933 board feet redwood lumber, for Mechanical Division 15 bales rubber hose, for stock.

Colon, December 17, from New York, with 516 pieces structural steel, 16 reels cable, 21 cases electrical machinery, for First Division; 18 cases electrical material, for Mechanical Division; 1,200 bundles steel bars, for stock; one launch, for Atlantic Division; 193 packages, for armament; 198 pieces pipe, 1,150 kegs wire nails, 281 coils rope, 255 kegs bolts, 1,000 rolls roofing paper, 1,000 bags oats, 96 cases lubricating oil, for stock; and a miscellaneous cargo, the whole consisting of 6,455 pieces, weighing 337 tons.

Zacapa, December 17, from New York, with 33 packages structural material, for fortifications; 277 pieces structural steel, for First Division.

Prinz August Wilhelm, December 15, from New York, with one case lead pencils, for stock.

Atenas, December 18, from New Orleans, with 5,822 board feet oak lumber, for Mechanical Division; 69 pieces piling, for Division of Municipal Engineering; 48 pieces piling, for Atlantic Division.

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Misdirected Letters.

ANCON, C. Z., December 22, 1913.

The following insufficiently addressed letters, or other mail matter, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressees:

*Anderson, J. A.
*Atkins, Florence
*Baker, J. S.
Bock, Mr. Charles
Bolt, Miss Gertrude H.
*Carr, Elmer E
*Chapman, Bertie
*Cliff, Mrs. P. O.
Cousens, Mr. J.
Dillon, Hercules
Donnelly, Mr. E. A.
*Fabien, L. J.
Fitzpatrick, Mr. John J.
Gehrig, Mr. Arthur G.
Green, J. A.
*Hale, Olive E.
Harris, Mrs. E. T.
Heald, Mr. Harold
Korbel, Mr. Frank
Neelson, Mr. E. A.
†O'Brien, Margaret
McCreary, Jack
Rebbke, E. A.
Richie, Hanry Chas.
*Richie, Hanry Chas.
*Robertson, Mr. Elpha H.
Salhab, Joseph, Esq.
Sargent, Mrs. Melie
†Sowell, J. C.
Smith, Mr. S. M.
Tennien, Mr. James E
†Walsh, Mr. Maurice G.
*Westberg, Dorothy
Welch, Mr. F. J.
*Wilson, Mrs. J.
Worthington, H. R.
*Kopald, Charles

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*Package. †Card.

OFFICIAL CIRCULARS.

Instructions Governing Preparation of Official Correspondence.

CULEBRA, C. Z., December 16, 1913.

CIRCULAR No. 467-A:

In order to facilitate the filing and handling of official correspondence, the following will be observed as far as practicable:

The subject shall be stated in each communication, either in the body thereof or near the top of the first page.

No communication shall embrace more than one subject.

Names of persons shall be stated in full, or with initials, at least once in each communication concerning them.

Each communication shall be replied to separately, and a reply to one communication shall not be incorporated with a reply to another from the same office regarding a different subject or a different phase of the subject.

When there has been previous correspondence from an office concerning a particular subject, reference shall be made thereto by stating the date of the communication under reply, as well as the file number, if given. The file number may be written near the top on the left hand side of the letter, thus: "Your file No. 23-36." A space with the words "Refer to file No." is already provided on the opposite side of official letterheads for the file number of the sending office.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Issuance of Commissary Coupon Books.

CULEBRA, C. Z., December 16, 1913.

CIRCULAR No. 256-N:

Paragraph 4 of Circular No. 256-M, relative to issuing coupon books, reads:

> Requests for books received before the 10th or after the 25th of the month will be honored for new employes or in the case of an unforeseen emergency. Foremen or other officials who approve requests for coupon books will be held responsible for the proper observance of this rule.

The intent of these instructions is to confine as closely as possible between the 10th and the 25th of each month the work of issuing coupon books, as after the 25th, and prior to the 10th, the clerks in the timekeeping offices must make up pay rolls, pay receipts and reports and check and distribute them, which greatly increases their regular work. It is considered only fair that other employes should cooperate to avoid a congestion of work during their period by providing themselves with books within the 16-day period allowed.

However, it is not desired that any employe go without books or suffer any deprivation if he has enough time to his credit to pay for a book. The time office can issue a limited number of books between the 5th and the 10th of the month and requests will be honored but the employe must explain to his foreman the necessity for making the request, and if it is plainly his own fault that he is without coupon books, the foreman or other official who approves the request will call attention to Paragraph 4 and caution the employe strictly against future negligence.

On every request for books to be issued prior to the 10th, the foreman will insert the word "Emergency" after the word "Approved," and sign the request. Otherwise, the books will not be issued until the 10th.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Issuance of $2.50 Commissary Books.

CULEBRA, C. Z., December 23, 1913.

CIRCULAR No. 256-O:

Paragraph 1 of Circular No. 256-N, discontinuing the use of $2.50 commissary books, is hereby modified, and the following rule will hereafter govern:

A $2.50 commissary book may be issued in an emergency case provided for in Circular No. 256-N, between the 5th and 10th of the month, if the employe has not earned $5 at the time the request is made.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

I. C. C. Official Business Trip Tickets Not to Be Altered.

CULEBRA, C. Z., December 16, 1913.

HEADS OF DEPARTMENTS AND DIVISIONS:

The general superintendent of the Panama Railroad Company has called attention to the fact that sufficient care in not being exercised in the issuance of I. C. C. official business trip tickets, and that instances are constantly being reported in which alterations have been made by the issuing employe, such as changing the names of stations, dates, number of passengers to be carried, etc., all of which is contrary to instructions.

All employes responsible for the issuance of official business trip tickets should be instructed not to alter the ticket in any way after it has been issued.

Attention is also invited to the fact that the stopover privilege can only be endorsed on a ticket by the employe who issues the ticket and must be initialed by him.

GEO. W. GOETHALS,
Chairman.

Hunting in Canal Zone Territory.

CULEBRA, C. Z., December 19, 1913.

CIRCULAR No. 372-C:

In order to protect that arm of Gatun Lake from which a portion of the water supply for Brazos Brook reservoir is drawn, hunting is prohibited within that part of the Canal Zone lying north of the bascule bridge and east of the Panama railroad.

Employes violating this order will be discharged from the service of the Commission or the Panama Railroad Company.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission.
President, Panama Railroad Company.

CULEBRA, C. Z., December 13, 1913.

CIRCULAR No. 372-D:

The prohibition in Circular No. 372-A against hunting by employes of the Commission or Panama Railroad Company in that part of the Canal Zone lying west of the Canal line is withdrawn in respect to the territory between the Cocoli River and the Pacific Ocean.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Acting Chief of Police.

DEPARTMENT OF CIVIL ADMINISTRATION,
ANCON, C. Z., December 17, 1913.

CIRCULAR No. 118:

Mr. Guy Johannes, assistant chief of police, is designated acting chief of police, effective December 17, 1913, during the absence of Capt. Chas. W. Barber, U. S. A., on leave.

RICHARD L. METCALFE,
Head of Department of Civil Administration.

Abandonment of Canal Siding.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., December 17, 1913

CIRCULAR No. 313:

All concerned—The switches at Canal siding, south of Gamboa bridge, will be spiked on Thursday, December 18, and this siding will be removed, as it is no longer required.

F. MEARS,
General Superintendent.

No Sightseeing Trains on Christmas or New Year's Days.

PANAMA RAILROAD COMPANY.
OFFICE OF GENERAL SUPERINTENDENT.
COLON, R. P., December 17, 1913.

G. S. BULLETIN No. 26:

All concerned—The sightseeing train will not be operated on Thursday, December 25, 1913, and Thursday, January 1, 1914.

Please notify all concerned.

F. MEARS.
General Superintendent.

Examination by Board of Local Inspectors.

BOARD OF LOCAL INSPECTORS,
ANCON, C. Z., December 18, 1913.

The Board of Local Inspectors will conduct examinations at the Administration Building, Ancon, on Wednesday, December 31, 1913, beginning promptly at 2 p. m., for persons desiring to secure the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for licenses must procure from the Executive Office, Ancon, forms of application and information respecting the filling out of same, not later than the day previous to the examination. In addition, all persons desiring chauffeurs' licenses must provide themselves with automobiles with which to demonstrate their ability to properly operate the same.

Note—The demonstration test for applicants for chauffeurs' licenses will be given on Tuesday, the day preceding the regular examination, at 2 p. m., at the Administration Building, Ancon; on Wednesday, the day of the regular examination at 9 a. m., at the police station, Cristobal; for out-of-town applicants, on the day of the regular examination, at 2 p. m., at the Administration Building, Ancon.

W. V. JUDSON,
Chairman, Board of Local Inspectors.

Police Station at Bas Obispo Abandoned.

DEPARTMENT OF CIVIL ADMINISTRATION,
DIVISION OF POLICE AND PRISONS,
ANCON, C. Z., December 15, 1913.

GENERAL ORDER No. 1801:

Effective this date, the police station at Bas Obispo, C. Z., is abandoned, and the necessary protection for that town will be furnished from Empire central station.

All property of the Quartermaster's Department on hand in excess of the requirements should be turned in. The property of the Department of Civil Administration, records, and files, should be forwarded to Empire central station.

C. W. BARBER,
Chief of Division.

Opening of Subpolice Station at Gamboa.

DEPARTMENT OF CIVIL ADMINISTRATION,
DIVISION OF POLICE AND PRISONS,
ANCON, C. Z., December 15, 1913.

GENERAL ORDER No. 1803:

Effective this date, the subpolice station at Gamboa, C. Z., is open for the transaction of business, with First-class Policeman Frank C. Ruggles in charge.

The property of the Department of Civil Administration, records, and files of Bas Obispo station, will be transferred to Gamboa.

The property of the Quartermaster's Department on hand in excess of the requirements should be turned in to the district quartermaster.

C. W. BARBER,
Chief of Division.

Automobile Tariff.

ANCON, C. Z., December 19, 1913.

Under the authority vested in me by the Ordinance enacted by the Isthmian Canal Commission on August 25, 1910, and approved by the Secretary of War on December 3, 1910, I hereby amend the schedule of rates for the transportation of passengers over Canal Zone streets and roads, established in the Orders of the Chairman, in charge of Department of Civil Administration, dated July 10, 1913, as follows:

RATES BY THE HOUR.

(*All rates in United States currency.*)

CAPACITY OF CAR.	For first hour	For each hour thereafter
5 passengers	$4.00	$3.00
6 passengers	5.00	4.00
7 passengers	6.00	5.00

For cars having a seating capacity less than that above indicated, the rate for the first hour shall not exceed $1 for *each passenger* carried, exclusive of the chauffeur, and for each hour thereafter $1 less than the first hourly rate for the car.

For any car having a normal seating capacity of more than seven passengers, the charge shall be computed for the first hour at a rate not to exceed $1 for each passenger for which such car has a normal seating capacity, *not including the chauffeur*, and for each hour thereafter $1 less than the first hourly rate.

LOCAL POINT RATES- CANAL ZONE AND CITY OF PANAMA.

Where automobiles engage in the business of carrying one or more passengers between the points shown in the following table, and such automobiles are not hired upon an hourly basis, the charges for transportation furnished between such points shall not be in excess of those hereinafter prescribed.

PANAMA, ANCON, AND BALBOA.

BETWEEN ANY POINT IN	AND	*U.S. currency.*
Ancon or Panama.	Any other point in Ancon (outside of hospital reservation) or Panama. One way—For each person	$0.50
Ancon or Panama.	Balboa docks and return:	
	5-passenger car	3.50
	6-passenger car	4.00
	7-passenger car	4.50
	No reduction for one way.	
Ancon or Panama.	Old Panama and return:	
	5-passenger car	4.00
	6-passenger car	5.00
	7-passenger car	6.00

NOTE.—The rate to Old Panama and return is that above shown, provided the time consumed does not exceed one (1) hour, in which case the charge should be computed upon the hourly basis.

The rates hereinabove prescribed are made reciprocal between points in the Canal Zone and the city of Colon by Ordinance No. 50, enacted by the Municipal Council of Colon on November 20, 1913, and between points in the Canal Zone and the city of Panama by Decree No. 23 of October 30, 1913, of the Alcalde of the Municipal District of Panama, and become effective in the Canal Zone after publication in two consecutive issues of THE CANAL RECORD.

RICHARD L. METCALFE,
Head of Department of Civil Administration.

Married.

BLUHM-RYSZCZYNSKI—At the home of the bride's father, Hoboken, N. J., on Wednesday, December 3, 1913, Frances Mary Ryszczynski to Herman William Bluhm.

COMMISSARY DEPARTMENT.

The commissary stores are open during the following hours:

Cristobal, 8 a. m., to 12.30 p. m., and 2 to 7 p. m.
Balboa, 8 a. m. to 12.30 p. m., and 2.30 to 7 p. m.
Ancon, 8 a. m. to 1 p. m., and 3 to 6 p. m.
All others, 8 a. m. to 1 p. m., and 3 to 7 p. m.

Retail prices of cold storage provisions for the week beginning December 21, 1913:

FRESH MEATS.	*Price.*
Mutton—Stewing, per pound	†7
Shoulder, neck trimmed off (4 pounds and over), per pound	9
Entire forequarter (not trimmed, 10 pounds and over), per pound	8
Legs (8 to 10 pounds), per pound	17
Cutlets, per pound	18
Short cut chops, per pound	20
Lamb—Stewing, per pound	†8
Entire forequarter, neck trimmed off, per pound	†10
Legs (5 to 8 pounds), per pound	20
Chops, per pound	24
Cutlets, per pound	24
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	†13
Chops, shoulder, per pound	17
Chops, per pound	26
Loin, for roasting, per pound	26
Cutlets, per pound	30
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	8
Plate, per pound	9
Corned, No. 1, per pound	14
Corned, No. 2, per pound	12
Chuck roast, 3 lbs. and over, per pound.	12
Rib roast, second cut (not under 3½ pounds), per pound	16
Rib roast, first cut (not under 3 pounds), per pound	18
Pot roast, per pound	19
Rump roast, per pound	19
Porterhouse roast, per pound	20
Steak, Chuck, per pound	12½
Round, per pound	13
Rib, per pound	18
Sirloin, per pound	19
Rump, per pound	19
Porterhouse (not less than 1½ pounds), per pound	20
Tenderloin (Western), per pound.	30
Pork—Hams, fresh, per pound	§20
Shoulders, fresh, per pound	§17
Spare ribs, per pound	15
Backbones, per pound	15
Pigs' feet, each	7
Pigs' head, whole	60
Pigs' head, ½-head	30
Sausage, homemade, per pound	20

MISCELLANEOUS.	
Livers—Beef, per pound	11
Calf, each	60
Half, each	30
Steak, Hamburger, package	13
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Devonshire Farm, per pound	20
Sweetbread, beef, per pound	34
Eggs, fresh, per dozen	†44
per ½-dozen	22
Bluefish, per pound	*11
Hallbut, fresh, per pound	*12
Salmon, per pound	*12
Roe shad, each	75
Shad roes, pair	40
Oysters, per quart	32
per gallon	1.52

POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, large, each..	1.40
Fancy roasting, milk fed, med., each.	1.10
Fancy roasting, corn fed, about 5½ pounds, each	1.25
Fancy roasting, corn fed, about 4½ pounds each	1.00
Fowls, each ††60, 70, 80, 90, and	1.00
Ducks, Western (about 4½ pounds), each	1.25
Capons, about 8½ lbs., each	3.00
Broilers, milk fed, each	70
Broilers, corn fed, each	60
Turkeys, per pound	25
Squabs, each	50
Rabbits, skinned and unskinned, each	30
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30

CURED AND PICKLED MEATS.	
Ham—Real York and Cumberland, per pound.	37
Genuine Westphalia, per pound	40
Sugar cured, per pound	20
Sliced, per pound	22
Half, for boiling, per pound	21
Boiled, per pound	28
Hocks, per pound	‡8
Beef, salt, family, per pound	12
Bacon—Breakfast, whole piece, per pound	25
Sliced, per pound	26
Ham, lunch, per pound	32
Pork, salt, family, per pound	14
Ox tongues, each	1.00
Pigs' feet, per pound	7
Tongues, per pound	18

DAIRY PRODUCTS.	*Price.*
Butter—Creamery, special, per pound	40
Sheffield Farms, extra fancy, per lb	46
Cheese—Philadelphia cream, cake	10
Roquefort, per pound	35
Young America, per pound	22
Swiss, per pound	28
Edam, each	75
Edam, tin	25
Parmesan, per pound	35
Gouda, per pound	30
Snappy, per cake	10
Milk (certified), per bottle	**20
Fer-mil-lac, bottle	**20
Ice cream, quart	‡25
½-gallon	‡50

VEGETABLES AND FRUITS.	
Brussels sprouts, per quart	15
Beets, per pound	3
Celery, per head	7
Cabbage, per pound	3½
Cucumbers, per pound	10
Carrots, per pound	3
Cauliflower, per pound	†8
Lettuce, per pound	*8
Onions, per pound	3
Potatoes, white, per pound	3
sweet, tropical, per pound	2
Potatoes, sweet, Jersey, per pound	4
Parsley, per bunch	5
Parsnips, per pound	4
Peppers, per pound	†16
Radishes, per pound	7
Squash, per pound	†3½
Turnips, per pound	3
Tomatoes, per pound	10
Yams, per pound	3
Apples, per pound	6
Grapes, Malaga and Tokay, per pound	15
Cranberries, per pound	9
Grapefruit, American, each	*7
Grapefruit, tropical, each	4
Lemons, per dozen	24
Limes, per hundred	80
Pears, per pound	7
Papayas, per pound	3
Oranges, Jamaican, per dozen	12
Tangerines, each	2

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

††Fowls weigh each, about, as follows: 3, 3½, 4, 4½, and 5 pounds. Prices are based accordingly; when size ordered is not in stock, next lightest weight is supplied and refund note sent for difference.

‡Sold only from commissaries; no orders taken for delivery.

§Not less than half of a fresh ham or shoulder will be sold.

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Rainfall, Dec. 1 to Dec. 20, 1913, Inclusive.

STATIONS.	Maximum n one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	1.27	12	4.27
Balboa	1.36	12	3 12
*Miraflores	1 60	12	2.87
Pedro Miguel	1 24	12	1.83
Rio Grande	.90	12	1.45
Central Section—			
Culebra	.81	12	1.37
*Camacho	.61	8	1.92
Empire	.74	12	1.92
Gamboa	.80	12	1.66
*Juan Mina	.65	12	1.38
Alhajuela	.39	10	1.49
*El Vigia	.20	13	.60
Frijoles	1.29	12	3 80
*Monte Lirio	2.21	12	5.85
Atlantic Section—			
Gatun	2.54	1	5.63
*Brazos Brook	3.75	1	10.11
Colon	.88	18	4.10
†Porto Bello	3 02	18	8.66

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight. †To 5 p. m., December 12.

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Tide Table.

The following table shows the time of high and low tides at Panama for the week ending January 3, 1914.

DATE.	Low	High	Low	High	Low
	A.M.	A.M.	A.M.	P.M.	P.M.
December 28..	......	3.52	10.11	4.29	10.33
December 29...	......	4.37	10.56	5.12	11.18
December 30..	......	5.22	11.40	5.53	.. ...
			P.M.		
December 31...	12.02	6.03	12.23.	6.33	......
1914					
January 1......	12.46	6 46	1.04	7.11	......
January 2......	1.29	7.26	1.46	7.51	......
January 3......	2.14	8.07	2.28	8.30	......

75th meridian time.

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings of the Panama Railroad Steamship Company; of the Royal Mail Steam Packet Company; of the Hamburg-American Line; and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.*

Advance	P. R. R.	Wednesday	Dec.	17
Panama	P. R. R.	Tuesday	Dec.	23
Allianca	P. R. R.	Tuesday	Dec.	30

CRISTOBAL TO NEW YORK.*

Advance	P. R. R.	Tuesday	Dec.	30
Panama	P. R. R.	Monday	Jan.	5
Allianca	P. R. R.	Sunday	Jan.	11

NEW YORK TO COLON.

Almirante	U. F. C.	Wednesday	Dec.	17
Magdalena	R. M.	Saturday	Dec.	20
Carrillo	U. F. C.	Saturday	Dec.	20
Prinz Joachim	H.-A.	Saturday	Dec.	20
Santa Marta	U. F. C.	Wednesday	Dec.	24
Carl Schurz	H.-A.	Saturday	Dec.	27
Metapan	U. F. C.	Wednesday	Dec.	31
Prinz August Wilhelm	H. A.	Saturday	Jan.	3
Pastores	U. F. C.	Saturday	Jan.	3
Danube	R. M.	Saturday	Jan.	3
Zacapa	U. F. C.	Wednesday	Jan.	7
Emil L. Boas	H.-A.	Saturday	Jan.	10
Tagus	R. M.	Saturday	Jan.	17
Calamares	H.-A.	Saturday	Jan.	17
Prinz Joachim	H.-A.	Saturday	Jan.	17

COLON TO NEW YORK.

Zacapa	U. F. C.	Thursday	Dec.	25
Emil L. Boas	H.-A.	Tuesday	Dec.	30
Almirante	U. F. C.	Thursday	Jan.	1
Prinz Joachim	H.-A.	Tuesday	Jan.	6
Carrillo	U. F. C.	Tuesday	Jan.	6
Tagus	R. M.	Tuesday	Jan.	6
Santa Marta	U. F. C.	Thursday	Jan.	8
Pastores	U. F. C.	Sunday	Jan.	11
Carl Schurz	H.-A.	Tuesday	Jan.	13
Pastores	U. F. C.	Tuesday	Jan.	13
Metapan	U. F. C.	Thursday	Jan.	15
Tenadores	U. F. C.	Sunday	Jan.	18
Prinz August Wilhelm	H.-A.	Tuesday	Jan.	20
Oruba	R. M.	Tuesday	Jan.	20
Zacapa	U. F. C.	Thursday	Jan.	22
Calamares	U. F. C.	Sunday	Jan.	25
Emil L. Boas	H.-A.	Tuesday	Jan.	27
Almirante	U. F. C.	Thursday	Jan.	29
Pastores	U. F. C.	Sunday	Feb.	3
Trent	R. M.	Tuesday	Feb.	3
Prinz Joachim	H.-A.	Tuesday	Feb.	3

NEW ORLEANS TO COLON.

Turrialba	U. F. C.	Saturday	Dec.	20
Cartago	U. F. C.	Wednesday	Dec.	24
Abangarez	U. F. C.	Saturday	Dec.	27
Heredia	U. F. C.	Wednesday	Dec.	31
Atenas	U. F. C.	Saturday	Jan.	3
Parismina	U. F. C.	Wednesday	Jan.	7
Turrialba	U. F. C.	Saturday	Jan.	10

COLON TO NEW ORLEANS.

Atenas	U. F. C.	Thursday	Dec.	25
Parismina	U. F. C.	Saturday	Dec.	27
Turrialba	U. F. C.	Thursday	Jan.	1
Cartago	U. F. C.	Saturday	Jan.	3
Abangarez	U. F. C.	Thursday	Jan.	8
Heredia	U. F. C.	Saturday	Jan.	10

BOSTON TO COLON.

Tivives	U. F. C.	Thursday	Jan.	1
Sixaola	U. F. C.	Thursday	Jan.	8
Carrillo	U. F. C.	Thursday	Jan.	15

COLON TO BOSTON.

Carrillo	U. F. C.	Sunday	Jan.	4
Tivives	U. F. C.	Sunday	Jan.	11
Sixaola	U. F. C.	Sunday	Jan.	18

*Amended schedule, resulting from temporary withdrawal of the *Allianca* for repairs.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 1 p. m.; for Southampton, on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays and Saturdays at 3 p. m.; ships for New York via Kingston, on Tuesdays at 1.30 p. m., and Thursdays at 1.30 p. m.; for Bocas del Toro, on Mondays at 5 p. m.; for Limon, via Bocas del Toro, on Tuesdays at 5 p. m.; and for Limon direct, Tuesdays at 3 p. m.

Hamburg-American steamers sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays; the *Prinz August Wilhelm* and the *Prinz Joachim* at 10 a. m.; the *Carl Schurz* and the *Emil L. Boas* at 2 p. m.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, DECEMBER 31, 1913. No. 19.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Preparation for Raising Rim of Gatun Lake.

The exact location of the dike at Caño saddle No. 4 is now being made, the site having been cleared, so that accurate cross sections could be taken. The joint contractors for the work, R. W. Hebard and Company, Incorporated, and Thomas R. Lombard, have also been engaged in completing the camp at the site and assembling equipment. Quarters to accommodate about 50 men have been built of lumber and corrugated iron, and a commissary store has been stocked with supplies purchased from the Panama railroad commissary department. The 45-ton steamshovel, No. 56, equipped with a 2-cubic yard dipper, retired from the Canal service and leased to the contractor by the Canal Commission, two 36-inch gage steam locomotives, and twenty-four 4-yard, 36-inch gage dump cars, were transported by barge to the site from Gatun on December 21, and the contractors are ready to begin operations as soon as directed by the engineer representing the Commission. Supervision of the work has been assigned to the Atlantic Division.

Loss of Water from Miraflores Lake.

Owing to excavation at the base of the ogee at the Miraflores spillway in the enlargement of the spillway channel at that point, it has been advisable to keep the water in Miraflores Lake near the 51-foot level, in order to guard against a sudden overflow. Most of the surplus water has been wasted through the culvert in the west wall at Miraflores Locks. A computation has been made of the amount of water lost through this and other causes during the month of November, together with the amount of the inflow from the Culebra Cut channel by lockages and leakage at the Pedro Miguel Lock, as follows: Wastage account of lockages at Miraflores, 15 million cubic feet; leakage at Miraflores Locks and spillway, eight million cubic feet; wastage in holding the lake to the 51-foot level, or thereabouts, 283 million cubic feet, or a grand total of 306 million cubic feet. The amount of water entering the lake through Pedro Miguel Lock from the Culebra Cut channel by lockages is computed at 7.5 million cubic feet, and by leakage through the lock, 3.8 million cubic feet, a total of 11.3 million cubic feet, which, deducted from the total of 306 million cubic feet, makes the net loss from Miraflores Lake in November from the above causes, 294.7 million cubic feet, equivalent to about 2,215,000,000 gallons. The above does not include the quantity pumped from Miraflores Lake into the Rio Grande water mains during the month, 83,903,000 gallons, equivalent to about 11,216,000 cubic feet, or the loss from seepage and evaporation, of which the latter was eight million cubic feet.

Dredging Gravel from the Chagres Arm of Gatun Lake.

The ladder dredge, *No. 1*, which, with the tug *DeLesseps* and two barges, was passed through the Chagres River bridge of the Panama railroad at Gamboa, on December 14, for service in the reclamation of gravel from beds submerged by Gatun Lake, has begun operations under a single shift, at a point about half a mile above the former village of Cruces. The cantilever crane on the unloading wharf at Gamboa is not ready for service on account of lack of connections for the supplying of electrical energy to its motors, and the gravel delivered at the wharf is being unloaded by two 25-ton locomotive cranes, mounted on a track along the outer side of the wharf, and equipped with grab buckets. The cranes discharge directly into dump cars and not into the storage bins which will be used in connection with unloading by cantilever crane.

Additions to Panama Railroad Locomotive Equipment.

Following the recent retirement of a great many locomotives from dirt train service in connection with dry excavation for the Canal, 10 of the 301-class locomotives, and locomotives No. 209 and No. 285, have been transferred to the Panama railroad to supplant most of the older and smaller Belgian locomotives in its yard service. With the Class 651 oil-burning locomotives, which are in good condition, the railroad has now a total of 30 large locomotives in service. Two light, coal-burning locomotives of an old style, but fast on the road, No. 27 and 36, have been retained for service with the pay and sightseeing trains. Locomotive No. 652 has been equipped with an 8½-inch compound air pump, in place of the usual 9½-inch single pump, so that it may maintain effective pressure in the brake systems of long trains, and will hereafter be ordinarily used exclusively in freight service.

GATUN SPILLWAY OPENED.

Lake Rises to Height of 84.7 Feet, But for the Present will be Kept at 84 Feet.

The gates and operating machinery at the spillway of Gatun Dam were tested on Saturday, December 27, and, beginning at 7 a. m., December 29, one gate has been left open throughout the day to lower the surface of Gatun Lake to elevation 84 feet above sealevel, at which it is to be held until the advancement of the work at Caño saddle warrants allowing the lake to rise higher. The testing began at 10 o'clock in the morning and was concluded in the afternoon. All the 14 gates were raised and lowered smoothly, and the tests were regarded as thoroughly satisfactory.

Prior to the operating tests, forces of the hydrographic office had made measurements of the leakage around the edges of the closed gates. Observations were carried on continuously for 48 hours, the flow being recorded every hour. A dike about two and a half feet high was built across the discharge channel below the ogee, using earth fill between dash boards, and a 2-foot rectangular weir, sharp-crested, with complete end contractions, was set in the center of the dike, with its crest one foot above the floor of the discharge channel. The measurements showed a total leakage from all the gates of from .8 cubic foot per second to a maximum of 2.4 cubic feet per second. The variation in leakage is in direct proportion to the temperature, the minimum occurring in the cool of the night and the maximum at the hottest time of day. This is, because the heat of the sun expands the top part of the gate, causing a slight buckling at the center. Additional apparatus was used to measure the leakage from a single gate which appeared to be most nearly watertight. The leakage from this gate varied between .005 and .0656 cubic feet per second. The head of water against the gates during these measurements was approximately 15 feet.

When the gate was opened on December 27 to lower the surface, the elevation of the lake was 84.76 feet above sealevel. It is estimated that in the absence of heavy rains on the watershed it will require about 150 hours, or approximately a week, to lower the surface to 84 feet above sealevel. When the surface is at 84.7, the lake contains 181.8 billion cubic feet of water; with a surface level of 84 feet, it contains 178.6 billion cubic feet, and the lowering will necessitate a loss of 3.2 billion cubic feet, in addition to the water which runs into the lake during the process of lowering.

It was anticipated that the currents through the opened gate would draw the floating islands and other débris to the spillway, and cause some interference with the passage of water. At this time the floating islands are for the most part up the Trinidad River, and at other points some distance from the spillway, and as the current is intensely local, so that a cayuco can approach within 100 feet of the gate without being carried away, it is not likely that there will be much interference by débris at this time. In the future, a launch is to be employed in rounding up the floating islands and shoving them into the current, in order that they may be carried out to sea.

The sluice gates through the ogee of the spillway dam were closed on June 27, 1913, with the surface of the water 48.25 feet above sealevel. The rise of the lake to the morning of December 29 is summarized in this table:

Period.	*Feet.*
June 27 to July 1, inclusive	.5
July	5.6
August	6.1
September	5.6
October	6.5
November	9.6
December 1 to 28, inclusive	2.8
Total	36.7

With the advent of the dry season, the rate of rise will decrease; but the dry season of 1912 is the only one recorded in which the rate of evaporation from the lake area exceeded the rate of run-off. In a normal dry season the supply of water is greater than the evaporation until the latter part of February after which it is slightly less, but for the entire season the supply exceeds the evaporation. It is estimated that in a season of minimum rainfall the lake, having an elevation of 87 feet at the end of the rainy season, will supply water for 48 lockages a day, and for the operation of the hydroelectric station, without lowering its surface below elevation 79½ feet, which would afford a minimum depth in the Canal channel of 39½ feet.

Changes at Bas Obispo made Necessary by Lake Rise.

The rise in Gatun Lake has necessitated the removal of the railroad track, in the section between the site of Matachin and Bas Obispo, to a point about 500 feet north of the Bas Obispo station; and from the end of the present track to a point about equidistant on the other side of the station; the track and its connections are being raised several feet, in order to maintain it above the water surface. The station and the commissary building have been lifted five feet, and a fill is being made in the triangular space occupied by them, and the site where the district sanitary inspector's office formerly stood. The water is now about even with the floor of the highway bridge across the Mandingo River, opposite the station, and the bridge is being raised about six feet by the Marine Corps, the original builders. The roadway of the concrete bridge on the highway to Empire is well above maximum lake level. Below and above these bridges, where once was a ravine with a shallow stream at its bottom, is now a broad and stagnant estuary of the lake. The native houses on the bank of this stream, just south of the station, have been abandoned, and the Canal village of Bas Obispo is being deserted, so that the settlement presents the appearance of an outpost being forced back by the advance of the lake. The sites of the demolished Commission hotel, the quartermaster's storehouse, and the sanitary office are now under water, and forces of the Quartermaster's Department are engaged in removing American quarters, which will be rebuilt at Ancon. Numerous old French quarters of various types will be left on the hills, north of the Marine Corps camp, and may later be occupied by members of the Corps.

Pipe for Miraflores Water Supply.

The new 30-inch cast steel pipe for carrying the water supply for the south end of the Canal and the city of Panama from the Miraflores purification plant, has arrived from the United States, being furnished on Washington order No. 41056. This pipe is being distributed between the site of the purification plant on Miraflores Hill, east of the spillway, and that of the new Ancon pumping station to be built near the northwest base of Ancon Hill. The pipe is cast in lengths of 12 feet, and amounts to approximately 260 carloads, of from six to nine pieces each, weighing approximately 3,700 tons. It is being distributed by means of a locomotive crane, attached to a train made up of eight cars at a time and handled by a locomotive. The 16-inch cast iron pipe main for connecting the new Ancon pumping station with the new high service reservoir on Ancon Hill is also being distributed preparatory for laying. This 16-inch pipe was reclaimed from the former line from Rio Grande reservoir.

Change in Location of Water Mains at Pacific End.

In connection with the new waterworks system for the Pacific end of the Canal, it has been decided to lay the new 30-inch main, and to relay the existing 20-inch and 16-inch mains, in a straight line from Diablo Hill to a point immediately below the new administration building at Balboa, instead of using the present route direct to the Ancon pump station. This will carry the lines across the swamp lying between Diablo Hill and the Panama railroad between Panama and Balboa, and is expected to effect a saving of about 4,000 lineal feet each of 30-inch, 20-inch, and 16-inch cast iron pipe over any other possible location on suitable ground, together with a saving in cost of approximately $65,000. It will also result in a saving in friction head of about 20 feet. A broad *trocha* has already been cut out along the new route and marked with stakes.

Sinking of the "Terrier."

The drill boat *Terrier*, a unit of the Sixth Division floating equipment used at the Atlantic end of the Canal, sank about 5.30 o'clock Saturday evening, December 27, in the French canal opposite dock No. 11, where it has been drilling holes for blasting in the coral rock bottom. On examination, it was found that one of the 5-inch drill hole casings had been forced up through the bottom of the hull, and it is thought that the hull had sprung a leak and settled down on the pipe, as normally there would be a clearance of about a foot and a half between the top of the casing and the bottom of the hull. The boat lay on the bottom in about nine feet of water; forces are already engaged in raising it.

The vessel was rebuilt at the dry dock shops from an old French hull in 1907, at a cost, including appraised value of hull and machinery, but not the drills, of $23,500. It is nonpropelling, and has a length of 72 feet six inches, beam of 18 feet six inches, and depth of seven feet six inches; with a gross tonnage of 125. It is equipped with a horizontal French boiler 15 feet long, and 62 inches in diameter, eight Star well drills, 5 by 5-inch engines, without trucks, and two Canton-Hughes duplex pumps. It was out of service for about a year, and would probably have been retired permanently after the completion of the present work.

Dedication of New Gorgona.

The site set aside by the Government of Panama from public lands on the west coast of the Bay of Panama, about 40 miles south of the city of Panama, for the proposed town of New Gorgona, to be settled principally by persons removed from the area of Gatun Lake, was formerly dedicated on Tuesday, December 30. A party, including the President of Panama, the Secretary of Foreign Relations, the Secretary of Public Works, the Secretary of Public Instruction, members of the diplomatic corps in Panama, the bishop of the diocese, and numerous guests, accompanied by the band of the Republic, sailed from the city of Panama at 7 a. m., to take part in the ceremony. The bishop pronounced an invocation on the town and dedicated a memorial tablet near the center of the site. Addresses were made afterward by the President, the Secretary of Public Instruction, and the bishop, and an address for the citizens was made by Señor Tomas Posada, a resident of New Gorgona, who set forth the primary needs of the community, as follows: A sufficient water supply, an allotment of agricultural lands, a bridge across the Chame River, and transportation to New Gorgona of building material stored on dump No. 6 at the time the houses in Gorgona and vicinity were abolished. After a luncheon in the schoolbuilding, the party embarked for Panama, arriving at about 10 p. m. New Gorgona has now a population of between 500 and 600 people, some of whom have erected their houses, but the most of whom continue to live in the temporary quarters provided by the Government. Roads have been cleared and telegraph connections established. The site of the town is a level plateau rising about 50 feet above the sea, and the agricultural lands are about two miles back from the coast.

Progress on Transmission Line.

Track-span bridges for carrying the 44,000-volt transmission line, which is to distribute electrical energy from the hydroelectric station at Gatun, have been erected between Miraflores and Gamboa, and from Caimito to Frijoles. Work between Gamboa and Caimito has been deferred on account of operations of the Panama railroad in locating a permanent track through the dumping area, north of Gamboa. Approximately 275 bridges have been erected, and foundations have been placed between Miraflores and Mindi, with the exception of the 4-mile stretch between Gamboa and Caimito. Insulators have been suspended from the side-arms of the bridges, between Paraiso and a point about two miles south of New Culebra. Several of these have been broken by thoughtless or malicious persons, and, as they cost about $18 each, the Division of Police and Prisons has been requested to take steps to protect them.

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On account of the abolition of some of the construction divisions and consequent reorganization, the Subsistence Department has asked the various departments and divisions to revise their orders for ice, in order that it may formulate a new schedule of deliveries, to be placed in effect shortly after January 1.

SOCIAL LIFE OF THE ZONE.

Woman's Clubs.

At the meeting of the Cristobal Woman's Club on January 7, Dr. M. E. Connor will speak on "Eugenics." The subject for the month is the social problem and related topics. The general meeting will be on January 21, when there will be a paper by a club member, followed by an open discussion.

Church Notes.

The corner stone of the new building of the United Methodist Church in Pedro Miguel was laid on Sunday, December 28, Mrs. William Tomey of Balboa performing the ceremony. The church ministers to a congregation of West Indian negroes, the pastor being the Rev. C. M. Anderson.

The meeting of the Woman's Altar Guild of St. Luke's Hospital Chapel will be held at the residence of Mrs. Charles F. Mason on Tuesday afternoon, January 6, at 4 o'clock.

At the annual Christmas bazaar held in the parish hall of St. Ferdinand's Church, Empire, on December 12, 13, and 14, about $300 gold was raised.

Headquarters of Pythian Sisters Changed to Ancon.

The auxiliary order of the Pythian Sisters has removed its headquarters from Las Cascadas to Ancon, where the meetings are held in the lodge hall on the first and third Thursday afternoons in each month, beginning at 2.30 o'clock. At the meeting on December 18, the second to be held in the new quarters, an election of officers was held, as follows: Most excellent chief, Susie Reese, Corozal; excellent senior, May Jordan, Pedro Miguel; excellent junior, Hannah Smith, Empire; mistress of records and correspondence, Ida Hollowell, Pedro Miguel; manager of the temple, Mary Wagner, Pedro Miguel; mistress of finance, Theresa Blake, Ancon; protector of the temple, Lettie Peterson, Panama; guard of the inner temple, Marion Stanner, Las Cascadas; past chief and installing officer, Annie N. Wilson, Paraiso.

Christmas Box for Palo Seco Asylum.

The Elysisus James Education Committee, which is composed of Canal Zone club women, sent the annual Christmas box to the patients in the leper asylum at Palo Seco, each inmate of the institution being remembered. The gifts consisted of toys for the children, one doll for the only little girl patient, ribbons, perfumery and statues for the women, playing cards, Spanish and American pipes, tobacco, cigarettes, and cigars, checker boards, dominoes, and outdoor games, including a baseball bat and ball, air gun and target, for the men. There were also Christmas bells for decorations, and several boxes of candy. Fancy neck bows, strands of beads, and white lawn waists for the women were donated to the box. The usual sum of $30 was expended by the committee for this box, and $5 was added as a private donation. There are 50 patients in the asylum at present, six young children, 13 women, and 31 men.

The Canal Zone Public Schools.

The public schools, which were closed for the Christmas holidays on December 19, will reconvene on Monday, January 5, 1914. The following changes have been made: There will be one school at Las Cascadas for the first, second, and third grades only; children in the other grades will be transported to Empire by brake service. This school will occupy the old Las Cascadas schoolhouse, which had been remodeled for the accommodation of two families, and is now restored to its original purpose. The partitions will be taken out, and desks, benches, and other schoolroom equipment will be installed. Miss Birmingham will be in charge of this school. In order to relieve the crowded condition in the Ancon school, the two rooms over the Commission hotel will be opened for the accommodation of the sixth, seventh, and eighth grades. The assembly room in the Ancon schoolbuilding will be occupied by the high school only.

Knights of Columbus.

The attention of members not affiliated with either of the Isthmian councils, who desire to receive the third and fourth degrees of knighthood, is called to the necessity of securing permission from their home council. The degrees will probably be exemplified on the 22d and 23d of February. Further information can be secured by communicating with C. I. Cate, G. K., Balboa, or A. P. E. Doyle, G. K., Cristobal.

PERSONAL.

Senator Thomas J. Walsh of Montana, and daughter; Representative James Manahan of Minnesota, accompanied by his wife and daughter, and Representative Winfield S. Hammond of Minnesota, arrived on the steamer *Panama*, which docked at Cristobal, on Tuesday, December 30, on a visit to the Canal.

Capt. Courtland Nixon, U. S. A., depot quartermaster and purchasing agent of the Canal Commission on the Isthmus, was relieved from duty, and will sail for New York on the steamer *Cristobal* leaving Cristobal, January 3, 1914, having been transferred to the service in the United States. He arrived on the Isthmus on September 18, 1908, and was immediately placed in charge of the supply depot at Mount Hope, the printing plant, and the operations on Dock 14, consisting principally of the unloading of supplies from ships. He was graduated from Princeton University, with the degree of civil engineer, in the class of 1895, and was employed on various engineering projects for three years. On July 9, 1898, he was given his commission as Second Lieutenant in the First United States Infantry. He was promoted to First Lieutenant in the same organization on March 9, 1899, and to captain in the Second Infantry on April 14, 1904, and saw service, first in Cuba, and later, in the Philippines. He served as assistant to the depot quartermaster during the relief work following the earthquake and fire in San Francisco, and for nearly two years prior to his transfer to the Isthmian Service, he was stationed at the quartermaster's supply depot at Philadelphia.

Mr. F. R. Blunt, the newly appointed trainmaster of the Panama Railroad Company, arrived on the Isthmus on the *Panama*, on Tuesday, December 30. He occupied the same position with the Panama Railroad Company from March 17, 1908 to March 15, 1910.

Permits to Carry Firearms.

The General Counsel of the Canal Commission has ruled that holders of permits to carry firearms running through the current fiscal year, obtained under the old law, must take out another permit under the new law, which became effective on December 26, 1913. The text of this law was published in THE CANAL RECORD of November 26, 1913.

In order to facilitate the making of applications for the having or carrying of firearms, in accordance with the Executive Order of November 7, 1913, all Zone police stations will be provided with a supply of C. A. Dept. Form 931, "Application for permit to carry firearms," where they may be secured by those desiring to make application for such permits.

Obituary.

Edward P. Halloran, a former white American employe of the Canal Commission, died at Ancon Hospital on Wednesday, December 24. He was 32 years of age, unmarried, and had been on the Isthmus since June 25, 1907. He was first employed as a timekeeper in the old department of Excavation and Dredging, in the office at Empire, was afterwards transferred to the Subsistence Department, and on September 1, 1909, he was appointed assistant at the Hotel Tivoli, a position he held until May 5, 1910. Since that time he has been reemployed on several occasions. His brother, George B. Halloran, is an employe of the Fourth Division, living at Empire. His father, Paul Halloran, resides at No. 237 Savin Hill avenue, Boston.

Glenni V. Wellman, who, until September 13, 1913, was a steamshovel craneman in the employ of the Fifth Division, died at his home in Ashville, N. Y., on Wednesday, December 10. He was 35 years of age, and entered the Canal service on September 20, 1912. His wife and four children survive him.

Warren E. Brendle, a private in the Tenth Infantry at Las Cascadas, was accidentally drowned near Camp Elliott on Monday, December 15. He was 19 years of age, unmarried, and had been on the Isthmus one year and one month. He was a native of Bernville, Pa. His father resides at No. 423 Pear street, Reading, Pa. The interment took place at Ancon cemetery.

Mrs. Johnson, wife of J. C. Johnson, residing at Corozal, died at Ancon Hospital on December 19. She was a native of Costa Rica, 19 years of age, and had been on the Isthmus only four months.

Missing Men.

Information is desired as to the whereabouts of G. E. Marshall, formerly in the employ of the Commission, who is supposed to be residing on the Isthmus. Address replies to the Chairman, Culebra.

Any one having information regarding the whereabouts of Mr. Thomas Horseman, formerly a member of the Tenth Infantry at Las Cascadas, and later, employed by the American Bridge Company at Balboa, who is supposed to be on the Isthmus, is requested to communicate with the American Legation, Panama.

Any one having information regarding the whereabouts of Mr. Joseph Coyne, who is supposed to be on the Isthmus, is requested to communicate with THE CANAL RECORD, Ancon.

LOST—Between Ancon. and Pedro Miguel Lock, a pair of amber-colored spectacles. Finder please return to John Gray, paint foreman, First Division Pedro Miguel.

RAILROAD INCREASES INCOME.

Panama Railroad and Steamship Operations for Past Fiscal Year Show Gains.

The net income of the Panama railroad and steamship line during the fiscal year ending June 30, 1913, after meeting the total cost of operation, together with fixed charges aggregating $113,585.39, and charges for depreciation of rolling stock, floating, and plant equipment, amounting to $268,942.62, was $2,179,175.50, an increase of $417,126.28 over the net income during the preceding fiscal year.

At the close of the fiscal year, the company's funds in bank amounted to $2,520,216.13, and, in addition, there was held in the reserve fund established September 12, 1911, savings bank securities purchased at a cost of $1,590,234.75, an increase of $96,771.25, due to a reinvestment of accumulated interest. The sum of $244,694.92, representing the total of losses incurred by the company from March 4, 1910 to June 30, 1913, of a character ordinarily recoverable under fire and marine insurance, but by Congressional enactment not so underwritten since the first mentioned date, has been carried to the debit of the company's "Profit and loss" account. The status of the company's indebtedness to the United States Government remains unchanged. This indebtedness amounts to $3,247,332.11.

The gross operating revenues of the company for the fiscal year ending June 30, 1913, amounted to $6,750,321.12, an increase over 1912 of $211,428.40. The gross operating expenses for the same period were $4,699,978.52, a decrease of $154,307.94, as compared with the preceding year, making the total gain in operating revenue over operating expenses $365,736.34.

RAILROAD OPERATIONS.

The operating revenue of the railroad from all sources shows an increase of $57,674.23. The gains were, as follows: Seven per cent on local commercial freight; .35 per cent on local I. C. C. freight; 22.23 per cent on through passenger traffic; 11.40 per cent on local passenger traffic, and 15.44 per cent on other transportation revenue. The decreases were confined to a loss of 3.63 per cent on through commercial freight, and 5.69 per cent on nontransportation revenue. The net increase is equivalent to 1.27 per cent.

Passenger traffic.—The number of first-class passengers carried by the railroad during the fiscal year was 877,589, as compared with 777,121 during the preceding year, a gain of 12.93 per cent. The number of second-class passengers carried was 2,039,068, as compared with 1,980,550 during 1911-12, a gain of 2.95 per cent. The gross revenue from the transportation of passengers was $826,398.54, an increase of $88,651.18, or 12.02 per cent. The revenue received from through passengers showed an increase of $9,148.17, or 22.23 per cent; the number of these passengers increased 8,317, of 55.16 per cent, as compared with the previous twelvemonth. Local passengers showed a gain in revenue of $79,503.01, or 11.41 per cent, and an increase in the number carried of 150,669, or 5.50 per cent.

Freight traffic.—The following table shows the freight tonnage, including company freight, carried over the railroad during the fiscal years 1911-12 and 1912-13:

DIRECTION.	1913	1912	*Increase*	*Decrease*
	Tons	*Tons*	*Per cent*	*Per cent*
Southbound, to Panama	1,359,297	1,376,241	....	1.23
Northbound, to Colon	667,555	494,835	34.90	....
Total	2,026,852	1,871,076	8.33	....

The total revenue freight traffic of the railroad during the past fiscal year, including both merchandise and coal, was 1,949,215 tons, an increase of 132,296 tons, or 7.28 per cent. The total revenue derived from this traffic was $2,785,512.70, a decrease of $35,438.44, or 1.26 per cent. In addition to the above traffic, 77,637 tons of company freight, 2,188 tons of mails and baggage, and 3,221 tons of express were hauled. Of the total freight tonnage hauled, 67.06 per cent was southbound, and 32.94 per cent northbound, as compared with percentages of 73.55 and 26.45, respectively, for the year before. The through freight traffic was 29.31 per cent of the total tonnage carried, as against 36.80 per cent for the previous year. Coal, including that of the company, comprised 42.15 per cent of the local traffic southbound.

Summary.—The following table summarizes railroad operations on the Isthmus during the fiscal year ending June 30, 1913:

ITEMS.	1913	1912	Increase	Decrease	P. C.
Average miles operated	61.98	50.79	11.19	....	22.03
Gross operating revenue	$4,599,163.13	$4,541,488.90	$57,674.23	....	1.27
Operating expenses	$2,770,310.45	$2,655,121.51	$115,188.94	....	4.34
Net operating revenue	$1,828,852.68	$1.886,367.39	....	$57,514.71	3.05
Per cent expense to revenue	60.24	58.46	1.78	....	3.04
Gross revenue per mile	$74,203.99	$89,416.99	....	$15,213.00	17.01
Operating expense per mile	$44,696.84	$52,276.46	....	$7,579.62	14.50
Net revenue per mile	29,507.15	37,140.53	....	$7,633.38	20.55
Revenue per passenger train mile	$6.24	$6.26	....	.02	.32
Revenue per freight train mile	$11.94	$11.47	$.47	....	4.10
Amount operating pay rolls	$1,709,211.80	$1,701,106.32	$8,105.48	....	.48
Tons per loaded car	23.63	22.26	1.37	....	6.15
Tons per train	353.21	295.23	57.98	....	19.64
Locomotive mileage—					
Freight, passenger, and switch	892,380	803,181	89,199	....	11.11
Work train	200,295	190,230	10,065	....	5.29
Passenger train mileage	184,964	163,083	21,881	....	13.42
Freight train mileage	235,228	248,741	....	13,513	5.43

The total trackage on June 30, 1913, under control of the railroad, amounted to 143.19 miles.

Gravel pits.—In the operation of the gravel pits, the following amounts were excavated: From the Gamboa beds, 50,295 cubic yards; from the I. C. C. pit at Matachin, 34,407 cubic yards, and from the I. C. C. pit at dump No. 1, 24,521 cubic yards a total of 109,223 cubic yards.

Land department.—During the past fiscal year, there has been an increase in the number of lots leased in Colon, due to the fact that the lots on the east of E street were approved for building operations. At Panama, there was a slight increase in rentals due to additional lots in the district of Guachapali having been leased. At New Frijoles, Gatun, Empire, and Culebra, the rentals remained about the same; at Folks River, Cristobal, there was a small increase, and at Monte Lirio, the number was slightly less. There was a slight increase in the number of agricultural leases, 232 being in effect on June 30, 1913, as compared with 228 on the same date the previous year. The total number of land and lot leases in effect June 30, 1913, was 2,355, as compared with 2,312 on the same date in 1912. These covered 2,523 lots or parcels of land in 1913, as against 2,465 in 1912. The total amount of rental accruing from these leases during the past fiscal year was $143,496.57, as compared with $126,622.16 during the fiscal year 1911-12. Of the total revenue from rentals, Colon produced $90,790.28, which includes rental from offices and stores in the new concrete building; Panama produced $20,989.79, and Empire, $12,819.60. The general policy of issuing leases at nominal cost for ecclesiastical, charitable, and educational purposes was continued, and there are 76 such lots, divided, as follows: Churches, 57; parks, four; schools, 10; fire stations, four, and municipal wash house, one.

Telegraph and telephone lines.—This department experienced an active year, due to preparation for permanent installation and changes in the existing system. The new work performed included installation of underground cables in Colon and Cristobal; rebuilding of the main line between Colon and Gatun, and the stringing of a 30-pair No. 19 gage cable; placing of an additional 10-pin cross-arm on the main line between Gatun and Gamboa; substitution of glass insulators of the Hemingray type for porcelain insulators along the relocated line, made necessary by low insulation; completing construction of the pole line between Gamboa and Corozal and the stringing of a 30-pair No. 19 gage cable for a part of the distance; placing wires underground in iron pipe at Balboa, made necessary on account of the heavy blasting and other troubles; installation of a No. 19 gage cable from the Ancon exchange into Panama to relieve the congestion around the railroad station; extension of the cable from the Ancon exchange, through East Balboa, to Balboa, and adding to the number of conductors on account of increased telephone requirements at the latter place; construction of a pipe pole line with two 6-pin cross-arms from Corozal to Balboa; relocation of the line between Gamboa and Alhajuela by placing it on the 100-foot contour line; construction of a line about two and one-half miles long, equipped with five 10-pin cross-arms, from the relocated line to the Empire suspension bridge, thence to the Empire exchange, for the purpose of connecting the trunk lines with the exchange; installation of a 140-line common battery switchboard in the Hotel Washington; and removal of one section of No. 9-D switchboard from the Gatun to the Ancon exchange to take care of increased business at that point. A switchboard of the type similar to that in the new Hotel Washington, except that it has two operators' positions, was ordered for the Hotel Tivoli; also, a complete central office switchboard and equipment for the new exchange at Balboa. Experiments were conducted during the year in treating the different types of coils used in telephonic apparatus, both telephone and switchboard, in such a manner as to make them waterproof and increase their life, with good results. All of the switchboards, apparatus, lines, and instruments were in good condition at the close of the fiscal year, with the exception of the switchboard and apparatus at Empire, which have been largely responsible for the poor trunking service at that point. This condition will be rectified when it is found necessary to reinstall the equipment.

The trunk traffic showed a considerable increase over the previous year. On June 10, 1912, 3,809 completed calls, with 1,080 "Busies" were recorded during a period of eight hours, with 33 trunks in operation. On June 10, 1913, the same record showed 7,154 completed calls, and 2,457 "Busies," with 41 trunks in operation, an apparent increase in traffic of 3,345 completed calls per day, almost doubling the record of June 10, 1912, but with only eight additional trunks in operation.

Track department—During the year, 14,365 feet of 90-pound rail, and 30,119 feet of 70-pound rail were used in track repairs. This rail was used to replace 36,935 feet of 70-pound rail, 1,891 feet of 90-pound rail, and 5,658 feet of 56-pound rail. There were used in repairs, 4,854 creosoted ties, 12,125 untreated ties, and 1,528 hardwood ties. Ballast to the amount of 8,020 cubic yards was applied to the line between Gatun and Tower R, 3,300 cubic yards on the Gold Hill line, and 2,040 cubic yards were used elsewhere.

Hotel operations—During the period July 1, 1912 to March 23, 1913, a total of 56,573 meals were furnished to employes of the railroad and Canal Commission at the old Washington House, at 30 cents, and 23,408 meals to transients at various prices. The receipts of the old hotel up to the time the new hotel was opened on March 23, amounted to $46,008.13, and the expenses to $47,502, a loss of $1,493.87, as compared with a gain of $302.06 for the same months in the previous year. The above receipts include $1,412.30 from the operations of the swimming pool.

The new Hotel Washington was officially opened on March 23, 1913, although some of the rooms had been in use from March 10. The gross revenue to June 30, 1913, amounted to $34,448.81, and the expenses to $46,058.59, a loss of $11,609.78. On June 1, a reduction of $2,200 a month was made in the pay roll.

STEAMSHIP OPERATIONS.

The operating revenue of the steamship line for the fiscal year was $2,151,157.99, or $153,754.17 in excess of the previous year. The deficit of $201,761.13 last year was replaced this year by a net profit of $221,489.92, thereby producing a combined increase in net revenue for the line of $423,251.05. There was a decrease of 27,666 tons in amount of freight transported, but of only $18,982.66 in revenue. The disproportionate decrease in tonnage and revenue is accounted for by a material reduction in unremunerative coastwise traffic, and a corresponding increase in the transportation of foreign freight at higher average through rates. The number of passengers carried increased 3,068, which resulted in a corresponding increase from that source of $124,148.86. Mail earnings increased $46,791.21 during the year.

The movement of cement to the Isthmus for the Canal work began in 1909. Since that time and up to June 30, 1913, a total of 1,105,828 tons of 2,000 pounds each, had been transported, 657,230 tons by the company's steamers, and 448,598 tons in extra steamers chartered for the purpose. During the past fiscal year, 145,679 tons were carried by the company's steamers at $1.25 per net ton, and 78,383 tons were carried in vessels of foreign registry at $2.40 per gross ton.

All the company's steamers were kept in continuous operation during the fiscal year. Only two accidents occurred at sea, both to the steamer *Advance*, involving an expense in repairs of $16,000 and $4,000, respectively. All of the company's steamers are now equipped with certified life-saving apparatus materially in excess of the number of human lives each vessel is allowed by law to carry. Each vessel is also provided with a submarine signal outfit, and a duplicate wireless service plant operated by the Marconi Wireless Telegraph Company of America, successor to the United Wireless Telegraph Company. The risk of operation of the company's steamers, and other vessels as well, will be considerably reduced, when the lighthouse authorized by Congress to be erected on Navassa Island, at a cost of $125,000, is completed. This unprotected island has always proved a menace to ships using the Crooked Channel route through the Bahama group. To meet the health requirements of the port of New York, a contract was entered into with the Fumigating and Fire Extinguishing Company of America, by which the company's steamers are fumigated at least once every six months.

The contract for bunker coal required by the company's steamers was awarded to F. R. Long and Company, for coal mined by the Ebensburg Coal Mining Company, at $3.02 per ton, an increase of 13 cents per ton over the previous cost. This contract expires April 1, 1914.

FUTURE OF THE LINES.

The report of the vice-president for the past fiscal year states:

> "There are multiplying evidences that the activities of the Panama railroad in the handling of local and through traffic will continue after the opening of the Canal, and, allowing a limited period for adjustment to new conditions on a progressively increasing scale; for that reason the course adopted by the Board of Directors, and concurred in by the owners in planning future operations and providing that all new construction and equipment work be permanent in character is fully warranted."

The report further states:

> "The declared policy of the company contemplates continued operations of its steamship line after the opening of the Panama Canal to commerce. The movement of the greater part of the cement required on the Isthmus having been completed, there is a strong probability that the steamships *Ancon* and *Cristobal* will be withdrawn from our service, and necessity for two docks as at present will have been largely overcome, especially as a material reduction in the total tonnage to be handled by our vessels may be expected. Owing to the uncertain tenure of occupancy of the company's piers in New York, the necessity for permanently adequate accommodations for the line becomes a matter for serious consideration.
>
> "* * * At this writing, careful consideration is being given to the necessity for constructing an additional adjoining dock to replace the company's wooden piers Nos. 1, 2, and 4, in Colon, condemned by the Department of Sanitation for ultimate demolition on account of their unsanitary construction, and, because the cost of maintaining them is out of proportion to their revenue earning capacity. The estimated cost of such a new pier is approximately $1,000,000. An adequate return upon such an investment is almost assured by the extensive preparations in progress by domestic and foreign lines to avail of all terminal facilities afforded by the Panama Railroad Company at the Atlantic entrance to the Panama Canal."

Election of Officers.

At the regular meeting of Isthmian Canal Lodge, No. 1, Independent Order of Odd Fellows, held at Empire on Saturday evening, December 27, officers were elected for the ensuing term, as follows: Noble grand, Andrew Dunlop; vice-grand, F. H. McCain; secretary, H. W. Dohrmann; treasurer, Lewis A. Taber; trustee, R. R. Robinson. District Deputy Grand Sire B. F. Sisson, and suite, will install the newly-elected officers on Saturday evening, January 3. All members and visiting brothers are invited to be present.

INTERLOCKING PLANTS.

Twelve Layouts with 160 Active Levers now Maintained by the Panama Railroad.

Work has been about conjested on a new interlocking plant at Cristobal, known as Tower A. The improvements consist of a new cabin, the connection of four additional switches, and the protection of all conflicting points by derails. The present plant is composed of 14 active levers; the rearranged apparatus will consist of a 36-lever machine, containing 33 active levers and controlling eight switches, nine derails, eight facing point locks, 11 mechanical dwarf and home signals, and two power-operated, semiautomatically controlled home signals, The cabin will be equipped with indicators showing the condition of the main track on either side of the cabin. The present small cabin will be used for the proposed interlocking plant at Summit.

The interlocking plant at Pedro Miguel, which was rearranged on account of recent track changes, was put in service again on November 2, This plant now contains 12 levers, controlling four switches, one derail, four facing point locks, one mechanical dwarf signal, and four power-operated home signals.

The telephone and signal department has plans prepared and material on hand to rebuild the present interlocking plant at the west leg of the Balboa wye, on account of proposed track changes. The new layout will consist of a 24-lever machine with 23 active levers, controlling six switches, six facing point locks, four derails, and nine home and dwarf signals. No electrical features will be incorporated within the functions of this point at present. The cabin has been constructed under the supervision of the Chief Quartermaster.

Plans have been approved and material ordered for an interlocking plant at the south leg or Panama end, of the Balboa wye. This plant will consist of a 24-lever machine, with 22 active levers, and will control four switches, six derails, four facing point locks, and nine mechanical home and dwarf signals. No electrical features will be used on this plant until the automatic signals are installed through this territory.

The question of installing an interlocking plant at Summit Cabin is under consideration, and, if approved, the plant will consist of an 8-lever machine with all levers active, and will control one switch, two derails, one facing point lock, and four signals.

The pontoon bridge near the present bridge No. 57½, will be equipped with locking devices and protected by semiautomatic signals as soon as it is put in place.

Not considering the authorized and proposed work, the Panama railroad is now maintaining and operating 12 plants, with 160 active levers.

Ancon Crusher.

Following is a statement of rock crushed at Ancon quarry during the week ending December 27:

DATE.	Hours worked.	Cubic yards.
Dec. 22	5 30	1,397
Dec. 23	7 40	2,133
Dec. 24	8.40	1,962
Dec. 25	....	....
Dec. 26	6.50	2,515
Dec. 27	8.35	1,720
Total	37.15	9,727

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The moving picture schedule for the week, January 5 to 10 is, as follows: Monday, Corozal; Tuesday, Balboa; Wednesday, Gatun; Thursday, Culebra; Friday, Cristobal; Saturday, Empire.

COROZAL.

The following high scores in bowling were made during the past week: *Tenpins*—Parkis, 235. *Duckpins*—Sims, 119, 101; King, 103, 100; Hartshorne, 100; Davis, 102; Steele, 102, 115; Ziller, 118; Parkis, 110; Goodnow, 106; Beall, 100; Otis, 100; *Candlepins*—Otis, 100.

An elimination duckpin tournament with 25 entries was started on December 29.

The clubhouse was crowded on Wednesday, December 24 (Christmas Eve), when the following program was carried out: "Merry Christmas," song, 25 small children; song, girls' chorus; "Story of Christmas," recitation, Hazel Smith; "Holy Child," recitation, Mary Grout; "Christmas Greeting," recitation, Randolph Davis; "If my papa were a dolly," recitation, Anna Cody; "'Twas the night before Christmas," recitation, Hazel Mitchell; "Christ Child," recitation, Frank Fields; song, girls' chorus; "Good Christmas," recitation, Myrtle Horn; "Hard times for George," recitation, Guerdon Rudd; "Suppose," recitation, Arline Ballard; "Sleepy little baby mine," recitation, Dorothy Hill; "Dear Santa Claus," recitation, Ida Ruth Hammer; "Little boy blue," recitation, Alice Reese; "Dollie's lullaby," duet, Dorothy Rudd and Josie Cody.

Santa Claus appeared in person. Mail and presents were distributed from the stage, and the boys' gymnasium class drilled. Refreshments and home made cakes were served, and an old-fashioned fireplace with life-like logs blazed cheerily. The entertainment was arranged by the Sunday school in conjunction with the Y. M. C. A.; there were special electrical illuminations and decorations and almost the entire community gathered to make this one of the most pleasantly remembered affairs in the town's holiday activities.

During the moving picture show on Christmas night, special music was rendered by Hauss and Hauss; also, by Mr. Whitehead, accompanied by Mrs. Shady.

CULEBRA.

High scores in duckpins for the week were, as follows: Case, 110, 105, 100, 103, 117; Bechlem, 101, 101; Purchase, 100; Brown, 105, 102; Ferguson, 100; Kiernan, 112; Gunther, 101; DeCora, 101, 115, 103, 102; R. Koperski, 103, 100, 100; Cornthwaite, 103; Duff, 119.

On December 23, in the local tournament, the "Whites" won from the "Blacks" by the score of 1,268 to 1,227.

On Christmas Eve, the Sunday school children gave a cantata at which Santa Claus distributed gifts and candy. The room was tastefully decorated under the direction of Mr. Ramsey. After the entertainment, the Y. M. C. A. furnished apples and lemonade, and three moving picture reels were shown. Mrs. Dickson was in charge of the program.

On Monday night, Dr. Poole, assisted by Mrs. Poole gave a lecture on "Pekin and the Great Wall," illustrated by colored slides and two moving picture reels. In addition, one reel showing the Panama Canal was exhibited. There were 200 people present.

On Sunday night, December 28, at the evening service, Dr. Poole gave a talk on Christmas in China, and spoke of some experiences there while a missionary 20 years ago. A large audience attended. A solo was given by Mr. Cantor, a new arrival at Culebra.

Dr. Poole will give an exhibition of moving pictures and colored slides, with descriptive lecture, on Tuesday, December 6, his subject being "Modern China and the revolution;" also, a trip through Culebra Cut in moving pictures. Admission will be, as follows: Members, free; adult nonmembers, 25 cents; children, 15 cents.

The Pennsylvania State College Quartet will give a concert on Friday night, January 2. Admission will be, as follows: Members, free; adult nonmembers, 25 cents; children, 15 cents.

EMPIRE.

The Christmas entertainment held on Christmas Eve for the children of Empire, was attended by nearly 500 people. The program consisted of a cantata by the children "Santa Claus is coming," 24 children taking part. After the cantata, three special moving picture reels were shown. A Christmas tree, fully decorated and lighted, was on the stage, and each child present received a box of Christmas candy.

About 300 people attended the lecture given by Dr. Poole, on Friday, December 26, on "Old China." Dr. Poole's next entertainment will be on Monday, January 5, when he will describe "New China," and its recent developments. He will also show a moving picture reel of the Culebra Cut taken last May.

Mr. Russell has taken the boys on two outings during the school holiday, one to the Mandingo River, and the other on a two days' trip to Chorrera.

GATUN.

The Y. M. C. A. building is appropriately decorated for the holiday season. A number of Christmas trees have been placed in different parts of the building, fancy green and red paper decorations and large Christmas bells adorn the walls and doorways, and colored electric lights have been strung across the ceilings. A toy Santa Claus and a large mechanical Teddy bear occupy the center of the lobby. A decorated Christmas tree stands to the left and partly in front of the stage in the entertainment hall.

Miss Lange of London, England, played for the motion pictures on December 23.

The Eduardo Unda Opera Company of Mexico City appeared at Gatun on Christmas Eve, December 24. Soprano, tenor, and baritone solos were sung, and a number of duet and chorus numbers were given in costume. Special scenery was used for the occasion. An informal "Smoker" and social was held in the reading room after the entertainment. Señorita Josefina Unda sang a special number for the men. Refreshments were served.

Special features of the religious service held at the clubhouse on Christmas morning were the address of Judge Brown and the singing of the male chorus.

Beginning at 11 a. m., on Christmas Day "Open House" was observed at the Y. M. C. A, until 11 p. m., In the evening the Pennsylvania State College Quartet gave a concert. After the concert, an informal reception was held on the first floor in honor of the company. The members of the clubhouse sang old college songs, and refreshments were served.

Dr. Frederic Poole, in a lecture on China, will be the attraction for New Year's night. "Open house" will be observed all day.

The "Old timers" played a game of basketball with a picked team from the "Boobs" and "Bolivars" on Tuesday, December 30.

CRISTOBAL.

The single folks' bowling tournament, held on December 22, resulted in the following scores:

Mr. W. Russell and Miss M. Stevens	482
Mr. Ernest Cotton and Miss Ida May Glawson	481
Mr. G. R. Farr and Miss C. Mathews	472
Mr. H. Scheid and Miss Sutherland	458
Mr. D. Raymond and Miss G. Butler	447
Mr. S. Ashton and Miss C. Madison	421
Mr. E. H. Nash and Miss Nell Bliss	411
Mr. A. Gibson and Miss M. Butler	404
Mr. W. Fraser and Miss L. Madison	393
Mr. J. H. Gill and Miss Agnes Gibson	369

A packed hall greeted the cantata rendered by the children of Colon Beach and Cristobal on December 24 and 25. Santa Claus, Mr. E. A. Keeling, left quite a number of suggestive gifts for the men such as rattles, dolls, jumping jacks, tin horns, tin horses, hair tonic, etc.

Over three hundred attended the entertainment given by the Pennsylvania State College Quartet on Friday, December 26. A meeting was held afterward in the social hall downstairs, during which the quartet sang several numbers and Mr. Austin read two selections. The association members assisted in the impromptu entertainment by singing a number of the songs composed for the camp fire banquet.

Lieut.-Col. Eugene T. Wilson will be the first speaker in the new year before the discussion club. Col. Wilson will speak on "The tolls and traffic of the Panama Canal," on Thursday, January 8.

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Supplies for the Canal.

The following steamers, with supplies for the Isthmian Canal Commission and Panama Railroad Company, arrived at the ports of Colon and Cristobal during the week ending December 27:

Tenadores, December 21, from New York, with 60 barrels paint, 70 cases electrical machinery, 120 pieces structural material, for First Division; 52 cases sheet copper, 20 crates structural material, for fortifications. 231 pieces structural material, for Panama Railroad Company; 50 bundles wire, for stock.

Cristobal, December 22, from New York, with 32 casks lime, for administration building, Balboa; 128 crates roof tile, 18 cases electrical machinery, 128 pieces structural material, for First Division; 33 cases electrical machinery, 94 pieces structural material, for Mechanical Division; 100 pieces structural material, for Panama Railroad Company; 112 pieces armament, for fortifications; 56,000 bags cement, 205,800 pounds coke, 303 bundles galvanized sheets, 400 drums chloride of lime, for stock; and a miscellaneous cargo, the whole consisting of 56,976 pieces, weighting 3,054 tons.

Nicosian, December 22, from Liverpool, with 20 bucket lips, for Sixth Division; 155 barrels carbolic acid, for stock.

Emil L. Boas, December 22, from New York, with 20 kegs sherardized bolts, for First Division; 509 bundles galvanized sheets, 200 cases polish, for stock.

Advance, December 24, from New York, with 50 boxes incandescent lamps, 17 packages electrical material, for Mechanical Division; 126 boxes paint, for Lighthouse Subdivision; 344 packages electrical material, 106 crates roof tile, for First Division; 120 pieces pipe, for Second Division; 67 packages elevator material, for administration building, Balboa; 25 cases water coolers, 211 cases lubricating oil, for stock; and a miscellaneous cargo, the whole consisting of 1,136 pieces weighting 86 tons.

Parismina, December 22, from New Orleans, with 45 pieces piling, 50 pieces oak lumber, for Atlantic Division; 11 pieces oak lumber, for Sixth Division; 20 pieces oak lumber, 378 pieces oak lumber, for Mechanical Division.

Almirante, December 24, from New York, with 12 packages structural material, for Mechanical Division; 26 packages structural material, for First Division; 15 kegs wire nails, 55 crates water pails, 126 cases caustic soda, for stock.

Turrialba, December 25, from New Orleans, with 313 pieces oak lumber, for Mechanical Division; 169 pieces oak lumber, for Atlantic Division; nine pieces oak lumber, for Sixth Division; 23 barrels rosin, for stock.

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Rainfall, Dec. 1 to Dec. 27, 1913, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	1.27	12	4.84
Balboa	1.36	12	3 72
*Miraflores	1.60	12	4.38
Pedro Miguel	1.24	12	2.14
Rio Grande	.90	12	1.58
Central Section—			
Culebra	.81	12	1.48
*Camacho	.61	8	1.98
Empire	.74	12	2.01
Gamboa	.80	12	1.82
*Juan Mina	.65	12	1 54
Alhajuela	.39	10	1.59
*El Vigia	.30	21	.99
Frijoles	1.29	12	4.58
*Monte Lirio	2.21	12	7.09
Atlantic Section—			
Gatun	2.54	1	7.47
*Brazos Brook	3.75	1	12.24
Colon	1.85	21	6 40
†Porto Bello	3.02	18	9.67

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight. †To 5 p. m., December 26.

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Stages of the Chagres River, Gatun, and Miraflores Lakes.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes for the week ending midnight, Saturday, December 27, 1913. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.					
	Vigia.	Alhajuela	Gamboa	Frijoles	Gatun Lake	Miraflores Lake
Sun., Dec. 21	127.8	94.0	84.2	84 3	84 3	50.9
Mon., Dec. 22	127.6	94 0	84.4	84.4	84.4	51.0
Tues., Dec. 23	127 0	93.4	84.4	84 5	84 5	51.1
Wed., Dec. 24	126.4	93.0	84 5	84 6	84.6	50.9
Thurs., Dec. 25	126.3	92.8	84 6	84 6	84.6	50.8
Fri., Dec. 26	126 2	92 8	84 6	84 6	84.6	50.9
Sat., Dec. 27	126.2	92.8	84.6	84.7	84 7	50.9
Height of low water, nearest ft.	125 0	91.0				

*Sluice gates in spillway at Gatun were closed on June 27, 1913, with surface of lake at elevation 48.25 feet above sealevel.

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Tide Table.

The following table shows the time of high and low tides at Panama for the week ending January 10, 1914:

DATE.	High	Low	High	Low	High
	A.M.	A.M.	A.M.	P.M.	P.M.
January 4	......	3.00	8.49	3.12	9.14
January 5	......	3.48	9.36	4.01	10 00
January 6	......	4.42	10.32	4.56	10.54
January 7	......	5.38	11 36	5.56	11.56
			P.M.		
January 8	......	6.37	12.43	6 56	......
January 9	12.56	7.31	1.41	7.50	......
January 10	1.50	8.20	2.30	8.41	......

75th meridian time.

OFFICIAL CIRCULARS.

Changes in Fourth Division.

CULEBRA, C. Z., December 24, 1913.

CIRCULAR No. 183-z-3:

Effective January 1, 1914, the following changes in organization will be made:

The positions of resident engineer, superintendent, and assistant superintendent of the First District, and superintendent of the Second District, in the Fourth Division, Chief Engineer's Office, will be abolished.

The work remaining to be done in connection with relieving the load on the east side of the Cut north of Gold Hill, the construction of the Naos Island breakwater, and the fill at the new townsite, will be in charge of a general superintendent, Fourth Division. Mr. George A. Greenslade, inspector, will be appointed general superintendent.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Accountable Officer, Fourth Division.

CULEBRA, C. Z., December 27, 1913.

CIRCULAR No. 514-B:

Effective January 1, 1914, Mr. George A. Greenslade, general superintendent, Fourth Division, Office of the Chief Engineer, is designated an accountable officer, and as such will make returns of property now in use by the Fourth Division, instead of Mr. C. A. McIlvaine, chief clerk.

GEO. W. GOETHALS,
Chairman.

Procedure in Issuance of Property Releases.

CULEBRA, C. Z., December 23, 1913.

ALL ACCOUNTABLE OFFICERS:

So that there may be uniformity in the matter of issuance of property releases for responsible and accountable officers, the following procedure will become effective January 1, 1914:

Releases for responsible officers,—
To be issued by accountable officers.
Releases for accountable officers,—
To be issued by Examiner of Accounts.

Accountable officers will furnish the chief timekeeper, with copy to the surveying officer, with a list of all responsible officers as soon as practicable, and will furnish list of changes as same are made from time to time. The Examiner of Accounts will furnish the chief timekeeper, with copy to the surveying officer, with a list of all accountable officers, also advise him of changes as same are made from time to time.

GEO. W. GOETHALS,
Chairman.

Hours of Work and Rate of Pay of Unskilled Silver Laborers Not Working Under or With Gold Employes.

CULEBRA, C. Z., December 27, 1913.

CIRCULAR No. 229-z-8:

Effective January 2, 1914, so far as practicable, all unskilled silver labor not working under or with gold employes whose hours of work are limited to eight hours by law, shall be put on a nine, or preferably a 10-hour day, in which case the pay shall be 10 cents an hour. This rate shall apply to all West Indians, East Indians, and Central and South American common labor.

It is not considered necessary or desirable to employ European unskilled labor on a 10-hour day at a greater rate than 16 cents an hour, and it is believed, by giving proper attention to the matter that where it is desired to retain European labor there will be no difficulty in doing so at the 16-cent rate for a nine or a 10-hour day.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Credits Allowed for Scrap Material.

CULEBRA, C. Z., December 27, 1913.

CIRCULAR No. 323-J:

Effective January 1, 1914, the following credits will be allowed for scrap material turned over to the Quartermaster's Department:

	Cents per lb.
Leather.............................	4
Hose.............................	2
Rubber.............................	2
Rope.............................	2

GEO. W. GOETHALS,
Chairman.

Receiving and Auditing Returns of Property.

CULEBRA, C. Z., December 29, 1913.

CIRCULAR No. 183-z-4:

Effective January 1, 1914, with the approval of the Secretary of War, the duty of receiving and auditing the returns of property, and the duty of making test checks of such property from time to time, will be transferred from the Chief Quartermaster to the Examiner of Accounts. The present regulations governing property accounts will continue in force, subject to any modifications which may be authorized by the Chairman.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Rates for Use of Sixth Division Floating Shop.

CULEBRA, C. Z., December 27, 1913.

CIRCULAR No. 169-P:

The following rates are established for the use of the floating shop of the Sixth Division:

Departments and divisions (per hour)......	$3.00
Individuals and companies (per hour).......	5.00

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Gamboa Gravel Handling Plant.

CULEBRA, C. Z., December 24, 1913.

LIEUT. F. MEARS, *General Superintendent,*
Panama Railroad Company,
Cristobal, C. Z.

Sir—In reply to your letter of the 20th instant, file 219-7, relative to the gravel handling plant at Gamboa, I beg to state that as the engineering department of the Panama Railroad Company is to continue under you for the present, the Panama Railroad Company will run the gravel plant and you can go ahead and make your arrangements for operating same.

Respectfully,
GEO. W. GOETHALS,
Chairman.

Panama Railroad Changes.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., December 30, 1913.

CIRCULAR No. 326:

To all concerned—Effective January 1, 1914, the following changes have been made in organization: The positions of terminal trainmaster, Colon and Panama, will be abolished. Mr. F. R. Blunt will be appointed trainmaster for the Panama Railroad Company, reporting to this office. Mr. E. S. Waid will be appointed general yardmaster, Colon and Cristobal yards, and Mr. S. W. Heald will be appointed general yardmaster, Panama and Balboa yards, reporting to the trainmaster.

F. MEARS,
General Superintendent.

Approved:
GEO. W. GOETHALS,
President.

Operation of Single Track from Caimito to Gamboa Cabin.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., December 27, 1913.

G. S. BULLETIN No. 27:

All concerned—Effective 12.30 p. m., Monday, December 29, 1913, rule No. 15 in time table No. 16 is annulled, and single track will be operated from Caimito cabin to Gamboa cabin, as follows: Present north main will be used Caimito cabin to old dump No. 6, and south main dump No. 6, to Gamboa. Present south main will be cut into north main near dump No. 7, to form Caimito passing track. Southward trains taking siding at Caimito will head in at Caimito interlocking plant.

F. MEARS,
General Superintendent.

Card Passes.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT.
COLON, R. P., December 29, 1913.

CIRCULAR No. 322:

All concerned—All January, 1913 card passes will be honored for passage up to and including January 15, 1914.

F. MEARS.
General Superintendent.

Sailing of the "Cristobal."

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P. December 26, 1913.

CIRCULAR No. 319:

To all concerned—The sailing date of the steamer *Cristobal* has been set for 3 p. m. on Saturday, January 3, 1914, from Pier 11, Cristobal.

F. MEARS,
General Superintendent.

Police Station at Las Cascadas Abandoned.

DEPARTMENT OF CIVIL ADMINISTRATION,
DIVISION OF POLICE AND PRISONS,
ANCON, C. Z., December 15, 1913.

GENERAL ORDER No. 1802:

Effective this date, the police station at Las Cascadas, C. Z., will be abandoned, and the necessary protection for that town will be furnished from Empire central station.

All property of the Quartermaster's Department on hand in excess of the requirements should be turned in. The property of the Department of Civil Administration, records, and files, should be forwarded to Empire central station.

C. W. BARBER,
Chief of Division.

Automobile Tariff.

ANCON, C. Z., December 19, 1913.

Under the authority vested in me by the Ordinance enacted by the Isthmian Canal Commission on August 25, 1910, and approved by the Secretary of War on December 3, 1910, I hereby amend the schedule of rates for the transportation of passengers over Canal Zone streets and roads, established in the Orders of the Chairman, in charge of Department of Civil Administration, dated July 10, 1913, as follows:

RATES BY THE HOUR.

(*All rates in United States currency.*)

CAPACITY OF CAR.	For first hour	For each hour thereafter
5 passengers..................	$4.00	$3.00
6 passengers..................	5.00	4.00
7 passengers..................	6.00	5.00

For cars having a seating capacity less than that above indicated, the rate for the first hour shall not exceed $1 for *each passenger* carried, exclusive of the chauffeur, and for each hour thereafter $1 less than the first hourly rate for the car.

For any car having a normal seating capacity of more than seven passengers, the charge shall be computed for the first hour at a rate not to exceed $1 for each passenger for which such car has a normal seating capacity, *not including the chauffeur*, and for each hour thereafter $1 less than the first hourly rate.

LOCAL POINT RATES- CANAL ZONE AND CITY OF PANAMA.

Where automobiles engage in the business of carrying one or more passengers between the points shown in the following table, and such automobiles are not hired upon an hourly basis, the charges for transportation furnished between such points shall not be in excess of those hereinafter prescribed.

PANAMA, ANCON, AND BALBOA.

BETWEEN ANY POINT IN	AND	*U.S. currency.*
Ancon or Panama.	Any other point in Ancon (outside of hospital reservation) or Panama. One way—For each person....	$0.50
Ancon or Panama.	Balboa docks and return:	
	5-passenger car.........	3.50
	6-passenger car.........	4.00
	7-passenger car.........	4.50
	No reduction for one way.	
Ancon or Panama.	Old Panama and return:	
	5-passenger car.........	4.00
	6-passenger car.........	5.00
	7-passenger car.........	6.00

NOTE.—The rate to Old Panama and return is that above shown, provided the time consumed does not exceed one (1) hour, in which case the charge should be computed upon the hourly basis.

The rates hereinabove prescribed are made reciprocal between points in the Canal Zone and the city of Colon by Ordinance No. 50, enacted by the Municipal Council of Colon on November 20, 1913, and between points in the Canal Zone and the city of Panama by Decree No. 23 of October 30, 1913, of the Alcalde of the Municipal District of Panama, and become effective in the Canal Zone after publication in two consecutive issues of THE CANAL RECORD.

RICHARD L. METCALFE,
Head of Department of Civil Administration.

Misdirected Letters.

ANCON, C. Z., December 31, 1913.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressee:

Biyan, Samuel
Burns, Walter
Chiotis, Nick
Church, Rebecca
Dunn, John
Edwards, Mrs. R.
Eldridge, Guy
Elliott, Mrs. William
Hess, James A.
Hider, George Turner
Janniere, Moses E.
Kewitz, Gus (pkg.)
Lockett, James McDonald
McLean, Duncan
Melnn, Guy H.
Moran, W. M.
Nellis, W. H.
Ryan, Michael J.
Sanders, E.
Stanton, Mrs. Clara
Swanson, Mrs. Anna (pkg.)
Townsend, Harold
Weinrich, Wm.
Wilby, George (2)
Knight, Hubert

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LOST—On Sunday, December 21, probably on Central avenue, Canal medal No. 1,216, service bar No. 742, and service bar No. 495, belonging to James M. Carpprow, inspector, Health Office, Panama, Finder is kindly requested to leave same at the Health Office, or to communicate with Mr. Carpprow at Ancon, C. Z.

COMMISSARY DEPARTMENT.

The commissary stores are open during the following hours:

Cristobal, 8 a. m., to 12.30 p. m., and 2 to 7 p. m.

Balboa, 8 a. m. to 12.30 p. m., and 2.30 to 7 p. m.

Ancon, 8 a. m. to 1 p. m., and 3 to 6 p. m.

All others, 8 a. m. to 1 p. m., and 3 to 7 p. m.

Retail prices of cold storage provisions for the week beginning January 1, 1914:

FRESH MEATS.	Price.
Mutton—Stewing, per pound	7
Shoulder, neck trimmed off (4 pounds and over), per pound	9
Entire forequarter (not trimmed, 10 pounds and over), per pound	8
Legs (8 to 10 pounds), per pound	17
Cutlets, per pound	18
Short cut chops, per pound	20
Lamb—Stewing, per pound	8
Entire forequarter, neck trimmed off, per pound	10
Legs (5 to 8 pounds), per pound	20
Chops, per pound	24
Cutlets, per pound	24
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	17
Chops, per pound	26
Loin, for roasting, per pound	26
Cutlets, per pound	30
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	8
Plate, per pound	9
Corned, No. 1, per pound	14
Corned, No. 2, per pound	12
Chuck roast, 3 lbs. and over, per pound.	12
Rib roast, second cut (not under 3½ pounds), per pound	16
Rib roast, first cut (not under 3 pounds), per pound	18
Pot roast, per pound	19
Rump roast, per pound	19
Porterhouse roast, per pound	20
Steak, Chuck, per pound	12½
Round, per pound	13
Rib, per pound	18
Sirloin, per pound	19
Rump, per pound	19
Porterhouse (not less than 1½ pounds), per pound	20
Tenderloin (Western), per pound.	30
Pork—Hams, fresh, per pound	§20
Loin chops or roast, per pound	19
Shoulders, fresh, per pound	§17
Spare ribs, per pound	15
Backbones, per pound	15
Pigs' feet, each	7
Pigs' head, whole	60
Pigs' head, ½-head	30
Sausage, homemade, per pound	20

MISCELLANEOUS.	
Livers—Beef, per pound	11
Calf, each	60
Half, each	30
Steak, Hamburger, package	13
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Devonshire Farm, per pound	20
Sweetbread, beef, per pound	34
Eggs, fresh, per dozen	44
per ½-dozen	22
Bluefish, per pound	11
Halibut, fresh, per pound	12
Salmon, per pound	12
Roe shad, each	75
Shad roes, pair	40
Oysters, per quart	*28
per gallon	1.52

POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, large, each	1.40
Fancy roasting, milk fed, med., each.	1.10
Fancy roasting, corn fed, about 5½ pounds, each	1.25
Fancy roasting, corn fed, about 4½ pounds each	1.00
Fowls, each ††60, 70, 80, 90, and	1.00
Ducks, Western (about 4½ pounds), each	1.25
Capons, about 8½ lbs., each	3.00
Broilers, milk fed, each	70
Broilers, corn fed, each	60
Turkeys, per pound	25
Squabs, each	50
Rabbits, skinned and unskinned, each	30
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30

CURED AND PICKLED MEATS.	
Ham—Real York and Cumberland, per pound.	37
Genuine Westphalia, per pound	40
Sugar cured, per pound	20
Sliced, per pound	22
Half, for boiling, per pound	21
Boiled, per pound	28
Hocks, per pound	†8
Beef, salt, family, per pound	12
Bacon—Breakfast, whole piece, per pound	25
Sliced, per pound	26
Ham, lunch, per pound	32
Pork, salt, family, per pound	14
Ox tongues, each	1.00
Pigs' feet, per pound	7
Tongues, per pound	18

DAIRY PRODUCTS.	Price.
Butter—Creamery, special, per pound	40
Sheffield Farms, extra fancy, per lb	46
Cheese—Philadelphia cream, cake	10
Roquefort, per pound	35
Young America, per pound	22
Swiss, per pound	28
Edam, each	75
Edam, tin	25
Parmesan, per pound	35
Gouda, per pound	30
Snappy, per cake	10
Milk (certified), per bottle	**20
Fer-mil-lac, bottle	**20
Ice cream, quart	‡25
½-gallon	‡50

VEGETABLES AND FRUITS.	
Brussels sprouts, per quart	15
Beets, per pound	3
Celery, per head	7
Cabbage, per pound	3½
Cucumbers, per pound	10
Carrots, per pound	3
Cauliflower, per pound	8
Lettuce, per pound	8
Onions, per pound	3
Potatoes, white, per pound	3
sweet, tropical, per pound	2
Potatoes, sweet, Jersey, per pound	4
Parsley, per bunch	5
Parsnips, per pound	4
Peppers, per pound	16
Radishes, per pound	7
Squash, per pound	3½
Turnips, per pound	3
Tomatoes, per pound	10
Yams, per pound	3
Apples, per pound	6
Grapes, Malaga and Tokay, per pound	15
Cranberries, per pound	9
Grapefruit, American, each	7
Grapefruit, tropical, each	4
Lemons, per dozen	24
Limes, per hundred	80
Pears, per pound	7
Papayas, per pound	3
Oranges, Jamaican, per dozen	12
Tangerines, each	2

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

††Fowls weigh each, about, as follows: 3, 3½, 4, 4½, and 5 pounds. Prices are based accordingly; when size ordered is not in stock, next lightest weight is supplied and refund note sent for difference.

‡Sold only from commissaries; no orders taken for delivery.

§Not less than half of a fresh ham or shoulder will be sold.

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Schedule of Rates for I. C. C. and P. R. R. Employes on United Fruit Company Vessels.

Passenger fares for employes of the Isthmian Canal Commission and Panama Railroad Company on United Fruit Company's steamers, from January 1 to April 30, 1914, will be, as follows:

COLON TO NEW YORK.

Steamers *Almirante*, *Metapan*, *Santa Marta*, and *Zacapa*:

Staterooms 37, 38, 39, 40, 41, 42, 43, 31	$56.25
Staterooms 1, 2, 25, 36	61.25
Staterooms 23, 24, 32, 33, 34, 35	66.25
Staterooms 5, 6, 7, 8, 26, 27, 28, 29, 30	71.25
Staterooms 18, 19, 20, 21, 22	76.25
Staterooms 3, 4, 16, 17	81.25
Staterooms 9, 10, 11, 12, 14, 15	86.25

Staterooms with private bath and suites not sold for less than two full fares. Rates for one person, or two in a room or suite, $197.50 to $312.50 depending upon size and location of room.

COLON TO BOSTON.

Steamers *Carrillo*, *Sixaola* and *Tivives:*

Staterooms 38, 39	$56.25
Staterooms 1, 2, 36, 37	61.25
Staterooms 5, 6, 7, 8, 26, 27, 28, 29, 30	71.25
Staterooms 23, 24, 25, 32, 33, 34, 35	66.25
Staterooms 18, 19, 20, 21, 22	76.25
Staterooms 3, 4, 16, 17	81.25
Staterooms 9, 10, 11, 12, 14, 15	86.25

Staterooms with private bath and suites same as for New York.

COLON TO NEW ORLEANS.

Steamers *Cartago*, *Heredia*, and *Parismina:*

Staterooms 27, 28, 30, 31	$45.00
Staterooms 1, 2, 3, 4, 5, 6, 7, 8, 9, 10	50.00
Staterooms 12 to 22, inclusive	55.00
Staterooms 23, 24, 25, 26, 29, 33, 34, 35, 36	55.00
Staterooms 11, 32	60.00

Rates for one person, or two, in a suite $165. Suites will not be sold for less than two full fares.

Steamers *Atenas* and *Turrialba:*

Staterooms 27, 33, 34, 39, 40, 41, 42	$45.00
Staterooms 1, 15, 14, 26, 28, 29, 30, 31, 32, 35	50.00
Staterooms 36, 37, 38	50.00
Staterooms 3, 4, 5, 17, 18, 19, 10, 11, 12, 24. 25	55.00
Staterooms 2, 16, 6, 7, 8, 9, 20, 21, 22, 23	60.00

Rates for suites same as for steamers *Cartago*, *Heredia*, and *Parismina*.

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings of the Panama Railroad Steamship Company; of the Royal Mail Steam Packet Company; of the Hamburg-American Line; and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.

*Panama	P. R. R.	Tuesday	Dec.	23
*Allianca	P. R. R.	Tuesday	Dec.	30
*Colon	P. R. R.	Tuesday	Jan.	6
*Advance	P. R. R.	Monday	Jan.	12
*Panama	P. R. R.	Monday	Jan.	19
*Allianca	P. R. R.	Saturday	Jan.	24
*Colon	P. R. R.	Friday	Jan.	30
*Advance	P. R. R.	Thursday	Feb.	5

CRISTOBAL TO NEW YORK.

†Panama	P. R. R.	Monday	Jan.	5
†Allianca	P. R. R.	Sunday	Jan.	11
†Colon	P. R. R.	Sunday	Jan.	18
†Advance	P. R. R.	Saturday	Jan.	24
†Panama	P. R. R.	Friday	Jan.	30
†Allianca	P. R. R.	Thursday	Feb.	5
†Colon	P. R. R.	Wednesday	Feb.	11
†Advance	P. R. R.	Tuesday	Feb.	17

NEW YORK TO COLON.

*Santa Marta	U. F. C.	Wednesday	Dec.	24
*Carl Schurz	H.-A.	Saturday	Dec.	27
*Metapan	U. F. C.	Wednesday	Dec.	31
*Prinz Aug. Wilhelm	H.-A.	Saturday	Jan.	3
*Pastores	U. F. C.	Saturday	Jan.	3
*Danube	R. M.	Saturday	Jan.	3
*Zacapa	U. F. C.	Wednesday	Jan.	7
*Emil L. Boas	H.-A.	Saturday	Jan.	10
*Tagus	R. M.	Saturday	Jan.	17
*Calamares	H.-A.	Saturday	Jan.	17
*Prinz Joachim	H.-A.	Saturday	Jan.	17

COLON TO NEW YORK.

Almirante	U. F. C.	Thursday	Jan.	1
Prinz Joachim	H.-A.	Tuesday	Jan.	6
Carrillo	U. F. C.	Tuesday	Jan.	6
Tagus	R. M	Tuesday	Jan.	6
Santa Marta	U. F. C.	Thursday	Jan.	8
Pastores	U. F. C.	Sunday	Jan.	11
Carl Schurz	H.-A.	Tuesday	Jan.	13
Pastores	U. F. C.	Tuesday	Jan.	13
Metapan	U. F. C.	Thursday	Jan.	15
Tenadores	U. F. C.	Sunday	Jan.	18
Prinz August Wilhelm	H.-A.	Tuesday	Jan.	20
Oruba	R. M.	Tuesday	Jan.	20
†Zacapa	U. F. C.	Thursday	Jan.	22
Calamares	U. F. C.	Sunday	Jan.	25
Emil L. Boas	H.-A.	Tuesday	Jan.	27
Almirante	U. F. C.	Thursday	Jan.	29
Pastores	U. F. C.	Sunday	Feb.	3
Trent	R. M.	Tuesday	Feb.	3
Prinz Joachim	H.-A.	Tuesday	Feb.	3

NEW ORLEANS TO COLON.

*Abangarez	U. F. C.	Saturday	Dec.	27
*Heredia	U. F. C.	Wednesday	Dec.	31
*Atenas	U. F. C.	Saturday	Jan.	3
*Parismina	U. F. C.	Wednesday	Jan.	7
*Turrialba	U. F. C.	Saturday	Jan.	10

COLON TO NEW ORLEANS.

†Turrialba	U. F. C.	Thursday	Jan.	1
‡Cartago	U. F. C.	Saturday	Jan.	3
†Abangarez	U. F. C.	Thursday	Jan.	8
‡Heredia	U. F. C.	Saturday	Jan.	10

BOSTON TO COLON.

Tivives	U. F. C.	Thursday	Jan.	1
Sixaola	U. F. C.	Thursday	Jan.	8
Carrillo	U. F. C.	Thursday	Jan.	15

COLON TO BOSTON.

Carrillo	U. F. C.	Sunday	Jan.	4
Tivives	U. F. C.	Sunday	Jan.	11
Sixaola	U. F. C.	Sunday	Jan.	18

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Arkansas, Alabama, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 1 p. m.; for Southampton, on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays and Saturdays at 3 p. m.; ships for New York via Kingston, on Tuesdays at 1.30 p. m., and Thursdays at 1.30 p. m.; for Bocas del Toro, on Mondays at 5 p. m.; for Limon, via Bocas del Toro, on Tuesdays at 5 p. m.; and for Limon direct, Tuesdays at 3 p. m.

Hamburg-American steamers sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays; the *Prinz August Wilhelm* and the *Prinz Joachim* at 10 a. m.; the *Carl Schurz* and the *Emil L. Boas* at 2 p. m.

STATEMENT OF

CONSTRUCTION EXPENDITURES

TO SEPTEMBER 30, 1913

(Part II of The Canal Record, December 31, 1913.)

STATEMENT OF CONSTRUCTION EXPENDITURES TO SEPTEMBER 30, 1913.

Table No. 1.

Includes administrative and general expenses, but does not include "General Items" or expenditures for sanitation, hospitals, or civil administration.

Items.	First Quarter, Fiscal Year 1914.			To June 30, 1913.			Total to Sept. 30, 1913.		
	Quantities.	Amount.	Unit Cost.	Quantities.	Amount.	Unit Cost.	Quantities.	Amount.	Unit Cost.
From and Including Gatun to the Sea—	*Cubic Yards.*			*Cubic Yards.*			*Cubic ɜards.*		
1 Dry excavation, prism				2,181,998	$1,471,209.13	$0.6742	2,181,998	$1,471,209.13	$0.6742
2 Hydraulic excavation, prism				29,605	11,671.32	0.3942	29,605	11,671.32	0.3942
3 Dredging excavation, prism	1.863.787	$359,080.28	$0.1937	35,826,363	8.431,950.50	.2353	37,690,150	8,791,030.78	0.2332
Gatun Spillway—									
4 Dry excavation				1,544,202	$1,099,661.65	$0.7121	1,544,202	$1,099,661.65	$0.7121
5 Preparing foundations	444	$1,691.97	$3.8107	44,266	97,018.53	2.1917	44,710	98,710.50	2.2077
6 Masonry	5,741	42,007.06	7.3170	224,132	1,786,587.02	7.9711	229,873	1,828,594.08	7.9548
7 Ironwork		10,614.15			155,035.44			165,649.59	
8 Gates		15,687.37			76,470.83			92,158.20	
9 Operating machinery		4,605.36			92,764.29			97,369.65	
10 Backfilling	273	122.57	.4490	24,716	12,456.18	.5040	24,989	12,578.75	.5033
Total Gatun Spillway		$74,728.48			$3,319,993.94			$3,394,722.42	
Gatun Dam—									
11 Dredging excavation				38,425	$20,041.19	$0.5216	38,425	$20,041.19	$0.5216
12 Dry Filling	190,213	$68,317.72	$0.3591	11,914,944	5,202,701.92	.4366	12,104,157	5,271,019.64	.4354
13 Hydraulic Filling				10,728,965	3,203,669.47	.2986	10,728,965	3,203,669.47	.2986
14 Paving excavation				15,078	35,555.78	2.3581	15,075	35,555.78	2.3581
15 Paving Riprap	9,860	19,386.12	1.9661	68,730	47,385.66	.4644	78,590	66,771.78	.8496
16 Paving Broken Stone				15,740	40,652.92	2.5828	15,740	40,652.92	2.5828
17 East Saddle Dam, Dry Filling	2,978	1,462.53	4911				2,978	1,462.53	.4911
18 Surfacing (square yards)	78,630	3,437.88	.0437	225,460	5,327.30	.0236	304,090	8,765.18	.0288
Total Gatun Dam		$92,604.25			$8,555.334.24			$8.647,938.49	
Gatun Locks—									
19 Dry excavation				4,660,055	3,155,572.44	$0.6771	4,660,055	$3,155,572.44	$0.6771
20 Dredging excavation				1,756,977	561,923.85	.3198	1,756,977	561,923.85	.3198
21 Preparing foundations—excavation				228,376	453,999.02	1.9879	228,376	453,999.02	1.9879
22 Preparing foundations—dredging				19,814	39,720.50	2.0047	19,814	39,720.50	2.0047
23 Preparing foundations—filling				41,661	16,514.47	.3964	41,661	16,514.47	.3964
24 Preparing foundations—piles, concrete (lineal feet)		$3,337.76		83,670	138,405.36	1.6542	83,670	141,743.12	1.6941
25 Preparing foundations—piles, wooden (lineal feet)				251,199	164,612.79	.6532	251,199	164,612.79	.6532
26 Masonry, Mass	441	35,251.98	79.9364	2,040,715	15,189,953.37	7.4434	2,041,156	15,225,205.35	7.4591
27 Masonry, Machine installation	8,305	64,006.51	7.7069	16,706	245,700.57	14.7073	25,011	309,707.08	12.3828
28 Ironwork		2,378.23			1,352,190.40			1,354,568.63	
29 Gates and fender chains		113,184.39			2,294,792.97			2,407,977.36	
30 Emergency Dams		20,109.58			822,678.74			842,788.32	
31 Operating machinery		229,630.36			2,462,985.94			2,692,616.30	
32 Control House, masonry	90	4,178.05	46.4227	568	16,713.94	29.4260	658	20,891.99	31.7507
33 Control House, ironwork and misc.		14,830.55			3,573.57			18,404.12	
34 Control House, machinery installation		15,222.76			20.84			15,243.60	
35 Buffer timbers		8,215.32			9,560.65			17,775.97	
36 Crib Fenders		15,158.13			11,297.08			26,455.21	
37 Backfilling	66,929	76,971.19	1.1500	2,027,830	1,022,061.26	.5040	2,094,759	1,099,032.45	
38 Filling center wall		**608.67**		113,163	91,753.09	.8108	113,163	91,144.42	.8054
39 Filling around south app. wall—dry				7,072	3,777.71	.5342	7,072	3,777.61	.5342
40 Filling around south app. wall—hyd				594,495	94,077.49	.1582	594,495	94,077.49	.1582
41 Cleaning up		24,442.58						24,442.58	
Total Gatun Locks		$626,308.72			$28,151,885.95			$28,778,194.67	
Gatun hydroelectric power plant—									
42 Dry excavation				87,067	$35,310.45	$0.4056	87,067	$35,310.45	$0.4056
43 Preparing foundations	25	$732.86	29.3144	11,684	23,127.19	1.9794	11,709	23,860.05	2.0378
44 Masonry substructure	1,207	7,106.38	5.8876	5,068	45,846.53	9.0463	6,275	52,952.91	8.4387
45 Masonry superstructure	1,020	33,357.42	32.7034		2,175.89		1,020	35,533.31	34.8365
46 Miscellaneous construction		19,220.54			48,237.97			67,458.51	
47 Operating machinery		21,625.19			209.404.82			231,030.01	
Total, hydroelectric power plant		$82,042.39			$364,102.85			$446,145.24	
Gatun-Mindi levee—									
48 Dry filling	26,365	$12,416.46	$0.4709	177,158	$68,985.15	$0.3894	203,523	$81,401.61	$0.3999
49 Hydraulic filling				20,398	3,483.32	.1708	20,398	3,483.32	.1708
Total, Gatun-Mindi levee		$12,416.46			$72,468.47			$84,884.93	
50 Colon breakwater—west	71,265	$368,660.16	$5.1730	1,068,825	$2,636,178.85	$2.4664	1,140,090	$3,004,839.01	$2.6356
51 Clearing drift from Gatun lake		334.99			5,683.27			6,018.26	
Total construction cost, Gatun to sea		$1,616,175.73			$53,020,478.52			$54,636,654.25	
Plant and equipment to be absorbed in construction costs after Sept. 30, 1913								284,552.60	
Total expenditures, Gatun to the sea								$54,921,206.85	
Gatun to Pedro Miguel—									
52 Dry excavation—prism	2,032,700	$1,431,503.25	$7.0423	107,139,181	$83,976,532.57	$0.7838	109,171,881	$85,408,035.82	$0.7823
53 Dredging excavation—prism	48,939	48,947.18	1.0001		9,981.87		48,939	58,929.05	1.2041
54 Hydraulic excavation—prism	346,500	76,910.04	2.2196	57,274	10,511.46	.1835	403,774	87,421.50	.2165
55 Clearing Canal line without exca. (acres)		5,820.03		2,530	149,351.22	59.0321	2,530	155,171.25	61.3325
56 Masonry				1,271	8,353.66	6.5721	1,271	8,353.66	6.5721
57 Facing—cement gun, square yards				4,250	4,079.11	.9598	4,250	4,079.11	.9598
Total cons. cost, Gatun to Pedro Mig'l		$1,563,180.50			$84,158,809.89			$85,721,990.39	
Plant and equipment to be absorbed in const. costs after Sept. 30, 1913								75,739.52	
Total expenditure Gatun to Pedro Mig'l								$85,797,729.91	
From and including Pedro Mig'l to the Sea—									
58 Dry excavation, prism	306,700	$250,228.33	$0.8159	4,513,269	$3,325,837.06	$0.7369	4,819,969	$3,576,065.39	$0.7419
59 Hydraulic excavation, prism				1,549,904	1,120,907.35	.7232	1,549,904	1,120,907.35	.7232
60 Dredging excavation, prism	2,065,144	415,061.64	.2009	36,793,215	9,396,545.75	.2554	38,858,359	9,811,607.39	.2525
Pedro Miguel Dams—									
61 Dry excavation				10,475	$20,125.17	$1.9213	10,475	$20,125.17	$1.9213
62 Dry filling	2,960	$3,714.79	$1.2550	696,558	333,075.70	.4782	299,518	336,790.49	1.1244
63 Masonry				1,567	8,441.82	5.3872	1,567	8,441.82	5.3872
Total Pedro Miguel Dams		$3,714.79			$361,642.69			$365,357.48	
Pedro Miguel Locks—									
64 Dry excavation				1,133,280	$1,033,574.05	$0.9120	1,133,280	$1,033,574.05	$0.9120
65 Preparing foundations		$19.45		175,987	479,407.34	2.7241	175,987	479,426.79	2.7242
66 Masonry Mass	466	13,559.66	29.0980	906,088	5,320,391.53	5.8718	906,554	5,333,951.19	5.8838
67 Masonry, Machinery installation	4,386	39,343.31	8.9702	10,190	135,157.00	13.2637	14,576	174,500.31	11.9716
68 Iron work		**4,666.87**			671,221.27			666,554.40	
69 Gates		75,075.40			1,382,239.67			1,457,315.07	
70 Emergency Dams		108,807.59			512,862.49			621,670.08	

Bold face type indicates credit.

(Table 1—*Continued.*)

ITEMS.	FIRST QUARTER, FISCAL YEAR 1914.			TO JUNE 30, 1913.			TOTAL TO SEPTEMBER, 30, 1913.		
	Quantities.	Amount.	Unit Cost.	Quantities.	Amount.	Unit Cost.	Quantities.	Amount.	Unit Cost.
71 Operating machinery		$9,7572.57			$1,283,624.37			$1,381,196.94	
72 Control House, masonry	340	19,062.39	56.0659	205	8,568.96	41.7990	545	27,631.35	$50.6997
73 Control House woodwork and misc		9,685.83			5,661.90			15,347.73	
74 Control House, machinery installation		956.85			3.46			960.31	
75 Buffer timbers		7,843.46			9,813.61			17,657.07	
76 Crib fenders		21,102.05						21,102.05	
77 Backfilling	8,940	9,123.61	1.0205	806,538	337,715.54	.4187	815,478	346,839.15	.4253
78 Filling center wall	1,990	5,531.58	2.7797	215,149	103,785.65	.4824	217,139	109,317.23	.5034
79 Cleaning up		15,937.19						15,937.19	
Total Pedro Miguel Locks		$418,954.07			$11,284,026.84			$11,702,980.91	
Miraflores east dam and spillway—									
80 Dry excavation		$4,293.95		134,671	$243,655.43	1.8093	134,671	$247,949.38	$1.8411
81 Masony, Mass	9,340	100,775.94		64,142	400,912.25	6.2504	73,482	501,688.19	6.8274
82 Masonry, machinery installation	44	2,673.20	60.7545				44	2,673.20	60.7545
83 Ironwork		6,862.95			24,322.79			31,185.74	
84 Gates and caissons		7,562.91			40,625.69			48,188.60	
85 Operating machinery		27,224.72			65,645.54			92,870.26	
86 Cleaning up		1,478.96						1,478.96	
Total, Miraflores east dam, and spillway		$150,872.63			$775,161.70			$926,034.33	
Miraflores west dam—									
87 Dry excavation				24,459	$25,681.77	$1.0500	24,459	$25,681.77	$1.0500
88 Dry filling	48,640	$24,267.05	$0.5065	1,659,999	806,387.14	.4858	1,708,639	831,024.19	.4864
89 Hydraulic filling		6,383.37			52,960.94			59,344.31	
90 Masonry				4,403	21,408.95	4.8624	4,403	21,408.95	4.8624
Total Miraflores West Dam		$31,020.42			$906,438.80			$937,459.22	
Miraflores Locks—									
91 Dry excavation, Diversions				5,885	$2,028.98	$0.3448	5,885	$2,028.98	$0.3448
92 Dry excavation in lock site				2,222,582	2,065,386.14	.9293	2,222,582	2,065,386.14	.9293
93 Dredging excavation				309,647	142,379.66	.4598	309,647	142,379.66	.4598
94 Hydraulic excavation				332,703	195,299.02	.5870	332,703	195,299.02	.5870
95 Preparing foundations—excavation				415,981	793,116.52	1.9066	415,981	793,116.52	1.9066
96 Preparing foundation—wood piles (l.f.)		**$1,623.92**		44,705	60,498.68	1.3533	44,705	58,874.76	1.3170
97 Masonry—Mass	2,184	41,128.99	18.8319	1,476,895	7,886,115.11	5.3397	1,479,079	7,927,244.10	5.3596
98 Masonry—machinery installation	7,170	76,355.48	10.6492	9,814	119,658.39	12.1926	16,984	196,013.87	11.5411
99 Iron work		7,097.31			928,246.94			935,344.25	
100 Gates		120,364.52			1,251,491.23			1,371,855.75	
101 Emergency dams		208,089.70			39,357.44			247,447.14	
102 Operating machinery		244,955.69			1,496,138.04			1,741,093.73	
103 Control house—masonry	200	11,114.59	55.5730				200	11,114.59	55.5730
104 Control house—iron work and misc		5,833.52						5,833.52	
105 Control house—machinery installation		4.73						4.73	
106 Buffer timbers		450.79			6,985.13			7,435.92	
107 Crib fenders		38,397.31						38,397.31	
108 Backfilling	119,321	86,737.97	.7275	2,006,054	754,786.18	.3763	2,125,275	841,524.15	.3960
109 Filling center wall	89,442	52,162.85	.5832	157,312	103,616.58	.6591	246,655	155,779.43	.6316
110 Cleaning up		27,025.43						27,025.43	
Total, Miraflores locks		$918,094.96			$15,845,104.04			$16,763,199.00	
La Boca locks and dams (abandoned)									
111 Dry excavation				78,233	$158,343.29	$2.0240	78,233	$158,343.29	$2.0240
112 Construction—dams					315,350.07			315,350.07	
113 Construction—locks					159,306.40			159,306.40	
Total, LaBoca locks and dams					$632,999.76			$632,999.76	
Naos Island breakwater	112,704	$26,264.05	$0.2330	1,435,158	$405,100.88	$0.6591	1,547,862	$431,364.93	$0.2787
Total const. cost, Pedro Miguel to sea		$2,214,210.89			$44,053,764.87			$46,267,975.76	
Plant and equipment to be absorbed in construction cost after Sept. 30, 1913								958,024.30	
Total expenditures, Pedro Miguel to the sea								$47,226,000.06	
Terminal facilities, Cristobal—									
114 Fuel oil tanks		$3,767.38			$13,063.59			$16,830.97	
115 Coaling Plant		70,748.11			1,424.55			72,172.66	
Total, Terminal facilities, Cristobal		$74,515.49			$14,488.14			$89,003.63	
Terminal facilities, Balboa—									
116 Preliminary work		$2,314.19			$32,277.28			$34,591 47	
Preparing site—									
117 Miscellaneous		$100,581.67			$177,024.77			$277,606.44	
118 Excavation		1,616.53		412,707	249,199.49	$0.5975	412,707	250,816.02	$0.6077
119 Filling	127,055	64,272.55	0.4980	505,419	214,798.41	.4250	632,474	279,070.96	.4412
Total, preparing site		$166,470.75			$641,022.67			$807,493.42	
120 Yards and tracks					$16,443.82			$16,443.82	
121 Dredging inner basin	695,811	$93,811.31	$0.1350	1,771,814	299,598.98	$0.1691	2,467,625	393,410.29	$0.1594
122 Main dry dock		163,025.58			151,849.43			314,875.01	
123 Coaling plant		34,317.44			54,537.12			88,854.56	
124 Sea wall					2.99			2.99	
125 Permanent shops		423,616.81			299,527.37			723,144.18	
126 Docks		258,457.35			316,865.62			575,322.97	
127 Fuel oil tanks		1,606.72			2,700.59			4,307.31	
Total const. cost, terminals, Balboa		$1,143,620.15			$1,814,825.87			$2,958,446.02	
Plant and equipment to be absorbed in construction costs after Sept. 30, 1913								$277,788.48	
Total expenditures, terminals at Balboa								$3,236,234.50	
Miscellaneous items—									
128 Permanent town site—Balboa		$20,734.26			$49,343.25			$70,077.51	
129 Permanent town site—LaBoca		84,258.26						84,258.26	
130 Permanent town site—Pedro Miguel		352.85						352.85	
Total, town sites		$105,345.37			$49,343.25			$154,688.62	
Permanent Buildings—									
131 Designing		**$13,270.12**			$20,445.51			$7,175.39	
132 Admin. Building, Balboa		36,084.60			34,295.92			70,380.52	
133 Silver employes quarters, LaBoca		9,093.88			9,147.86			18,241.74	
Total, construction permanent build'gs		$31,908.36			$63,889.29			$95,797.65	
134 Power transmission line		$220,386.53			$15,398.53			$235,785.06	
135 Trans-Isthmian oil line		2,504.04			32,054.69			34,558.73	
136 Lights and buoys		44,668.82			397,367.93			442,036.75	
Total, const. miscellaneous items		$404,813.12			$558,053.69			$962,866.81	
Plant and equipment to be absorbed in construction costs after Sept. 30, 1913								$15,165.00	
Total expenditures misc. items								$978,031.81	
Total construction expenditures								$192,248,206.76	

Bold face type indicates credit.

DAM CONSTRUCTION.

Table No. 2.

Detailed cost per cubic yard for quarter ending September 30, 1913.

	Gatun Dam.				Pedro Miguel Dam.				Miraflores Dam.			
	July	Aug.	Sept.	Total	July	Aug.	Sept.	Total	July	Aug.	Sept.	Total
Masonry, Spillway Plain—Quantities—cubic yards									6,475	2,356		8,831
Cement									$2.6345	$0.5829		$2.0872
Stone									.8899	.7812		.8609
Sand									.3501	.3500		.3500
Mixing									.4337	.5167		.4560
Wood forms									1.5330	2.5895		1.8724
Placing									1.1838	2.4018		1.5707
Reinforcements									.0001			.0001
Power									.0162	.0008		.0121
Pumping									.0561	.0592		.0571
Maintenance of equipment									.2466	.4757		.3149
Plant arbitrary												
Division expense									.3919	.6496		.4909
Total division cost									$7.7359	$8.4074		$8.0723
Administrative and general expense									1.9923	3.0026		2.4972
Total cost									$9.7282	$11.4100		$10.5695
Masonry, Spillway, Reinforced—Quantities—cu. yds.									334	175		509
Cement									$3.5925	$0.8214		$2.6397
Stone									.8536	.7488		.8176
Sand									.3500	.3520		.3507
Mixing									.2926	.4623		.3510
Placing									.7108	1.5246		.9908
Wood forms									4.8064	4.2738		4.9516
Reinforcements									1.2655	.6880		1.0710
Pumping									.0357	.0592		.0439
Maintenance of equipment									.2815	.0073		.1872
Plant arbitrary												
Power									.0383			.0251
Division expense									.8636	.8573		.9513
Total division cost									$13.0905	$9.7947		$12.3799
Administrative and general cost									1.0532	3.4253		2.2291
Total cost									$14.1437	$13.2200		$14.6090
Total Masonry, Spillway—Quantities—cubic yards									6,809	2,531		9,340
Total cost									$9.9448	$11.5351		$10.7897
Dry Fill—Quantities—cubic yards	91,885	73,797	24,531	190,213	1,210	1,750		2,960	8,350	16,600	23,690	48,640
Clearing site												
Excavation	$0.0377	$0.0321	$0.0417	$0.0360							$0.1238	$0.0603
Tracks	.0859	.0481	.1690	.0820	$0.1188	$0.1230		$0.1462	$0.2850	$0.1414	.1620	.1760
Trestles						.0556		.0329				
Transportation	.1008	.0522	.0729	.0783	.1461	.0826		.1084	.0493	.0649	.0658	.0627
Filling	.0666	.0805	.1441	.0820	.5235	.4488		.5002	.2388	.0859	.0513	.0953
Maintenance of equipment	.0143	.0338	.0624	.0281	.0985	.0267		.0561	.0558	.0251	**.0200**	.0084
Plant arbitrary					.2000	.2000		.2000				
Division expense	.0122	.0242	.0664	.0238	.0799	.0783		.0913	.0550	.0307	.0945	.0660
Total division cost	$0.3175	$0.2709	$0.5565	$0.3302	$1.1668	$1.0150		$1.1351	$0.6839	$0.3480	$0.4774	$0.4687
Administrative and general expense	.0200	.0191	.0921	.0289	.0742	.0733		.1199	.0733	.0406	.0234	.0378
Total cost	$0.3375	$0.2900	$0.6486	$0.3591	$1.2410	$1.0883		$1.2550	$0.7572	$0.3886	$0.5008	$0.5065
Paving, Placing Rip Rap—Quantities—cubic yards	4,862	4,998		9,860								
Tracks	$0.0395	$0.0969		$0.0686								
Placing	.0946	.0915		.1152								
Transportation	.4732	.2269		.3483								
Maintenance of equipment	.0264	.0552		.0410								
Plant arbitrary	1.3086	1.3602		1.3347								
Division expense	.0169	.0386		.0315								
Total division cost	$1.9592	$1.8693		$1.9393								
Administrative and general expense	.0160	.0277		.0268								
Total cost	$1.9752	$1.8970		$1.9661								
Surfacing—Quantities—square yards	33,070	15,320	30,240	78,630								
Surfacing	$0.0267	$0.0312	$0.0422	$0.0336								
Division expense	.0034	.0035	.0069	.0048								
Total division cost	$0.0301	$0.0347	$0.0491	$0.0384								
Administrative and general expense	.0032	.0026	.0093	.0053								
Total cost	$0.0333	$0.0373	$0.0584	$0.0437								

Bold-face type indicates credit.

LOCKS AND SPILLWAYS CONSTRUCTION.

Detailed cost per cubic yard for quarter ending September 30, 1913 Table No. 3.

Items.	Gatun Spillway.				Gatun Locks.				Pedro Miguel Locks.				Miraflores Locks.			
	July	Aug.	Sept.	Total.	July	Aug.	Sept.	Total	July	Aug.	Sept.	Total	July	Aug.	Sept.	Total
Preparing foundations excavation—Quan. cu. yds.	239		205	444												
Drilling																
Blasting																
Loading by power																
Loading by hand	$3.0786		$2.4419	$2.9164												
Transportation																
Tracks																
Dumps																
Pumps																
Coffer Dams																
Maintenance of equipment																
Plant arbitrary																
Division expense	.3885		.4258	.4202												
Total division cost	$3.4671		$2.8677	$3.3366												
Admin. and gen. expense	.3672		.5718	.4741												
Total cost	$3.8343		$3.4395	$3.8107												

(Table No. 3—*Continued.*)

ITEMS.	GATUN SPILLWAY.				GATUN LOCKS.				PEDRO MIGUEL LOCKS.				MIRAFLORES LOCKS.			
	June	July	Aug.	Sept.	June	July	Aug.	Sept.	June	July	Aug.	Sept.	June	July	Aug.	Sept.
Masonry. Quantities—cubic yards—	1,397	2,024	2,102	5,523	184	183	31	398	......	323	125	448	1,211	352	......	1'563
Cement	$1.0854	$1.8207	$1.2577	$1.4204	$1.7051	$1.1885	$1.2097	$1.4290	......	$0.9237	$2.5212	$1.3694	$2.6355	$0.5880	......	$2.1745
Stone	.6959	.7372	.7288	.7236	.6020	.7454	.7732	.6813	......	.7802	.8331	.7949	.8926	.7803	......	.8673
Sand	.3203	.2861	.2852	.2944	.3454	.2912	.2694	.3146	......	.3511	.3830	.3600	.3503	.2506	......	.3278
Mixing	.7826	.4994	.8159	.6915	.3308	.2090	3.1035	.4908	......	.8812	1.3341	1.0078	.2835	.4637	......	.3241
Wood forms	1.9627	2.0775	1.0612	1.6616	2.8428	**9.5545**	**11.7045**	3.3845	......	.4434	2.8060	1.2941	2.2577	4.1585	......	2.8735
Steel forms	......	......	......	......	......	......	......	......	......	......	......	......	.1467	.3603	......	.2148
Placing	1.4985	.9736	1.0404	1.1318	30.1507	42.9807	235.0790	52.0116	......	2.7680	28.0930	12.5354	.8683	20.1096	......	5.6424
Reinforcements	.0627	......	......	.0159	......	......	......	......	......	......	......	......	......	......	......	......
Pumps	......	......	......	......	......	......	......	......	......	.1702	3.3414	1.0550	.0353	.0592	......	.0408
Power	......	......	......	......	.2253	.0015	......	.1048	......	......	......	......	.0560	.0239	......	.0487
Coffer dams	.3854	.2793	.0165	.2061	......	......	......	......	......	......	......	......	......	......	......	......
Maintenance of equipment	.1262	.0972	.2145	.1492	.2424	.4726	.0874	.3362	......	.2853	1.5410	.8253	.3625	.6041	......	.4384
Plant arbitrary	.0984	......	......	.0249	......	......	......	......	......	......	......	......	......	......	......	......
Division expense	.4030	.2725	.4011	.3545	3.3497	4.6559	32.7332	6.2389	......	.5341	6.1212	2.3872	.4537	2.5655	......	1.0658
Total division cost	$7.4211	$7.0435	$5.8213	$6.6739	39.7942	40.9903	261.5509	64.9917	......	$7.1372	46.9740	$21.6291	$8.3421	29.9637	......	14.0181
Admin. and gen. expense	.6976	.6683	.6877	.6831	15.4201	10.5301	102.1723	19.9288	......	.8539	2.6620	2.7089	1.8332	4.5897	......	3.2776
Total cost	$8.1187	$7.7118	$6.5090	$7.3570	55.2143	51.5204	363.7232	84.9205	......	$7.9911	49.6360	$24.3380	10.1753	34.5534	......	17.2957
Masonry, reinforced—Quantities—cubic yds.	116	80	22	218	99	21	12	132	95	158	105	358	403	172	261	836
Cement	$1.0884	$1.8125	$1.2500	$1.3704	$1.8939	$1.8452	.$1.4000	$1.8467	$6.3796	$0.9878	$3.2015	$3.0679	$3.5337	$0.8440	$4.0622	$3.1453
Stone	.6984	.7440	.7141	.7167	.7257	.7476	.5952	.7195	.8589	.7496	.7883	.7900	.8647	.7472	.7911	.8176
Sand	.3210	.2889	.2918	.3063	.2983	.3057	.2568	.2967	.3463	.3544	.3836	.3608	.3873	.3582	.3785	.3786
Mixing	.7818	.4999	.8209	.6823	5.1298	3.2210	1.0472	4.4589	3.0177	1.6001	6.8080	3.5037	1.8096	2.0945	2.6102	2.1181
Wood forms	1.8583	......	......	.9888	19.3849	2.1276	**8.9200**	6.8267	24.1165	16.6650	12.8339	17.5187	1.0687	3.8357	21.1899	7.9198
Steel forms	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Power	......	......	......	......	.0045	......	......	.0034	......	......	......	......	.0076	......	......	.0037
Placing	1.6789	.5422	.9505	1.1882	5.6922	25.6576	44.7440	12.5882	10.0130	7.9680	14.6372	10.4667	4.1966	9.2192	6.4361	5.9291
Reinforcements	.3692	......	......	.1965	**3.7019**	**34.2452**	......	**8.2245**	6.7490	3.9176	1.7708	4.0393	.0378	......	6.6291	2.0878
Chipping to grade	......	......	......	......	6.3806	38.8815	.1736	10.9876	......	......	......	......	......	......	......	......
Pumps	......	......	......	......	......	......	......	......	.0676	.1509	3.3409	1.0644	.0347	.0541	.0636	.0477
Maintenance of equipment	.1260	.0970	.2159	.1245	.3245	2.2252	......	.5974	.0087	3.1703	.1875	1.4565	.0234	.0008	.0077	.0139
Plant arbitrary	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......
Division expense	.4080	.1125	.2727	.2858	3.1805	13.3895	9.0080	4.2345	4.7169	3.2944	10.2304	5.7062	.8631	1.8248	8.3124	3.3866
Total division cost	$7.3300	$4.0970	$4.5159	$5.8595	39.3130	54.1557	$48.3048	34.3351	56.2742	38.8581	54.1821	$47.9742	12.8272	18.9785	50.4808	25.8482
Admin. and general exp.	.5984	.2160	.4732	.4455	5.3280	32.0600	28.3800	8.3289	15.5347	6.4418	8.7931	9.5444	2.0399	4.9022	1.6736	2.5145
Total cost	$7.9281	$4.3130	$4.9891	$6.3050	44.6410	86.2157	$76.6848	42.6640	71.8089	45.2999	62.9752	57.5186	14.8671	23.8807	52.1544	28.3627
Total Masonry—Quantities—cubic yards	1,513	2,104	2,124	5,741	283	204	43	530	95	481	230	806	1,614	524	261	.2399
Total cost	$8.1044	$7.5826	$6.4932	$7.3170	51.5155	55.0920	284.5111	74.3963	94.1017	20.2464	55.7257	39.0758	11.3468	31.0502	61.9171	21.1523
Back filling—Quantities cubic yards	......	221	52	273	17,930	18,608	30,391	66,929	6,340	2.260	340	8,940	83,780	25,930	9,511	119.221
Drilling	......	......	......	......	$0.0613	$0.0369	......	$0.0267	......	......	......	......	......	......	......	......
Blasting	......	......	......	......	.0010	.0244	**$0.0138**	.0008	......	......	......	......	......	......	......	......
Loading	......	......	......	......	.0298	.0679	.0397	.0449	......	......	......	......	......	......	$0.1476	$0.0118
Tracks	......	$0.0968	......	$0.0784	.2923	.1845	.1140	.1814	$0.1949	$0.2793	$2.1877	$0.2920	$0.0963	$0.2127	.2803	.1363
Transportation	......	.2267	......	.1835	.2439	.1350	.1026	.1494	.0732	.2768	**1.3466**	.0707	.0627	.0673	.0597	.0635
Filling	......	.1067	......	.0863	.1170	.1251	.0906	.1073	.1673	.2438	1.6463	.2429	.1204	.2601	.6064	.1894
Surfacing	......	......	......	......	.2358	.2997	.1324	.2066	......	......	......	......	......	......	......	......
Paving, stone and gravel	......	......	......	......	.0090	.1763	......	.0514	......	......	......	......	......	......	......	......
Concreting	......	......	......	......	.1929	.2158	.0260	.1235	......	......	......	......	......	......	......	......
Maintenance of equipment	......	.0551	......	.0447	.0497	.0686	.0589	.0591	.0493	......	.1799	.0418	.0468	.0259	**.0164**	.0373
Plant arbitrary	......	......	......	......	......	......	......	......	.1400	.1400	.1400	.1400	.1300	.1300	.1300	.1300
Division expense	......	.0404	......	.0327	.0950	.1123	.0847	.0951	.0446	.0597	.9096	.0813	.0270	.0569	.2821	.0538
Total division cost	......	$0.5257	......	$0.4256	$1.3277	$1.4465	$0.6351	$1.0462	$0.6693	$0.9996	$3.7169	$0.8687	$0.4832	$0.7529	$1.4897	$0.6221
Admin. and general ex.	......	.0289	......	.0234	.0921	.0944	.1164	.1038	.0770	.2573	.8459	.1518	.0772	.1557	.2166	.1054
Total cost	......	$0.5546	......	$0.4490	$1.4198	$1.5409	$0.7515	$1.1500	$0.7463	$1.2569	$4.5628	$1.0205	$0.5604	$0.9086	$1.7063	$0.7275
Filling center wall—Quantities—cubic yards	......	......	......	......	......	......	......	......	540	1,450	......	1,990	36,331	53,091	......	89,422
Tracks	......	......	......	......	......	......	......	......	$0.4535	$0.1938	......	$0.2645	$0.0580	$0.0240	......	$0.0481
Transportation	......	......	......	......	......	......	......	......	.1025	.0267	......	.0473	.0527	.0381	......	.0440
Power	......	......	......	......	......	......	......	......	......	......	......	......	.0027	.0010	......	.0017
Filling	......	......	......	......	......	......	......	......	.9982	1.2189	......	1.2294	.3429	.1165	......	.2086
Maintenance of equipment	......	......	......	......	......	......	......	......	.0719	.0080	......	.0253	.0715	.0174	......	.0397
Plant arbitrary	......	......	......	......	......	......	......	......	.1400	.1400	......	.1400	.1300	.1300	......	.1300
Division expense	......	......	......	......	......	......	......	......	.1650	.0936	......	.1321	.0419	.0135	......	.0279
Total division cost	......	......	......	......	......	......	......	......	$1.9311	$1.6810	......	$1.8386	$0.6997	$0.3405	......	$0.5000
Admin. and general ex.	......	......	......	......	......	......	......	......	2.4734	.1220	......	.9411	.0836	.0565	......	.0833
Total cost	......	......	......	......	......	......	......	......	$4.4045	$1.8030	......	$2.7797	$0.7833	$0.3970	......	$0.5833

Bold-face type indicates credit.

DRY EXCAVATION—PRISM.

Table No. 4.

Detailed cost per cubic yard for quarter ending September 30, 1913

ITEM	GATUN TO PEDRO MIGUEL.				PEDRO MIGUEL TO SEA.			
	July	August	Sept.	Total	July	August	Sept.	Total
Quantities—cubic yards—	924,800	810,100	297,800	2,032,700	167,805	103,014	35,881	306,700
Clearing	......	......	......	......	$0.0001	**$0.0002**	......	......
Drilling	$0.0314	$0.0437	$0.0371	$0.0370	.0605	.0226	**$0.0026**	$0.0404
Blasing	.0375	.0380	.0448	.0389	.0403	.0262	......	.0309
Loading	.0655	.0675	.1065	.0723	.1038	.1142	.0483	.1007
Tracks	.1046	.1136	.1967	.1217	.1203	.1624	.1821	.1413
Transportation	.1365	.1176	.1989	.1380	.0704	.0764	.0587	.0709
Dumps	.0712	.0825	.1235	.0834	.0173	.0232	.0048	.0178
Pumps	.0039	.0060	.0204	.0071	.0388	.0664	.0669	.0513
Maintenance of equipment	.1019	.1118	.1767	.1169	.0223	**.0193**	**.0714**	**.0025**
Plant arbitrary	......	......	......	......	.2300	.2300	.2331	.2300
Division expense	.0141	.0132	.0341	.0167	.0372	.0523	.0820	.0474
Total Division Cost	$0.5666	$0.5939	$0.9387	$0.6320	$0.7410	$0.7542	$0.6019	$0.7282
Administrative and general expense	.0486	.0706	.1497	.0722	.0845	.0742	.1431	.0877
Total cost	$0.6152	$0.6645	$1.0884	$0.7042	$0.8255	$0.8284	$0.7450	$0.8159

Bold-face type indicates credit.

DREDGING EXCAVATION—PRISM.

Table No. 5.

Detailed cost per cubic yard for quarter ending September 30, 1913.

ITEMS.	ATLANTIC ENTRANCE.								PACIFIC ENTRANCE.							
	July.		August.		Sept.		Total.		July.		August.		Sept.		Total.	
	Quantities, cu. yds.	Unit cost.	Quantities, cu. yds.	Unit cost.	Quantities, cu. yds.	Unit cost.	Quantities, cu. yds.	Unit cost.	Quantities, cu. yds.	Unit cost.	Quantities, cu. yds.	Unit cost.	Quantities, cu. yds.	Unit cost	Quantities, cu. yds.	Unit cost.
Clearing											726,256	$0.0002	581,958	**$0.0003**		
Op'n seagoing suction dredge	262,234	$0.0376	259,807	$0.0420	163,865	$0.0536	685,906	$0.0431	378,733	$0.0257	433,147	.0258	308,655	.0252	1,120,535	$0.0256
R'prs, seagoing suction dredge	262,234	.0064	259,807	.0069	163,865	.0268	685,906	.0114	378,733	.0041	433,147	.0036	308,655	.0114	1,120,535	.0059
Op'n, small ladder dredges	21,106	.1246	38,730	.1347	48,365	.1246	108,201	.1282	188,136	.0606	135,371	.0874	127,180	.0697	450,687	0712
Repairs, small ladder dredges	21,106	.2017	38,730	.0463	48,365	.1213	108,201	.1101	188,136	.0179	135,371	.1139	127,180	.0626	450,687	0594
Op'n, 5-yard, ladder dredge									176,574	.0501	136,271	.0838	123,639	.0700	436,484	.0662
Repairs, 5-yard ladder dredge									176,574	.0425	136,271	.0181	123,639	.0392	436,484	0339
Operation, dipper dredges	66,192	.1014	13,979	1185	2,539	.3009	82,710	.1104	13,487	.2137	21,467	.1582	22,484	.1577	57,438	.1710
Repairs, dipper dredges	66,192	0720	13,979	.5331	2,539	2.5251	82,710	.2373	13,487	.2765	21,467	.1895	22,484	.1344	57,438	.1883
Operation, pipe line dredges	572.416	.0502	199,573	.0904	214,981	.0749	986,970	.0637								
Repairs, pipe line dredges	572,416	.0162	199,573	***.0022**	214,981	.0830	986,970	.0270								
Pipe lines	572,416	.0080	199,573	.0231	214.981	.0146	986,970	.0125								
Dykes	572,416															
Op'n, tugs, clapets and scows	87,298	.0824	52,709	.0633	50,904	.0988	190,911	.0815	378,197	.0618	293,109	.0810	273,303	.0918	944,609	.0765
R'p'rs, tugs, clapets, and scows	87,298	.0722	52,709	.0566	50,904	.0683	190,911	.0669	378,197	.0301	293,109	.0434	273,303	.0689	944,609	.0455
Drilling	69,341								310,052	.0004	260,799		260,712		831,563	.0001
Blasting	69,341	.0018					122,002	.0010	310,052		260,799		260,712		831,563	
Operation, drill barges									310,052	.0327	260,799	.0372	260,712	.0342	831,563	.0346
Repairs, drill barges									310,052	.0024	260,799	.0019	260,712	.0045	831,563	.0029
Operation, rock breakers									310,052	.0036	260,799	.0056	260,712	.0048	831,563	.0046
Repairs, rock breakers									310,052	.0024	260,799	.0004	260,712	.0004	831,563	.0011
Small boats	921,948	.0016	512,089	.0022	429,750	.0011	1,863,787	.0017	756,930	.0023	726,256	.0018	581,958	.0030	2,065,144	.0023
Repairs, misc. equipment	921,948	.0003	512,089	.0007	429,750	.0012	1,863,787	.0006	756,930	.0031	726,256	.0029	581,958	.0040	2,065,144	.0033
Plant arbitrary	921,948	.0482	512,089	.0482	429,750	.0482	1,863,787	.0482	756,930	0234	726,256	.0235	581,958	.0244	2,065,144	.0237
Division expense	921,948	.0059	512,089	.0075	429,750	.0041	1,863,787	.0059	756,930	.0050	726,256	.0044	581,958	.0043	2,065,144	.0046
Total division cost	921,948	$0.1495	512,089	$0.1705	429,750	$0.2379	1,863,787	$0.1757	756,930	$0.1614	726,256	$0.1838	581,958	$0 2134	2,065,144	$0.1839
Admin. and general expense	921,948	.0107	512,089	.0149	429,750	.0147	1,863,787	.0128	756,930	.0132	726,256	.0160	581,958	.0235	2,065,144	.0170
Total cost	921,948	$0.1602	512,089	$0.1854	429,750	$0.2526	1,863,787	$0.1885	756,930	$0.1746	726,256	$0.1998	581,958	$0.2369	2,065,144	$0.2009
Earth excavation—per cent	852,607	92.48	487,600	95.22	401,578	93.44	1,741,785	93.45	446,878	59.04	465,457	64.09	321,246	55.20	1,233,581	59.73
Rock excavation—per cent	69,341	7.52	24,489	4.78	28,172	6.56	122,002	6.55	310,052	40.96	260,799	35.91	260,712	44.80	831,563	40.27

Bold-face type indicates credit.

STONE PRODUCTION.

Table No. 6.

Detailed cost per cubic yard for quarter ending September 30, 1913.

	ANCON QUARRY.			
	July.	Aug.	Sept.	Total.
Quarrying—Quantities—cubic yards	31,932	43,850	35,209	110,991
Stripping	$0.0524	$0.0082	$0.0068	$.0205
Drilling	.0536	.0844	.0510	.0649
Blasting	.0611	.0618	.0863	.0693
Loading	.0743	.0746	.0774	.0754
Transportation	.1395	.0885	.0597	.0940
Tracks	.0325	.0390	.0270	.0333
Maintenance of equipment	.1911	.0578	.0761	.0120
Plant arbitrary	.0800	.0800	.0800	.0801
Total	$0.6845	$0.4943	$0.4643	$0.5395
Crushing—				
Operation of crushers	$0.0491	$0.0480	$0.0308	$0.0428
Stone bins and conveyors	.0052	.0054	.0060	.0056
Power	.0193	.0192	.0260	.0214
Maintenance of equipment	.1781	.0407	.2892	.1591
Plant arbitrary	.0300	.0300	.0300	.0300
Total	$0.2817	$0.1433	$0.3820	$0.2589
Rail transportation to storage—				
Operation of trains	$0.0451	$0.0343	$0.0177	$0.0321
Repairs to track				
Dumping in storage	.0252	.0093	.0187	.0169
Maintenance of equipment	.0311	.0103	.0998	.0261
Plant arbitrary	.0400	.0400	.0400	.0400
Total	$0.1414	$0.0939	$0.0862	$0.1051
Division expense	$0.0518	$0.0357	$0.1252	$0.0687
Total cost in storage	$1.1594	$0.7672	$1.0577	$0.9722

SAND PRODUCTION.

Table No. 7.

Detailed cost per cubic yard for quarter ending September 30, 1913.

	GATUN.				CHAMÉ.			
	July	Aug.	Sept.	Total	July	Aug.	Sept.	Total
Dredging—Quantities—cubic yards					25,767	19,921	19,407	65,095
Operation, dredges					$0.1185	$0.1472	$0.1499	$0.1367
Maintenance of equipment					.0134	.0740	.0254	.0355
Total					$0.1319	$0.2212	$0.1753	$0.1722
Plant arbitrary					$0.0013	$0.0013	$0.0013	$0.0013
Total cost of production					$0.1332	$0.2225	$0.1766	$0.1735

Table No. 7—(*Continued.*)

Items.	Gatun				Chame			
	July.	Aug.	Sept.	Total	July.	Aug.	Sept.	Total
Towing—Quantities—cubic yards	....	....	....	....	25,767	19,921	19,407	65,095
Operation, tugs and barges	....	....	....	....	$0.1360	$0.1480	$0.1494	$0.1436
Maintence of equipment	....	....	....	....	.0564	.0554	.0258	.0470
Plant arbitrary	....	....	....	....	.0027	.0027	.0027	.0027
Total	....	....	....	....	$0.1951	$0.2061	$0.1779	$0.1933
Unloading—Quantities—cubic yards	....	....	....	....	25,767	19,921	19,407	65,095
Operation, cableways and cranes	....	....	....	....	$0.1402	$0.1232	$0.1119	$0.1266
Power	....	....	....	....	.0056	.0027	.0039	.0042
Maintenance of equipment	....	....	....	....	.0432	.0578	.0459	.0485
Plant arbitrary	....	....	....	....	.0200	.0200	.0200	.0200
Total	....	....	....	....	$0.2090	$0.2037	$0.1817	$0.1993
Rail Transportation to Storage—Quantities—cubic yards	....	....	....	....	25,767	19,921	19,407	65,095
Operation of cranes	....	....	....	....	....	....	....	....
Operation of trains	....	....	....	....	$0.0434	$0.0368	$0.0124	$0.0321
Repairs to tracks	....	....	....	....	.0006	.0005	.0004	.0005
Dumping in storage	....	....	....	....	.0434	.0253	.0402	.0370
Maintenance of equipment	....	....	....	....	.0296	.0123	.0074	.0177
Plant arbitrary	....	....	....	....	.0100	.0100	.0101	.0100
Total	....	....	....	....	$0.1270	$0.0849	$0.0705	$0.0973
Division expense	....	....	....	....	$0.0074	$0.0438	$0.0890	$0.0429
Total cost in storage	....	....	....	....	$0.6717	$0.7610	$0.6957	$0.7063

COLON BREAKWATER.

Table No. 8.

Items.	Colon Breakwater.			
	July.	Aug.	Sept.	Total.
Porto Bello Large Rock.				
Quarrying—Quantities—cubic yards	23,772	24,026	23,467	71,265
Stripping	$0.0744	$0.3179	$0.3272	$0.2397
Drilling	.0850	.0724	.0728	.0767
Blasting	.2630	.1602	.2368	.2197
Loading	.2226	.1369	.1479	.1691
Transportation	.2738	.1730	.1586	.2019
Tracks	.2018	.1286	.1702	.1667
Loading on barges	.1598	.1700	.1790	.1696
Power	.1016	.0960	.1008	.0994
Maintenance of equipment	.3855	.6504	.5198	.5191
Plant arbitrary	.6523	.6523	.6523	.6523
Total	$2.4198	$2.5577	$2.5654	$2.5142
Towing—				
Operation, tugs and barges	$0.1770	$0.2493	$0.1120	$0.1800
Maintenance of equipment	.1879	.2956	.1597	.2149
Plant arbitrary	.7758	.7758	.7758	.7758
Total	$1.1407	$1.3207	$1.0475	$1.1707
Items.	**Colon Breakwater—*Cont'd.***			
	July.	Aug.	Sept.	Total.
Porto Bello Large Rock—*Continued.*				
Placing—				
Operation of floating derricks	$0.2368	$0.1873	$0.2700	$0.2311
Maintenance, floating derricks	.0456	.1175	.1402	.1010
Operation, cranes	.1069	.0872	.0732	.0892
Operation, trains	.0388	.0388	.0347	.0374
Dumping	.0094	.0100	.0060	.0085
Maintenance of equipment	.0547	.0638	.0595	.0593
Plant arbitrary	.2748	.2748	.2748	.2748
Total	$0.7670	$0.7794	$0.8584	$0.8013
Trestles	$0.0759	$0.0536	$0.0345	$0.0548
Tug service, miscellaneous	.0355	.0471	.0487	.0437
Maintenance of equipment	.0068	.1049	.0102	.0410
Division expense	.1722	.1691	.2874	.2091
Total division cost	$4.6179	$5.0325	$4.8521	$4.8348
Administrative and general expense	.2830	.2854	.4450	.3372
Total cost	$4.9009	$5.3179	$5.2971	$5.1720

PERMANENT POWER HOUSE—GATUN.

Table No. 9.

	July.	Aug.	Sept.	Total.
Preparing Foundations—Quantities—cubic yds	25	....	....	25
Loading by hand	$1.4352	....	....	$6.9668
Tracks	....	....	....	18.0496
Division expense	.1812	....	....	2.4772
Total Division cost	$1.6164	....	....	$27.4936
Administrative and General expense	.1712	....	....	1.8208
Total cost	$1.7876	....	....	$29.3144
Masonry Substructure—Quantities—cubic yds.	683	524	....	1,207
Cement	$1.0853	$1.8201	....	$1.4044
Stone	.6960	.7368	....	.7137
Sand	.3196	.2867	....	.3053
Forms	1.2128	.0755	....	.7190
Mixing	.7826	.4996	....	.6598
Reinforcement	.1047	....	....	.0592
Placing	1.6951	1.0705	....	1.4239
Maintenance of Equipment	.1307	.3210	....	.2133
Division expense	.2176	.1676	....	.1959
Total Division cost	$6.2444	$4.9778	....	$5.6945
Administrative and General expense	.2210	.1567	....	.1931
Total cost	$6.4654	$5.1345	....	$5.8876
Masonry Superstrucure—Quantities—cu. yds.	....	400	620	1,020
Cement	....	$1.8218	$1.2560	$1.4779
Stone	....	.7357	.7320	.7335
Sand	....	.2857	.2868	.2864
Forms	....	16.9463	16.9976	19.2459
Mixing	....	.5100	.7566	.6599
Reinforcements	....	1.0482	1.9105	1.6137
Placing	....	1.4128	2.3205	2.0128
Maintenance of Equipment	....	.0564	.3755	.2534
Division expense	....	1.1914	3.4125	2.6508
Total Division cost	....	24.0083	28.0480	$28.9343
Administrative and general expense	....	2.5691	$4.0105	3.7691
Total cost	....	$26.5774	$32.0585	$32.7034

HYDRAULIC EXCAVATION GOLD HILL

Table No. 10.

Detailed cost per cubic yard for quarter ending September 30, 1913.

	July.	Aug.	Sept.	Total.
Quantities—cubic yards	112,900	83,200	150,400	346,500
Drilling	....	....	$0.0002	$0.0001
Blasting	....	$0.0001	.0003	.0002
Pumping Station	$0.0399	.0484	.0274	.0364
Pipe lines and Monotars	.0162	.0200	.0094	.0142
Flumes	.0221	.0368	.0265	.0275
Maintenance of Equipment	.0227	.0277	.0195	.0225
Plant arbitrary	.1000	.1000	.1000	.1000
Division expense	.0067	.0094	.0137	.0104
Total Division Cost	$0.2076	$0.2424	$0.1970	$0.2113
Administrative and General expense	.0054	.0204	.0091	.0106
Total cost	$0.2130	$0.2628	$0.2061	$0.2219

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, JANUARY 7, 1914. No. 20.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

First Steam Vessel Through the Canal.

The first passage of a self-propelling vessel through the Canal from ocean to ocean was effected on the morning of Wednesday, January 7, when the crane boat *Alex. LaValley*, Captain Carter, formerly engaged in the Atlantic entrance, but recently operating in Culebra Cut, was passed from the Cut through Pedro Miguel and Miraflores locks to the Pacific entrance. Barges from the Pacific side, passed about in the dredging operations, had previously been handled to the Atlantic side. The *La Valley* left Pedro Miguel Lock at 9.30 a. m., reaching Miraflores locks at 10.15, and was passed into the Pacific channel at 11.05 a. m. No passengers were carried, only the regular crew being allowed on the vessel.

The *La Valley* is a unit of the old French floating equipment; it was built by Lobnitz and Company of Renfrew, Scotland, in 1887, and rebuilt at the Cristobal dry dock shops in 1905. It is an iron hull, twin screw vessel, with a length of 186 feet; beam 41 feet, and depth of 15 feet, equipped with forward and amidship cranes, the forward crane having a lift of five tons, and the amidship crane a lift of 56 tons. Its propelling engines were built by Lobnitz and Company and are double compound, 16 by 30 inches, with 24-inch stroke. The boiler is of the Scotch type, American make, length 12 feet, diameter 144 inches.

Changes at Mount Hope Depot.

The property accounting of the Quartermaster's Department was taken over by the office of the Examiner of Accounts as of January 1, 1914, in accordance with the provisions of a circular published in another part of this issue of THE CANAL RECORD. At Mount Hope depot, the property accounting went on a financial basis on December 1, 1913, the date of the change in depot quartermasters. Under the new plan in effect at the depot and district storehouses, a record of stock issues and prices will be forwarded daily to the Examiner of Accounts. This plan has necessitated a change in the Mount Hope depot personnel. Mr. L. E. Willson, formerly chief clerk, together with two gold clerks, were transferred, effective January 5, to the office of the Examiner of Accounts, where Mr. Willson will have charge of all property accounting in so far as it relates to the Quartermaster's Department, subject to the Examiner of Accounts. Three other gold clerks were transferred from the depot to the Examiner of Accounts' office on January 7, and one will be transferred on January 20. Mr. J. J. Jackson, effective January 5, has been appointed chief clerk to Depot Quartermaster C. H. Mann.

Fuel Oil from Mexico.

The first cargo of fuel oil, other than from the California wells, ever brought to the Isthmus, arrived at the port of Colon early in December on the new tank steamer *Edward L. Doheny*. It came from the Mexican oil fields near Tampico, and was purchased by the Union Oil Company of California to apply on its Canal contract, on account of a temporary lack of tank steamers. The cargo consisted of 60,000 barrels, which was discharged at the dock at Mindi through a pipe line laid especially for the purpose connecting with the company's main pipe line near Mindi. This particular cargo is lighter in gravity, and in storage emits a much stronger odor than the California output. Another shipment from the Mexican fields is expected shortly on the *Edward L. Doheny*. This vessel when loaded to capacity draws about 27½ feet of water, and while there is ample depth for it alongside the Mindi dock, the work of discharging at this point is much slower than it would be at dock No. 13 or dock No. 14. In order to avoid demurrage charges, an effort will be made to discharge the cargo at one or the other of the last-mentioned docks on the next visit of the steamer.

Two of four new tank steamers of from 8,000 to 10,000 gross tons, and with an oil-carrying capacity of from 60,000 to 72,000 barrels, built in England, for the Union Oil Company, have been completed, and were scheduled to leave the English yards for San Francisco on Christmas Day. The others will follow shortly. It is expected to use the new vessels in the Chile, Panama, and British Columbia services.

Rio Grande Observation Platform.

The observation platform on the south side of Contractor's Hill, affording a view of Cucaracha slide and the Cut on both sides, with a vista of Miraflores Lake beyond Pedro Miguel Lock, has been completed, and the trip to it has been included in the regular schedule of the Canal sightseeing train. The train leaves Panama station for Rio Grande at 8 a. m., on Mondays Wednesdays and Fridays; the fare for the round trip is $1.50.

Contract for Panama Exposition Buildings.

Contract for the construction of the Palace of Arts and the Palace of Government, two of the reinforced concrete buildings for the Panama National Exposition, have been awarded to R. W. Hebard and Company, Inc., in the sum of $111,250. Bids were opened by the Secretary of Public Works on December 27. The tenders ranged from $100,000 to $155,000. The buildings are to be completed by October 1, 1914. The two together will contain over 8,000 electric lights.

Ice Box of Hollow Terra Cotta Tile and Concrete.

Forces of the Subsistence Department are installing a refrigerated storage box made of hollow terra cotta tile and concrete at the Pedro Miguel commissary store. This is the first box of its kind to be constructed on the Isthmus, and it is proposed to make similar installations at Balboa and in the new commissary at Ancon. The construction is supposed to afford better refrigeration than the wooden boxes and not to be subject to the deteriorating influences which affect wood. The interior arrangement will be similar to that of the wooden boxes now used; the storage space, with floor dimensions of 20 by nine feet, and height of 10 feet two inches, will be divided into four compartments, one each for meat, vegetables, and dairy products, with a working space having access to the three storage boxes.

Operations at Cucaracha Slide.

The dredges excavating at the base of Cucaracha slide occupy about the same relative positions as they have held during the past two weeks, with the exception that the dipper dredge *Cardenas* has been at Paraiso since January 3, for replacement of a broken spud hoisting gear. The channel has been cleared to almost full width, but not full depth, from the northern limit of the slide, next to the firm rock of Gold Hill, for about 150 feet, by the three dipper dredges and the ladder dredge *Marmot*, all working toward the south. The channel has been also cleared to full width, but not full depth, from the southern limit of the slide, by suction dredges *No. 86* and *No. 4*, for 200 feet north. Directly in front of the *Marmot* the channel is narrowest, with a width of about 160 feet, at station No. 1810. About 225 feet south of this point, where the cleared channel is about 200 feet wide, the ladder dredge *Badger* is working northward making a deeper cut. A hundred feet in the rear of the *Badger*, the pipeline suction dredge *No. 86* is deepening the channel, and obliquely behind it, pipeline suction dredge *No. 4* is well over toward the east side of the Canal, cutting into the face of the slide. The output of all the dredges at Cucaracha slide during the month of December was 321,193 cubic yards. The minimum depth of the channel, with the surface of the water at about 84 feet above sealevel, was about 18 feet.

The two 1,000-cubic yard dump barges recently arrived from the United States, have been placed in service in connection with dredging in the Cut. During operations, several tugs have been temporarily out of commission on account of broken propeller wheels, which were struck against the banks of the Cut in the crowded work of handling the barges to and from the dredges.

Opportunities in Detroit.

THE CANAL RECORD is in receipt of a communication signed by Messrs. H. J. Conard, E. W. Parsons, F. H. Thuron, and William A. Mitchell, members of an industrial employment investigation committee of the Detroit Metal Trades Council, challenging the statements made by Mr. John J. Whirl, secretary of the Employers' Association of Detroit, published in THE CANAL RECORD of December 3, 1913, in which attention was called to the opportunities existing in that city for skilled workmen in the employ of the Canal Commission. The following extracts cover the important portions of the letter:

> "Detroit is a city of 550,000 to 600,000 population, including men, women, and children, people of all classes. It has manufacturing plants and other fields of employment, wherein, in normal times, some 140,000 to 160,000 people are employed. An unusually large percentage of this employment is of unskilled and women wage earners. But there is no such number of employes employed here in this city at the present time. Right at this writing, Detroit is flooded with the unemployed. Every day there are from 60,000 to 80,000 people looking for a job. Such has been the situation, or growing to it, for the last six months. Neither is there any encouragement as to when the depression will end."

The communication names a number of the larger manufacturing concerns, including motor car companies, which have made reductions in force, hours of work, and rates of pay. It continues:

> "Not only is the city flooded with idle men, but employers have taken advantage of the situation, and either as a retrenchment, or for other purposes, have reduced the wage rates. Skilled mechanics that six and eight months ago were receiving from 40 to 54 cents per hour, have had their wages reduced to 30, 35, and 40 cents per hour; that is, those who were six months ago receiving 40 and 42 cents per hour are now working for 30 and 32, if working at all. Skilled workmen before receiving 30 cents per hour are now being paid 20, 22, and 25 cents per hour, when the opportunity prevails for them to work. Of course, the opportunity to the unskilled is proportionately lessened, and it is true that the multitude of those out of employment are both skilled and unskilled.
>
> "Again employes on the Isthmus should be advised that Detroit is a doorway to Canada, and, even in normal times, employes from other sections who come to Detroit must compete with the Canadian job seekers, and the latter are the most numerous.
>
> "In justice to our own class, the wage earners, we petition you to give space to this communication as a warning to any who may be inclined to come this way for a job. It isn't here for them. There are five men in Detroit for every job today. The prospects are that it will so continue for several months. Our advice to wage earners is to keep away from Detroit, and particularly does this apply to the skilled crafts."

Canal Zone Prisoners Attempt Escape.

Three prisoners of the Canal Zone penitentiary, Ernesto de Leon, Francisco H. Zaldivar, and Juan Mosquera, escaped from the gang at work on the Empire-Gamboa highway at 1 p. m., January 5, by jumping off a loaded dump car, which was running down grade, and breaking into the jungle. The two first-named were captured within an hour, Zaldivar having been brought down by a shot through the right leg, about three inches above the knee. Mosquera was captured early the next morning and returned to the stockade at Gamboa at 8.30.

Fires at Balboa and Colon.

A fire broke out at about 5.36 p. m., on Saturday, January 3, among a quantity of piles situated alongside the railroad track leading from the main line near El Diablo over the old Sosa Dam fill toward Balboa. The piles to the number of about 1,100, of which 600 were creosoted, were stored in separate stacks placed close together, and when the firemen arrived two of the stacks were burning, having apparently been ignited by sparks from a locomotive setting fire to the grass nearby. An alarm was turned in to the Ancon station, but owing to the location, the firemen had some difficulty in getting to the spot. The Ancon motor engine was loaded on a flat car at about 7 p. m., and hauled to the scene. As the tide was out, there was no water available close at hand, so two locomotives were used to haul the water for the fire engine, and a line of hose 1,650 feet long was laid to the nearest water tank to aid in the work. Hose for the purpose was supplied by the Ancon fire engine, the Corozal wagon, and some was procured from the Sixth Division. The fire was practically extinguished by 10 p. m., although a stream of water was kept playing on the half-burned piles all night. One hundred and seventy 80-foot creosoted piles, one hundred 75-foot creosoted piles, and ninety-eight 65-foot untreated piles were burned, either whole or in part, entailing a loss estimated at $11,998.56.

The Cristobal fire department responded to an alarm of fire given by the Colon police at 5.27 p. m., on Saturday, January 3. The fire, which had broken out in the rear of a saloon on Cash street, between Eleventh and Twelfth streets, in Colon, was caused by the explosion of a kerosene lighting plant. The Cristobal firemen laid two lines from the steam fire engine, stationed at the corner of Eleventh and Bolivar streets, one from the motor fire engine, stationed at the corner of Thirteenth and Cash streets, and one from a fire hydrant. The Colon fire department brought out its motor engine, and also laid several lines. The blaze was confined to three buildings, one, a two-story structure, containing the saloon, fronting on Cash street; the second, a two-story building south of the saloon, extending through from Cash street to Bolivar street, containing the Vienna Hotel, facing Cash Street, and the Star Theatre, facing Bolivar street; and the third, a three-story building, north of the theatre, fronting on Bolivar street. It was extinguished after about one hour and 40 minutes' work. The building in which the fire originated is practically a total loss; the front wall only is standing. The two other buildings were damaged in a varying degree, but suffered most in the upper stories. A statement of the estimated values and losses is, as follows:

Owner of building.	*Est. value. Building*	*Est. value. Contents*	*Est. damage. Building*	*Est. damage. Contents*
Bermudez and Obarrio......	$7,000	$1,750	$4,000	$750
Domingo Diaz A...........	7,500	3,500	4,000	1,800
Raveneau (saloon)	2,500	1,000	2,500	500
Total........	$17,000	$6,250	$10,500	$3,050

The people who were made homeless were accommodated for the night in the new Masonic temple, which is situated about opposite the site of the fire.

Flag Raising by Boy Scouts.

The Cristobal troop, Boy Scouts, held a flag raising on January 1, 1914, at 8 a. m. The flag was presented to the troop by Colonel Goethals. It measures 6 by 8 feet, and it now flies daily from the 65-foot flag pole on Cristobal Point. It was given to replace the first flag presented to the troop by Capt. Frank O. Whitlock, which was raised for the first time on July 4, 1913. Since that day, the flag has been raised every morning at 7 o'clock, and lowered at sundown, one of the members of the troop being detailed for this duty each week. Permission has been given to raise the 65-foot pole 20 feet, in order that the flag may be seen in the harbor above the new docks. There is to be a yard arm near the top, and it is proposed to fly the United States flag at the top, and, from the ends of the yard arm, the troop colors, red and white, and the flag of the Canal Zone, respectively. The first United States flag belonging to the troop will be preserved under glass in a frame made of native woods, each boy in the troop having been asked to furnish a piece of such wood for the purpose. In addition to the draped flag, the frame will contain a list of the members of the Cristobal troop, with the name of the State to which each boy belolngs This souvenir of the Canal Zone Boy Scouts will be presented to the National Headquarters in New York. The Cristobal troop has a membership of 34, and is divided into three patrols. The boys are now actively preparing to take the examination for second-class scouts. Their work consists in drilling and marching, signalling, and lessons in first aid. Meetings are held in the district courtroom on Tuesday and Friday evenings each week. The scout master is E. C. Bell, first assistant scout master, C. E. Beck, and the second assistant, chosen on January 1, is W. H. Anderson.

Isthmian Sunday School Association.

The regular quarterly meeting of the Isthmian Sunday School Association will be held at the Corozal Y. M. C. A., on Sunday, January 11, at 2.30 p. m. Superintendents of the various schools along the line are requested to see that at least five delegates are named, and urge as many others to go as can do so conveniently. Railroad transportation may be procured direct from the president of the association, Mr. J. M. Weaver, Cristobal, C. Z. Immediately preceding the above meeting (1.30 p. m.), there will be a meeting of the committee on union church work on the Isthmus, in the same hall.

The January 17 dance of the Washington Cotillion Club has been postponed until January 31 on account of the annual banquet of the Society of the Chagres which is to take place on that night.

The regular dance of the Cristobal Dance Club will be held at the Commission clubhouse on Saturday, January 10, 1914.

Electric current is being supplied by the Canal Commission from the Miraflores steam plant for the operation of a rock crushing plant, the property of R. W. Hebard and Company, situated on Las Sabanas road.

PANAMA RAILROAD COMPANY.

(PASSENGER TRAIN TIME TABLE NO. 17—IN EFFECT JANUARY 11, 1914.)

COLON-PANAMA MAIN LINE SERVICE.

SOUTHWARD. FIRST CLASS.						STATION.	NORTHWARD. FIRST CLASS.					
Saturday only.		Daily.					Distance from Colon.	Daily.				Saturday only.
71		9	7	5	3			4	6	8	10	72
P.M.		P.M.	P.M.	A.M.	A.M.			A.M.	P.M.	P.M.	P.M.	P.M.
11.30	....	9.30	4.45	11.00	7.30	Lv. †Colon Arr.	0	9 20	12.50	6.35	9.10	8.10
11.35	....	9.35	4.50	11.05	7.35	†Mount Hope	1.57	9.15	12.45	6 31	9.05	8.05
......	....	......	......	......	......	New Gatun	5.94	......	12.36	......	8.55	7.57
11.45	....	9.45	5.02	11.16	7.46	†Gatun	6.79	9.05	12.34	6.20	8.53	7.55
11.58	....	9.58	5.19	11.32	8.02	†Monte Lirio	14.48	8.51	12.21	6.05	8.41	7.42
A.M.												
12.10	....	10.10	5.32	11.45	8.15	†Frijoles	20.92	8.37	12.07	5.52	8.29	7.29
									P.M.			
......	....	......	f 5.40	f 11.53	8.23	Radio Station	25.00	8.27	f 11.57	f 5.44	.. ..	......
				P.M.								
12.27	....	10 27	5.52	12.04	8.34	†Gamboa	30.26	8.17	11.47	5.31	8.11	7.11
12.38	....	10.38	6.03	12.15	8.45	†New Culebra	35.19	8 06	11.36	5.20	8.00	7.00
12.50	....	10.50	6.15	12.30	9.00	†Pedro Miguel Jc.	40.23	7.55	11.25	5.10	7.50	6.50
12.56	....	10 56	6.21	12.34	9.04	Miraflores	41.74	7.45	11.15	5.00	7.40	6.45
1.04	....	11.04	6 29	12.40	9.10	†Corozal	44 24	7 37	11.08	4 53	7.33	6.38
1.15	....	11.15	6.40	12.50	9.20	Arr. Panama. Lv.	47.08	7.30	11.00	4.45	7.25	6.30
A.M.		P.M.	P.M.	P.M.	A.M.			A.M.	A.M.	P.M.	P.M.	P.M.
71		9	7	5	3	*f.* Flag. †Telegraph station.		4	6	8	10	72

Northward main line passenger trains will wait at Pedro Miguel Junction for connections from Bas Obispo shuttle train, and northward Bas Obispo shuttle trains will wait at Pedro Miguel Junction for southward main line connections unless otherwise instructed.

PANAMA-BAS OBISPO SHUTTLE TRAIN SERVICE,

SOUTHWARD. SECOND CLASS.								STATION.	NORTHWARD. SECOND CLASS.							
Sunday only.		Daily.							Daily.							Sunday only.
53		51	49	47	45	43	41		40	42	44	46	48	50		52
A. M.		P. M.	P. M.	P. M.	P. M.	A. M.	A. M.		A. M.	A. M.	P. M.	P. M.	P. M.	P. M.		A. M.
1.40	.....	11.30	7.10	4.20	1.20	10.40	7.10	Leave †Bas Obispo Arrive.	7.00	9 40	1.15	3.40	6 55	11.25	.....	1.30
1.46	.....	11.36	7.16	4 26	1.26	10.46	7.16	†Las Cascadas	6 54	9.34	1 09	3.34	6.51	11.19	.....	1.24
1.52	.....	11.42	7.22	4.32	1.32	10.52	7.22	†Empire	6.48	9 28	1.03	3.28	6.46	11.13	.....	1.18
1.57	.....	11 47	7.28	4.38	1.38	10.58	7.28	†Culebra	6.41	9 21	12.56	3 22	6.40	11.07	.....	1.12
2.09	.....	11.59	7.40	4 52	1.52	11.12	7.42	†Paraiso Jct.	6.27	9.07	12.42	3.09	6.27	10.55	.....	1.00
		A. M.														
2.11	.....	12.01	7.42	4.57	1.54	11.15	7.45	†Pedro Miguel Jct	6.25	9 05	12.40	3 07	6.25	10.53	.....	12.58
2.16	.....	12.06	7.48	5.02	1.59	11.21	7.51	Miraflores	6.18	8 58	12 33	3.02	6.17	10.48	.....	12.53
2.24	.....	12.14	7.55	5.09	2 06	11.29	7.59	†Corozal	6 10	8.50	12.25	2 55	6.10	10 40	.....	12.45
2.35	.....	12 25	8.05	5.20	2.15	11.40	8.10	Arrive †Panama. Leave.	6.00	8 40	12.15	2 45	6.00	10.30	.....	12 35
A. M.		A. M.	P. M.	P. M.	P. M.	A. M	A. M.		A. M.	A. M.	P. M.	P. M.	P. M.	P. M.		A. M.
53		51	49	47	45	43	41	†Telegraph station.	40	42	44	46	48	50		52

COLON-GATUN SHUTTLE TRAIN SERVICE.

Effective Sunday, January 11, 1914, shuttle trains will be operated daily, between Colon and Gatun, on the following schedule, making stops as shown:

SOUTHWARD. SECOND CLASS.						STATION.	NORTHWARD. SECOND CLASS.					
131	129	127	125	123	121		122	124	126	128	130	132
P. M.	P. M.	P. M.	A. M.	A. M.	A. M.	Leave. Arrive.	A. M.	A. M.	A. M.	P. M.	P. M.	P. M.
5.45	4.15	3.00	9.45	7.40	6.00	Third Street, Colon	7.05	9.35	10.55	4.05	5.40	6.55
5.47	4.17	3.02	9.47	7.42	6.02	Fifth Street, Colon	7.02	9.32	10.52	4.02	5.37	6.52
5.49	4 19	3.04	9.49	7 44	6.04	Passenger Station, Colon	7.00	9.30	10.50	4.00	5.35	6 50
5.51	4.21	3 06	9.51	7.46	6 06	Commissary, Cristobal	6 58	9.28	10.48	3.58	5.33	6.48
5.53	4 23	3.08	9.53	7.48	6.08	Shops, Cristobal	6 56	9.26	10 46	3.56	5.31	6.46
5 57	4.27	3.12	9.57	7.52	6.12	Mount Hope	6.52	9 22	10 42	3.52	5.27	6 42
6.03	4.33	3.18	10 03	7.58	6.22	Mindi	6.46	9.16	10.36	3.46	5.21	6.36
6.06	4 36	3.21	10.06	8.02	6.26	New Gatun	6 43	9.13	10.33	3.43	5.18	6.33
6.10	4.40	3.25	10.10	8.05	6.30	Gatun	6.40	9.10	10.30	3.40	5.15	6.30
P. M.	P. M.	P. M.	A. M.	A. M.	A. M.	Arrive. Leave.	A. M.	A. M.	A. M.	P. M.	P. M.	P. M.
131	129	127	125	123	121	Trains stop at all stations.	122	124	126	128	130	132

New P. R. R. Time Table.

A new time table will go into effect on the Panama railroad at 12.01 a. m., on Sunday, January 11, covering both the main line and shuttle train services. On the main line, under the new schedule, Trains Nos. 9 and 10 (No. 8 and 9 present schedule), will be operated daily, instead of daily, except Sunday, making four trains each way, daily. The arriving and departing time of most of the trains has been changed slightly, notably in the case of Nos. 7 and 8, which will leave Panama and Colon, respectively, at 4.45 p. m., instead of 5 p. m., as heretofore. The stops at El Diablo and Caimito have been eliminated, and a stop at Radio Station has been arranged for in the case of certain trains. Trains Nos. 6 and 8, and train No. 72 (Saturday only), going north will stop at New Gatun to take on passengers for Mount Hope and Colon. No stops at New Gatun will be made, however, by trains going south.

Trains Nos. 50 and 51 on the Panama-Bas Obispo line, operated daily, except Sunday, will run daily under the new schedule, and Sunday trains Nos. 52 and 55 have been annulled. The arriving and departing time of the trains on this line has been changed slightly. The number of trains in the Colon-Gatun shuttle service remains unchanged, but the arriving and departing time has been altered to some extent.

◆

STOLEN—From Room 24, House 38, Balboa, on Saturday, January 3, between the hours of 1 and 5 a. m., a nickel plated percolator. A reward is offered by the owner, C. A. Oglesby, for evidence that will convict the thief.

SANITARIUM TO BE CLOSED.

Will be Discontinued as a Retreat for Convalescents, but may be Operated as a Hotel.

The closing of Taboga sanitarium as an institution for the use of convalescents among white employes of the Canal Commission and Panama Railroad Company, and members of their families, will take effect on January 15, at which time the Department of Sanitation will cease to have any further connection with it. The Subsistence Department has been requested to send a representative to Taboga to make an inspection of the property with a view of taking it over and operating it as a Commission hotel for a trial period. The plan, if adopted, will also include the operation of the launch *Sanidad* from Balboa to the island and return, as heretofore, but all passengers will be required to pay for their transportation.

The sanitarium was placed on a pay basis on November 1, 1913, with a view of ascertaining if the receipts could not be made to cover the expenditures. The two months' trial has shown that this is not likely, for, in November, the cost of running the institution over and above the receipts was about $300, and in December, about $600. These amounts do not include the cost of operating the *Sanidad*, which, during the past year, has averaged about $720 a month.

The sanitarium was erected by the first French company and opened in 1885. After the failure of this company and continuing to the end of the French régime, the building was used by residents of the Isthmus visiting the island to recuperate, but little or no care was taken of the property, so that when the Americans took possession in 1904, it was in a dilapidated condition. It was one of the first of the French buildings to be repaired; was reopened as a sanitarium in September, 1905, and has continued as such up to the present time. The largest number of patients taken care of during any fiscal year was that of 1911-12, when there were 3,862 admissions.

The number of patients admitted, employes, families of employes, and others, deaths, and average cost of subsistence per patient per day, by years, from August, 1906, the date of the first record, to January 1, 1914, is shown in the following statement:

Date.	Number Admitted.			No. deaths	Av. cost of subsistence per patient per day.
	Employes	Families of employes and others.	Total		
August to December, 1906, inclusive	655	106	771	....	No record.
1907	2,020	393	2,413	....	No record.
1908	2,873	711	3,584	1	$0.645
1909	2,706	657	3,363	....	0.713
1910	3,191	761	3,952	....	0.625
1911	3,002	723	3,725	....	0.597
1912	2,380	1,140	3,520	1	0.687
1913	1,776	1,258	3,034	....	*0.670
Total	18,613	5,749	24,362	2	0.656

*Estimated on the basis of the first eleven months in 1913.

It will be noted that out of 24,362 admissions to the sanitarium during the past seven and one-half years, the record shows but two deaths, and both of these were due to accidents. In 1908, a little girl fell from the balcony of the sanitarium receiving fatal injuries, and in 1912, a policeman, under care in the institution, was drowned while swimming.

◆

Completion of Roofing Manufacture at Paraiso.

The American Cement Tile Manufacturing Company, operating a plant at Paraiso for the manufacture of roofing for the permanent shop buildings at Balboa, made its last shipment of material at Balboa on December 22, and on December 23, made the last of about 30,000 pieces of tile which are stored at Paraiso, for use on those buildings which are not ready to receive the roof, and as surplus stock. The forces of the company, which has been reduced to seven gold and 18 silver men, from a former maximum of 10 gold and 130 silver employes, is engaged in packing for shipment the 18 tile machines, 1,800 drying plates and accessory equipment used at Paraiso. It is expected that the work of the contractor on the Isthmus will be completed by January 1. The company has manufactured at Paraiso an aggregate of approximately 123,000 pieces of tile, sufficient for about 981,000 square feet of roof.

◆

Highway Bridge Across Rail Approach to Dry Dock Site.

In order to maintain highway connections with the permanent terminal buildings to the north of the proposed dry dock at Balboa, forces of the Second Division have constructed a highway bridge across the Cut through which rolling stock has access to the site of the dry dock excavation. The clearance of the bridge above the tops of the rails beneath is 17 feet six inches, sufficient for the passage of locomotives and cars, and provision for the passage of cranes is made by means of a hinged span in the bridge, which is swung upward on occasion, by means of cables running over sheaves on end columns and drawn by air-driven winches. The bridge affords an inside clearance for wagons of 16 feet, and is 75 feet long. The bents supporting it rest on rock foundations and are spaced 18 feet apart.

◆

Reducing Noise in Railroad Yards.

Efforts are being made, under the direction of the traveling engineer, to reduce the noise in the Panama railroad yards at Colon and Panama during the night and early morning. These have effected considerable improvement during the hours of night, but noise at the time the early labor trains are leaving is difficult to avoid; the engines which take these trains out have been standing all night, with the result that water has condensed in the cylinders, so that the cylinder cocks have to be opened on starting, to avoid damage to the locomotive, and on account of the crowds and darkness, a considerable amount of whistling and bell-ringing is necessitated by the requirements of safety.

◆

Sales of fuel oil and larvacide for use in sanitary work outside of the Canal Zone and the cities of Panama and Colon will hereafter be handled through the Quartermaster's Department, under the usual rules for sale of Commission property to outside interests. Heretofore, authority was given the Sanitary Department to supply these materials direct to the United Fruit Company, for use at Bocas del Toro.

◆

PERSONAL.

Mr. Thomas H. Jordan, supervisor of machinery installation for the First Division of the Chief Engineer's office at Pedro Miguel and Miraflores Locks, has resigned to accept a position with Mr. H. M. Field, who has a contract with the United Fruit Company to build 470 miles of railroad in Honduras. He will remain on the Isthmus for about one month for the purpose of purchasing, and inspecting while undergoing repairs in the Commission shops, equipment purchased from the Commission for the above work. Mr. Jordan first entered the Mechanical Division of the Commission March 6, 1908, and again entered the service October 29, 1908. He was subsequently transferred to the Atlantic Division as general foreman. On November 25, 1911, he was transferred to the First Division, in charge of installing the permanent lock operating machinery of the Pacific locks, which position he held until he resigned.

◆

Street Railway Connection with Balboa Steel Pier.

Preparations are being made for extending the Panama street railway line to a point near the office of the port captain at Balboa, at the land end of the steel pier. When the Balboa branch was laid out from Panama, it was necessary to terminate it at the old drainage canal, west of the Balboa commissary, because the filling and the municipal improvements on the west side of Sosa Hill were not sufficiently advanced to give a right-of-way. About half a mile of double track, however, was laid along the site of Sosa road in isolation, and the work now to be done will consist of laying approximately 4,500 feet of track to complete connections, installing the remainder of the tubular steel poles, spaced 100 feet apart, for carrying the overhead conductor, and erecting a waiting shed at the outer end of the line. The completion of this connection will finish the system as contemplated at present, with 11 miles of track under operation.

◆

Ancon Crusher.

Following is a statement of rock crushed at Ancon quarry during the week ending January 3:

DATE.	Cubic yards.	Hours worked.
Dec. 29	2,278	8.15
Dec. 30	1,708	8.15
Dec. 31	2,155	8.20
Jan. 1	Holiday	....
Jan. 2	2,368	8.15
Jan. 3	1,685	6.10
Total	10,194	39.15

◆

Lost—Gold chain, with gold facsimile of P. R. R. employe's metal check, No. 11387, engraved on back with monogram, DWC, on train No. 5, arriving at Panama at 12.55 p. m., Saturday, December 27. Liberal reward for return to D. W. Clifton, on Train No. 2 or No 5, or by mail to same at Box 13, Cristobal.

◆

The following steamers arrived at, or departed from, the port of Balboa during the week ending January 3, 1914:

Arrivals—December 28, *Luckenbach*, from San Francisco; December 29, *Pachitea*, from Callao; December 31, *Peru*, from San Francisco; *Palena*, from Callao; January 1, *Ecuador*, from Guayaquil; January 2, *Rupanco*, from intermediate ports; January 3, *Aztec*, from San Francisco.

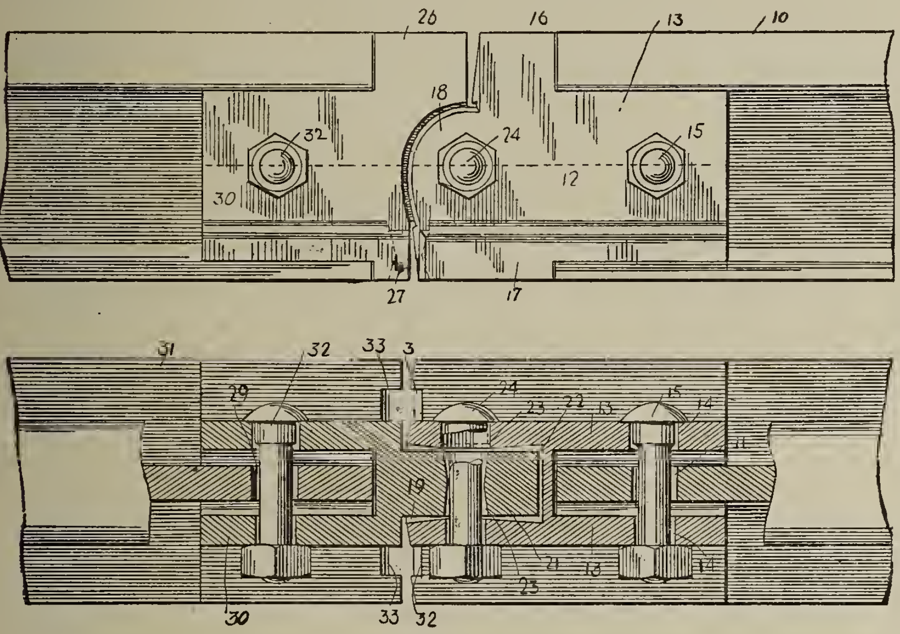
Departures—December 28, *City of Para*, to San Francisco; December 29, U. S. S. *Buffalo*, to Corinto; *Chile* to south ports; *Huallaga* to Callao; *Manavi* to intermediate ports; December 30, *Peru*, to Callao.

IMPROVED RAIL-JOINT.

Joint for Portable Tracks, Locally Designed, in Use Under Canal Steamshovels.

Several steamshovels in the service of the Canal Commission are operating on portable track equipped with a rail-joint designed and patented by Mr. Peter J. Thull of Culebra, a steamshovel engineer now employed by the Fortifications Division. The joints are manufactured in the shops of the Mechanical Division, and are made of cast steel.

The conditions of steamshovel operation require usually that the shovel advance, in the progress of excavation, over uneven ground of varying firmness. Six-foot lengths of track, handled by laborers in the shovel pit, are connected ahead of the forward trucks of the machine. Conditions frequently require that these lengths of track deflect, in both vertical and lateral planes, with the passage of the machine. The ordinary strap joints, using plates one inch thick, two and a half inches wide, and 10 inches long, with two $1\frac{1}{16}$-inch holes punched at either end, provide for slight variation. If connected loosely enough to allow lateral turning, they make the track insecure, and vertical motion is restricted by the flanges of the rails. The provision of curved sections to meet contingencies is inconvenient and expensive.



Side Elevation and Horizontal Sectional View of Thull Joint Connecting Rail.

The Thull joint is designed to be used on both horizontal and vertical curvatures, and to provide means for eliminating the horizontal displacement while keeping the vertical displacement.

Referring to the drawings, 10 represents a rail, provided near the extremity with elongated apertures 11, and engaging the end of the rail with its side flanges, or cheeks, 13, is the female part 12 of the joint. The cheeks are abutting against the top and bottom of the rail and provided with an aperture 14, registering with the aperture 11 of the rail 10, so that a bolt 15 binds the cheeks 13 of the female part of the joint to the end of the rail, forcing the upper and lower abutments of the cheeks against the head and bottom of the flange of the rail.

A portion 16 of the female part is offset so as to conform with the head of the rail, abutting against the same and having the same width, and flush at its sides with the cheeks 13. A portion 17 is also offset in a direction opposite to the offset 16, made to conform with the bottom flange of the rail, abutting against it and having the same width, and made flush with the lowermost surface.

At the ends opposite the cheeks 13 and substantially central with them, jaws 18 are provided, forming the female portion of the joint, with a recess 19 formed in the body of the female part, and complementing the jaws 18. The jaws 18 have their end surfaces beveled, and also the end surfaces of the projections 16 and 17 are similarly beveled.

Engaging the female portion 12, by means of a tongue 21 substantially circular in shape, is the male part. The tongue fits loosely into the recess 19 of the member 12 and is provided with a projection 22 fitting into the recess 20 with sufficient play at top and bottom.

Orifices 23 and 23′, substantially central with the jaws 18 and central member 21, are provided in both the male and female portions, and a bolt 24, binding these two portions, constitutes a center or pivot for the same. The male part is also provided with flanges 30, offset portions 26 and 27, similar to 16 and 17, respectively, abutting against the head and flange of the rail, and also with orifices registering with orifices 29 in another rail 31, and the male part is similarly attached to the rail 31 by means of a bolt 32, as is the case with the female part above described.

The recess 19 formed in the female portion 12 is beveled, so as to converge toward the middle of the sides. The orifice 23′ is also beveled from the center toward the extremities, so that the male portion can be translated horizontally to right or left in the extent of the bevel provided in the recess 19, and, as above described, the offsets 16 and 17 have their end surfaces beveled for the purpose of allowing the horizontal displacement.

By means of this provision in the joint for the horizontal displacement, a curvature can be formed in the joint of a certain degree, and the track may have any zigzag shape desired, in the limits of the bevel provided in the joint, that is, in the recess 19 and orifice 23′.

The vertical displacement, as can be seen, is obtained by the rotation of the joined parts about the center, which is the bolt 24, and this displacement is limited in the vertical direction, up and down, by the portion 22 of the male part engaging the recess 20, as above described.

When only vertical displacement is desired, and the horizontal is to be prevented, notches 32 and 33 are provided at each side of the facing ends of the bottom of the male and female parts, these notches being beveled from the center upward and downward, so that a spike may be inserted, preventing side displacement, but allowing rotation about a pivot, as there are bevels provided where the spike engages the female and male portions.

With this device, any safe unevenness in the ground should be taken up by the vertical displacement of the joint, that is, by the pivotal connection. Similarly, there should be no necessity for a series of curves, as the safe curvature for a rail will be formed by the articulated joint in the horizontal plane.

A trial set of these joints was manufactured at Gorgona shops at Mr. Thull's expense, for use on the shovel which he was operating. Upon their appearing satisfactory, the Canal Commission ordered the manufacture of enough to equip 10 steamshovels. Each shovel requires 22 joints. Under a contract dated July 28, 1913, the Commission pays Mr. Thull a royalty of 70 cents on each joint which it manufactures.

In a letter dated December 30, 1913, the superintendent of construction of the Fourth Division reported to the resident engineer in charge of the division, with reference to the Thull joint, as follows:

> "These joints have been in use for several months and are still giving satisfaction.
>
> "They are much better than the ordinary strap connection under all conditions, but are especially so in cases where shovels are working on a soft bottom or where there is considerable water in the shovel pit.
>
> "The sections when connected with these joints have almost a continuous rail. The old strap connections make such a loose joint that the wheels of the trucks will often climb the rail when moving up, unless great care is taken. This is the case where the sections are down in the mud or covered with water.
>
> "These joints are also valuable where shovels are working in slides, where it is often necessary to back the shovel out of the pit very suddenly, without sufficient time available to line the sections up in proper shape."

◆

Misdirected Letters.

Ancon, C. Z., January 7, 1913.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressees:

Arias, H.
Ashton, Miss Mabel
Baily, Evans
Betty, James N
Brown, Claudius
Brown, James H. W.
Britton, Mr. and Mrs. H. D.
Bushman, William
Dominguez, J. E.
Donohue, Pat. J.
Donnelly, E. A.
Etheridge, Mrs. Mary C.
Hahn, Pierce H.
Haugdord, William A.
Harte, Richard
Harrell, Mrs. W. F.
Hearty, Mrs. Bradford
Hopkins, R. E.
Howe, Mrs. and Mrs. H. C.
Jacobs, H. A.
James, William
Jansen, Charles
Jones, Miss Martha
Landry, Wilfrid
Loudin, Herman P.
Myers, Titus
McMahon, Geo. H. (2 cards)
McKnight, James
Newton, John
Palmer, Mrs. W. A. (pkg.)
Powers, Tom (pkg.)
Railey, Hilton H.
Richardson, William B.
Rogers, T. J.
Seigler, D. P.
Sheldon, Miss Edna
Smith, Ralph
Stewart, Capt. and Mrs G.
Van Dusen, Mrs. Herman T.
Walker, J. F.
Ward, Arthur C.
Wenner, Thomas
Weiderman, F. (card)
Wood, Mrs. Allison
Jones, Miss Martha

◆

Stages of the Chagres River, Gatun, and Miraflores Lakes.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes for the week ending midnight, Saturday, January 3, 1914. All heights are in feet above mean sealevel.

Day and Date.	Stations.					
	Vigia.	Alhajuela	Gamboa	Frijoles	Gatun Lake	Miraflores Lake
Sun., Dec. 28...	127.7	93.9	84.7	84 8	84 7	50.5
Mon., Dec. 29..	127.5	93.8	84.8	84.8	84 8	50 4
Tues., Dec. 30..	126.6	93 1	84.8	84 8	84 8	50.4
Wed., Dec. 31..	126.2	92.8	84.5	84 6	84.6	50.4
Thurs., Jan. 1..	126.2	92.7	84.5	84.5	84.5	50.4
Fri., Jan. 2.....	126.1	92 6	84.5	84.5	84.6	50 5
Sat., Jan. 3.....	126.0	92.6	84.4	84.4	84.4	50.5
Height of low water, nearest ft.	125 0	91.0				

*Sluice gates in spillway at Gatun were closed on June 27, 1913, with surface of lake at elevation 48.25 feet above sealevel.

◆

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending January 17, 1914:

Date.	Low	High	Low	High	Low
	A.M.	A.M.	A.M.	P.M.	P.M.
January 11.....	......	2.41	9.07	3.16	9.29
January 12.....	......	3.27	9.51	4.00	10.14
January 13.....	......	4.12	10.35	4.42	10.58
January 14.....	......	4.56	11.18	5.24	11.41
			P.M.		
January 15	......	5 40	12 01	6 08	......
January 16	12.26	6 24	12.45	6.52	......
January 17	1.12	7.09	1.31	7.38	......

75th meridian time.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The Gamble Concert Company will arrive at Cristobal on the steamship *Colon*, on January 12, for the purpose of giving a series of concerts in the clubhouses. The company is headed by Mr. Ernest Gamble, one of America's prominent bassos. He has appeared at the Metropolitan Opera House, New York; the Waldorf-Astoria, New York; St. George's Choral Society, London; Drei Klang Verein, Wiesbaden, Germany, and many musical organizations in America and abroad. In his company are Miss Verna Page, violinist, who is nearly as widely known as Mr. Gamble, Miss Hazel Neff, a noted soprano, who is a protegè of Mme. Schumann-Heink, and Miss Irene Kuhn. The dates will be, as follows: Wednesday, January 14, Corozal; Thursday, January 15, Gatun; Friday, January 16, Cristobal; Saturday, January 17, University Club, Panama; Tuesday, January, 20, Empire; Wednesday, January 21, Culebra; Thursday, January 22, Balboa; Friday, January 23, Pedro Miguel (tentative); Saturday, January 24, Porto Bello.

The moving picture reels to be exhibited during the coming week are, as follows: "Insurance agent;" "World's series baseball games;" "The high cost of reduction;" "Kissing Kate;" "The farmer's daughter," "Oil and water;" a feature reel in two parts; "Our enemy;" "The Wasp."

For the week January 12 to 17, the following films will be shown: "Shylock," a feature reel in two parts; "Taming the spooks;" "Absent minded lover;" "Up to date Lochinvar;" "The cub reporter's temptation."

The schedule for next week is, as follows: Tuesday, Cristobal and Balboa; Wednesday, Corozal; Thursday, Empire; Friday, Culebra; Saturday, Gatun.

BALBOA.

The Balboa recreation hall was opened on Christmas Day with "Open house." Punch was served. No charge was made for pool games on this day, or on New Year's Day. The present equipment consists of three pool tables, a billiard table, library of about 100 books, 50 newspapers and periodicals, phonograph and records, and refreshment parlors. Moving pictures will be exhibited in the room above the recreation hall every Tuesday evening and other entertainments will be given whenever possible.

Request has been made for the installation of a barber shop and cigar stand. Definite announcement concerning same will be made in a few days. New library books and pool room equipment have been ordered from the United States.

PEDRO MIGUEL.

The work on the clubhouse is nearing completion and equipment is now being moved in. The official opening will probably be held during the next two or three weeks, with appropriate exercises, the nature of which will be announced in the near future. The present building is practically a duplication of the Gorgona clubhouse, which was found to be well suited to the needs of the community. New concrete pillars, however, have been added to the front of the building, together with concrete stairways and landing, thus improving the appearance of the structure and increasing its durability. An excellent view of Miraflores Lake, Pedro Miguel and Miraflores locks, and all the surrounding country, is to be had from the second story porch.

COROZAL.

"Open house" was observed on New Year's Day, with free moving pictures at night.

Dr. Frederick Poole will give a return engagement on Thursday, January 8.

The chess club tendered a farewell reception to Dr. Sherrard on January 3. He was president of the club for several months past.

Much interest is manifested in the elimination duckpin tournament now under way, the high scores for the week being: Davis, 109; Regan, 102; Garrett, 101.

CULEBRA.

On December 29, the "Greens" defeated the "Blacks" in the local duckpin tournament by the score of 1,301 to 1,280. On December 30, the "Orange" team defeated the "Blues" by the score of 1,327 to 1,264.

High scores for the week are, as follows: Finley, 107, 102; Koperski, E., 103; Case, 112, 104, 103, 109, 107; Perkins, 100; Schmeck, 100, 116; Holme, 104; Gassman, 116; Koperski, R., 113; Ferguson, 105; Bechlem, 112; Fitzpatrick, 100; Brown, 110; Warner, 103.

Pool and billiard cloths, pool cues and balls have been ordered and the tables will be recovered as soon as they arrive.

The game of "Caroms" has been added to the equipment.

On Friday night, January 2, the Pennsylvania State College quartet gave a concert before a crowded house. They were assisted by Mrs. C. C. Robinson, accompanist, and Mr. L. R. Austin, reader. The following program was given:

1. "On the Sea"....................Dudley Buck
   Quartet.
2. Vocal Solo—"*At Dawning*".............Cadman
   Mr. Robinson.
3. "What the Chimney Sang"................Parks
   Quartet.
4. Reading—"*Flash*"................Will Carleton
   Mr. Austin.
5. "There Little Girl, Don't Cry".........Fearis
   Quartet.
6. Solo—"*Good-bye*"..........................Tost
   Mr. Leyden.
7. "College Medley"....................Robinson
   Quartet.
8. Reading—"David and Goliath"................
   Mr. Austin.
9. Puns and Penn. State Songs...................
   Quartet.
10. Solo—*Selected*..................................
    Mr. Keister
11. Selected..

On Sunday night a sacred concert was given by the same quartet to a good-sized audience.

Dr. Poole will give his third lecture, illustrated by moving pictures and colored slides, on Canton, China, on Tuesday night, January 13. Admission will be, as follows: Adult nonmembers, 25 cents; children, 15 cents; members, free.

EMPIRE.

Mr. Russell, who with 20 boys, visited Chorrera, returned home by the way of Panama on Tuesday, December 29. The boys stood the long walk well, and all reported the trip the best they have had.

The Pennsylvania State College quartet was at Empire on Tuesday, December 30. It was greeted with a crowded house, and the program was enjoyed by all. By request, the quartet gave a short concert on Sunday evening, January 4, when 300 people were in attendance. A reception followed.

New Year's Day was observed by an "Open house" all day. The pool and billard tables and bowling alleys were thrown open to the public. Several of the bowlers took part in the bowling tournament held at Cristobal.

The "Ragtime" duckpin tournament started Monday, January 5. Twenty-five men have entered.

GATUN.

Considerable rivalry was exhibited in the basketball game held on Tuesday evening, December 30, between a picked team from the "Boobs" and the "Bolivars," and a number of the more experienced players who styled themselves the "Old-timers." An unusually large number of people attended. The "Darktown brass band" furnished the music for the game, as well as for the parade of the "Boobs-Bolivars." Although there was a difference of only one point at the end of the first half and the game was tied several times in the second, the "Old-timers" won the game by a score of 20 to 11. The line-ups were, as follows:

"Boobs-Bolivars"		*"Old-timers."*
Thompson, D..........	F	.... Wright
Huber..................	F	.... Conley
Bruce..................	C	...............Ottman
Claybourne............	G	..........Mitchell, Lee
Thompson, R...........	G	..........Mitchell, Joe

The Gatun people were given a double treat on New Year's night, when both Dr. Poole and the Pennsylvania State Quartet appeared. Dr. Poole lectured on "Modern China" and the quartet sang five selections. A total of 357 people attended.

The Palm Tree Glee Club was organized on Friday evening, January 2, with 18 men present. D. Roswell Homer is the accompanist, and the secretary acts as leader. Weekly rehearsals will be held. The club will meet this week on Thursday.

A number of the members met on Saturday evening and formed a Spanish conversational club. Mr. Morell, who has lived in Mexico for the past eight years, is the leader.

The gymnasium classes have started again after the holiday vacation. Those who find it inconvenient to attend the evening classes are invited to come to the afternoon classes.

Basketball practice has been resumed under the direction of the physical director.

Mr. E. P. Wall holds high score in tenpins to date in the bowling contest for the month of January.

Mrs. E. T. Gilbert played piano solos at the motion picture entertainment on Wednesday evening, January 7.

CRISTOBAL.

About 75 couples attended the community dance on Tuesday night, December 30. Refreshments consisting of home made cake and punch were served. Mr. William Marsh was floor manager.

The "Smoker," on New Year's night was attended by over 200 men. Mr. L. T. Brennan of Balboa gave an exceedingly clever exhibition in juggling, using cue balls, pie pans, cue sticks, tennis rackets, and Indian clubs. Mr. Charles Ray gave a number of selections on the banjo. Mr. W. D. Shaffer of Corozal sang a number of popular songs. Mr. Austin, reader for the Pennsylvania State College quartet, was repeatedly recalled. Mr. S. Polack sang two solos, Messrs. Max Hoffman and D. Raymond furnished a comedy sketch, and Mr. Howard Bradshaw sang a solo. The closing number was a wrestling bout between Messrs. Quinn and Huber. The Marine orchestra furnished the instrumental music, and Mr. Briggs accompanied on the piano. Ice cream, cigars, home made cakes, and punch were served.

Through the generosity of the Panama Railroad Company, 56 of the children who took part in the Christmas cantata, accompanied by four adults, spent Saturday afternoon, January 3, at Bella Vista beach in Panama. The children had an early morning dip from Dock 16 in Cristobal; took the 11.05 train to Panama, and enjoyed an afternoon frolic in the Pacific. Fire Chief Charles E. Weidman furnished the children's transportation from the depot to the beach and return. Before leaving for home, sandwiches and ice cream were served. On the train to Panama, the children sang a number of the cantata songs for Mr. Metcalfe, and his guests, Congressman Jas. Manahan of Minnesota and Senator Thomas J. Walsh of Montana.

The discussion club will be addressed by Mr. D. L. Dickson, Ensign, U. S. N., on January 15, on the subject of submarine vessels.

The following were the winners in the New Year's All-Isthmian tenpin bowling tournament:

Singles—Gustavson, 610, Lonch, 559, Bullard, 524.

Single high game—Barte, 243.

Doubles—Gustavson and Barrett, 1,132; Bullard and Parkis, 1,065; Barte and Huson, 1,049.

Entries are now in order for the married folks bowling tournament on Monday, January 12.

The combined gymnasium classes of the Cristobal Y. M. C. A. gave a demonstration of physical activities, such as games, folk and gymnastic dancing, on Monday and Wednesday evenings, December 29 and 31. The program was, as follows: March, combined classes-graceful calisthenics, Class A; progressive mat exercises, boys; folk dancing, Class B; parallel bars, men; shuttle relay and somersault races, boys; Irish lilt dance, Class A; Game of "Baste the bearer," men; Cristobal gavotte athletic dance, Messrs. Poore, Schradley, and Wechsler; comedy acrobatics by Messrs. Bell, D. Raymond and Hughes. Sixty-two men, boys, and girls took part in the exercises. Classes were discontinued during the Christmas holidays, but were resumed on Monday, January 5.

PORTO BELLO.

The Christmas entertainment furnished jointly by the Porto Bello Sunday school and the townspeople was a success. The program was under the direction of the Sunday school, with Mrs. VanVoy as chairman. The decorations were tasteful, and were under the supervision of Mr. Cecil Wilkes. Mrs. Smith, and her corps of assistants, furnished supper. The program was, as follows:

"Joy to the world," by the congregation; prayer, Mrs. Sobey; Scripture reading, Mrs. A. E. Woolworth; address by the superintendent, P. T. Woolworth; song, Mrs. Wilkes; recitation, Pauline Smith; song, "Sunshine kisses," four little girls; "If I were God," Doris Geyer; "What I want," Gladys Smith; "Snowflakes," Mabel Colberg; song, "Christmas bells," Pauline Smith and Doris Geyer; recitation, Helen Keene; recitation, Gladys Geyer and John Geyer; recitation, Hazel Bruck; "Song of the wise men," by the school; recitation, "Mary's lamb", Anna Colberg; "Carols", William Smith; recitation, "Shining star," Dorothy Bruck; recitation, Rosemary Keene; declamation, "Christmas ladder," Howard Geyer; "Boyhood," John Bruck; recitation, Russell Geyer; recitation, "Nellie Bruck'; recitation, Claud Smith; recitation, Ronald Medd; recitation, Edward Keene; "Christmas tree," Howard Geyer; "We're so very little," four little girls; tableau, "Crown jewels"; piano duet, Mrs. Allen and Mrs. Mackintosh; recitation, Gladys Geyer; recitation, Lillian Colherg; recitation, Pauline Smith; "Color bearers," three little girls; song, Mrs. Wilkes; "Hark the herald angels sing," by the congregation. Mr. Walter Thompson acted as Santa Claus, and distributed the presents. Mrs. Allen was presented with a handsome bag containing a $10 gold piece as a token of appreciation of her services as pianist at the Sunday school services and the Sunday evening song service.

The Pennsylvania State College quartet gave a concert at the Porto Bello clubhouse on Saturday night, December 27, to a crowded house.

New Year's Day was observed by a picnic at the powder house beach. A large number took advantage of the nice day. Swimming and games were indulged in, and a lunch was prepared on the beach. In the evening, a "Smoker" was held in the clubhouse. Moving pictures, with two special feature reels, and an acrobatic performance, together with feats of legerdemain, by Geo Kelley, made up the program.

Dr. Poole gave his illustrated lecture on "China" at the clubhouse on Saturday night, January 3, to a crowded house.

OFFICIAL CIRCULARS.

Financial Accounting for Material and Supplies.

CULEBRA, C. Z., December 31, 1913.

CIRCULAR No. 520:

I. ACCOUNTING FOR MATERIAL AND SUPPLIES IN STOREHOUSES.

1. Effective with the period ending December 31, 1913, the rendition of property returns for stock in storehouses on Form QMD-7-B will be discontinued. The property returns for the stock in Mount Hope storehouse for the period ended November 30, 1913, and for all other storehouses for the period ending December 31, 1913, will be forwarded to the Examiner of Accounts as soon as practicable after January 1, 1914. With the exception of the returns for Empire and Balboa storehouses, they will be accompanied by a list of overages and shortages.

2. The financial accountability of the Depot Quartermaster for stock in storehouses under his jurisdiction will be based upon the inventory taken December 1, 1913, priced from the prices shown in the price book. The financial accountability of storekeepers at Empire and Balboa will be based upon the value of the stock in each storehouse as taken from stock cards, which will be priced and extended as of January 1, 1914. The financial accountability of the district quartermasters and other storekeepers of the Quartermaster's Department will be based upon the inventory taken by them January 1, 1914, priced from the prices shown in the price book. The financial accountability of the storekeeper of the medical storehouse will be based upon the price inventory taken January 1, 1914.

3. The classification of material and supplies to be used temporarily will be prepared by the Chief Quartermaster. The stock of articles in the obsolete storehouse will be carried as a separate class.

4. Requisitions and foremen's orders for material and supplies in storehouses will be made on the forms provided for the purpose. Items of nonexpendable property will not be included in the same requisition, or order, with items of expendable property, and requisitions for material and supplies to be immediately expended must not contain items of material and supplies which are to be placed in stock in the divisions. No requisition or foreman's order for material and supplies should contain items found in more than one class.

5. When expendable material and supplies are furnished in containers which are nonexpendable, storekeepers will invoice the containers separately on the form for nonexpendable property, and the receiving official will handle in accordance with instructions concerning such property.

6. When foremen's orders are received in the storehouses the articles will be issued, prices and classes will be inserted. and the original and one copy forwarded to the Examiner of Accounts. The Examiner of Accounts will extend the prices, and forward the copies of the orders, classified by divisions and accompanied by an adding machine list, to the proper division or cost accountant, daily.

7. Requisitions, whether for expendable or nonexpendable property for stock, will be made in sextuplicate. Four copies, completed to show the quantity supplied, the unit price and the class, will be returned to the requisitioning official, who will accomplish and return one copy to the storehouse and forward two copies to the Examiner of Accounts. Prices will be extended by the Examiner of Accounts and one copy forwarded to the proper division or cost accountant.

8. When material or supplies are transferred from one storehouse to another, or from one division to another, or when returned to stock, or received from manufacturing plants, one copy of the transfer invoice will be forwarded direct from the invoicing official to the Examiner of Accounts, and the receiving official will forward one signed copy to the Examiner of Accounts immediately after accomplishment.

9. The following reports will be made weekly to the Examiner of Accounts by the Depot Quartermaster at Mount Hope, covering bills for material and supplies and services certified by him for payment:

Abstract of U. S. bills covering material and supplies received and taken into stock, accompanied by copies of invoices.

Abstract of U. S. bills covering material and supplies purchased on A, B, D, E, F, and H requisitions, accompanied by copies of invoices.

Abstract of U. S. bills certified for services only, accompanied by copies of invoices.

Abstract of local bills for material and supplies purchased on the Isthmus and taken into stock.

Abstract of bills covering local purchases not taken into stock, such as subsistence supplies.

Abstract of other bills for services performed on the Isthmus and certified by the Depot Quartermaster.

10. A monthly report will be made by the Examiner of Accounts to the Chairman and Chief Engineer, Chief Quartermaster, and the espective storekeepers and divisions, showing the value of stock on hand, received, issued, or expended during the month.

II. ACCOUNTING FOR DIVISION STOCK OF MATERIAL AND SUPPLIES.

11. The stock of material and supplies kept on hand by divisions shall consist only of such articles as rock, sand, gravel, cement, coal, lumber, piling, explosives, oil, and waste, or any special material used only by one division which can be stored by the division to better advantage, or material of such character as necessitates its issue in bulk, or its delivery direct to divisions to save rehandling.

12. Card records of material and supplies kept in stock shall be maintained by each division showing the quantities on hand, received, issued, and expended in the work.

13. Each division will submit to the Examiner of Accounts on the first day of each month, report of the material and supplies requisitioned for immediate expenditure, which were not expended in the work during the preceding month; also, a report of material and supplies reclaimed or returned to stock after being charged to expenditure acconts.

III. DETAILS TO BE ARRANGED AND FORMS TO BE PRESCRIBED BY THE EXAMINER OF ACCOUNTS.

14. The Examiner of Accounts will prescribe all forms and arrange the details of the procedure to be followed in accounting for material and supplies. If necessity arises he may modify the details of the procedure fixed herein.

GEO. W. GOETHALS.
Chairman and Chief Engineer.

Housekeeping Quarters at La Boca Silver Camp.

CULEBRA, C. Z., January 2, 1914.

CIRCULAR No. 518:

Housekeeping quarters at La Boca willl be assigned to married silver employes and the rental for same will be fixed and collected in accordance with the following rules and regulations:

1. The district quartermaster at Ancon will maintain a regular list of applicants whose applications will be filed in the order in which they are received. He will make assignments, subject to the general rules now covering the assignment of silver married quarters.

2. The quarters must not be sublet and must only be occupied by the employe to whom assigned and the immediate family or dependent relatives of such employe.

3. The apartment occupied and the surrounding premises must be kept in a clean and sanitary condition. Employes and their families will be required to comply with all sanitary regulations and to conform in general to the regular rules governing the occupancy of silver married quarters.

4. Employes occupying quarters who leave the service either by discharge or of their own accord will be permitted to retain their quarters until the end of the month for which rental was paid prior to such separation. at which time they must vacate the quarters.

5. A monthly rental fixed by the Chief Quartermaster with the approval of the Chairman will be charged for each apartment. The rates with the effective dates thereof shall be shown on a copy of these regulations posted on each rented building.

6. The rental period will begin on the 16th day of one month and end on the 15th day of the following month. The monthly rental must be paid to the authorized representative of the Isthmian Canal Commission in advance, that is, prior to the first day of the monthly rental period. Receipt for payment must be given on the prescribed form and should be retained by occupant as evidence of right to occupancy. These receipts must be shown upon demand to representatives of the Commission.

7. In case occupancy begins during any monthly rental period, a daily rate equal to 1-30 of the monthly rate will be charged for each day the quarters are occupied, except that rental for a fractional part of a monthly period beginning after February 16, shall be determined by deducting from the monthly rental 1-30 thereof for each day between February 15 and the date the occupancy begins.

8. Should any of the above rules and regulations not be complied with, the employe will be compelled to vacate his quarters at once, and no allowance will be made on account of rental paid by him for the unexpired balance of the month.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Examination by Board of Local Inspectors.

BOARD OF LOCAL INSPECTORS,
ANCON, C. Z., January 2, 1914.

The Board of Local Inspectors will conduct examinations at the Administration Building, Ancon, on Wednesday, January 14, 1914, beginning promptly at 2 p. m., for persons desiring to secure the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for licenses must procure from the Executive Office, Ancon, forms of application and information respecting the filling out of same, not later than the day previous to the examination. In addition, all persons desiring chauffeurs' licenses must provide themselves with automobiles with which to demonstrate their ability properly to operate the same.

Note—The demonstration test for applicants for chauffeurs' licenses will be given on Tuesday, the day preceding the regular examination at 2 p. m., at the Administration Building, Ancon; on Wednesday, the day of the regular examination, at 9 a. m., at the police station, Cristobal; for out-of-town applicants, on the day of the regular examination, at 2 p. m., at the Administration Building, Ancon.

W. V. JUDSON,
Chairman, Board of Local Inspectors.

Disposition of Bodies, Ancon Hospital and Cemetery.

DEPARTMENT OF SANITATION,
ANCON HOSPITAL,
ANCON, C. Z., December 31, 1913.

Arrangements have been made to change the mode of disposition of the bodies of those dying in Ancon Hospital, or brought there for disposition, from burial to cremation.

All bodies remaining in the cemetery after February 1, 1914, whose disposition has not been otherwise arranged for, will be cremated. The bodies of all persons dying in the hospital after that date, or brought there for disposal, will be cremated unless their friends or relatives arrange to take the bodies away within 24 hours after death.

Friends or relatives who wish to take away the ashes of the bodies cremated will be permitted to do so, provided they make application therefor in advance; otherwise, the ashes will be placed in a common grave.

Bodies embalmed for future disposition should be removed as soon as possible; if not removed within 90 days from date of embalming they will be cremated.

CHAS. F. MASON,
Superintendent.

Transfer of District Quartermasters.

OFFICE OF CHIEF QUARTERMASTER,
CULEBRA, C. Z., December 16, 1913.

All concerned—Effective January 1, 1914, the following changes will be made in stations of district quartermasters: Roy R. Watson, from Cristobal to Ancon; B. C. Poole, from Ancon to Cristobal.

R. E. WOOD,
Chief Quartermaster.

Gamboa Passing Track Placed in Service.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., January 5, 1914.

G. S. BULLETIN No. 32:

All Concerned—Effective 12.15 p. m., Tuesday, January 6, 1914, the new Gamboa passing track will be put into service and used temporarily by all trains, to permit placing permanent main line track on final grade and center.

All trains will operate over this track until further notice. A speed of 10 miles per hour will not be exceeded through the turnouts at either end of the passing track, and over the temporary incline on the curve north of water tank.

The interlocking plant at Gamboa cabin will be put out of service at the same time, and switches will be equipped with hand throw switch stands.

Please be governed accordingly.

F. MEARS,
General Superintendent.

Placing in Service of New Section of P. R. R. Main Line.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., January 5, 1914.

G. S. BULLETIN No. 31:

All Concerned—The new section of permanent main line between Dump 6 and Dump 7, will be put into service at 12 o'clock noon, Thursday, January 8, 1914. Trains will not exceed a speed of 20 miles per hour until further notice.

F. MEARS,
General Superintendent.

Interlocking Plant at Caimito Out of Service.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., January 2, 1914.

G. S. BULLETIN No. 28:

All concerned—Interlocking plant at Caimito will be placed out of service at 10 a. m., on Monday, January 5, 1914.

F. MEARS,
General Superintendent.

LOST—Bunch of keys with metal check No. 179408 attached. Finder please return to district quartermaster's office at Culebra, or any other district quartermaster's office, notifying Culebra.

COMMISSARY DEPARTMENT.

The commissary stores are open during the following hours:

Cristobal, 8 a. m., to 12.30 p. m., and 2 to 7 p. m.
Balboa, 8 a. m. to 12.30 p. m., and 2.30 to 7 p. m.
Ancon, 8 a. m. to 1 p. m., and 3 to 6 p. m.
All others, 8 a. m. to 1 p. m., and 3 to 7 p. m.

Commissary Cold Storage.

No changes are reported in the list of cold storage supplies sold at the commissaries published in THE CANAL RECORD of December 31.

Married.

RAWSON-BRADY—On Wednesday, December 17, 1913, at Cristobal, C. Z., Iscah Maurie Brady of Marion, Ohio, to Dr. Frank Rawson of Empire, the Rev. J. L. Wise officiating. Canal Zone residence, Empire.

BLACKWOOD-HARVEY—On Wednesday, December 17, 1913, at Cristobal, C. Z., Jean Harvey to Frederick William Blackwood, both of Boston, Mass., the Rev. J. L. Wise officiating. Canal Zone residence, Empire.

McKECHINE-BARROWS.—At the home of the bride's parents in Ancon, on Thursday, December 11, Myrtle Mae Barrows to Thomas McKay McKechine, the Rev. Harry Compton officiating. Canal Zone residence, Ancon.

Supplies for the Canal.

The following steamers, with supplies for the Isthmian Canal Commission and Panama Railroad Company arrived at the ports of Colon and Cristobal during the week ending January 3:

Magdalena, December 28, from New York, with 70 reels wire cable, for stock.

Carrillo, December 28, from New York, with 31 kegs copper nails, 623 crates porcelain insulators, 187 cases electrical machinery, for First Division; one launch, for Sixth Division; 16 kegs wire nails, for Division of Municipal Engineering; 246 bundles galvanized iron, for stock.

Prinz Joachim, December 29, from New York, with 43 kegs bolts and nuts, for First Division; 24 bars steel, 22 drums, 200 sacks lime, for stock.

Cartago, December 29, from New Orleans, with 150,000 pounds pig iron, 189 pieces oak lumber, for Mechanical Division; 25 castings, 13 pieces oak lumber, for Sixth Division; 77 pieces treated piling, for Division of Municipal Engineering; 66 pieces untreated piling, 73 pieces oak lumber, for Atlantic Division; 50 kegs white lead, 26 rolls cotton canvas, for stock.

Uller, December 30, from Philadelphia, with 9,000 cases dynamite, for stock.

Panama, December 30, from New York, with 353 crates roofing tiles, 235 packages steel and bolts, 34 cases electrical machinery, 18 reels cable, for First Division; 60 pieces pipe, 858 bundles steel bars, for Second Division; 20 crates iron office material, for Sixth Division; 60 packages drugs, for Sanitary Department; 75 bundles brick, eight cases electrical machinery, for Mechanical Division; 208 bundles reinforcing bars, 142 bundles reinforcing bars, for Division of Municipal Engineering; 100 bundles reinforcing bars, 42 cases woodwork, 35 bundles liquid paint and cement, for Administration Building, Balboa; 754 bundles steel, 95 boxes armament, for fortifications; 150 castings, 1,699 pieces steel, 80 drums paint, 40 cases signal oil, 200 bales oakum, 150 barrels lubricating grease, for stock; and a miscellaneous cargo, the whole consisting of 5,686 pieces weighing 450 tons.

Santa Marta, December 31, from New York, with 109 packages tile, 1,437 packages structural steel, 109 packages tile, for First Division; 48 packages bridge iron, 16 cases structural material, for fortifications; 30 cases concentrated lye, 380 coils wire, for stock.

Abangarez, from New Orleans, January 2, with 246 pieces oak lumber, 111 tons pig iron, for Mechanical Division; 370 sacks feed, for stock.

Benefactor, January 2, from Liverpool, with 50 steel dipper teeth, for stock.

Rainfall, Dec. 1 to Dec. 31, 1913, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	1.27	12	4.84
Balboa	1.36	12	3.72
*Miraflores	1.60	12	4.38
Pedro Miguel	1.24	12	2.14
Rio Grande	.90	12	1.59
Central Section—			
Culebra	.81	12	1.50
*Camacho	.61	8	1.98
Empire	.74	12	2.03
Gamboa	.80	12	1.82
*Juan Mina	.65	12	1.62
Alhajuela	.39	10	1.59
*El Vigia	.30	21	1.03
Frijoles	1.29	12	4.73
Trinidad	1.10	1	4.12
*Monte Lirio	2.21	12	7.19
Atlantic Section—			
Gatun	2.54	1	8.06
*Brazos Brook	3.75	1	12.52
Colon	1.85	21	6.55
†Porto Bello	3.02	18	10.46

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight. †To 5 p. m., January 5.

December Rainfall for Three Years.

STATIONS.	1911	1912	1913	Station Av.	Years of record	Rai'y days, '13
Pacific Section—						
Ancon	1.99	3.27	4.84	4.22	17	9
Balboa	1.36	4.94	3.72	5.82	15	8
Miraflores	1.40	6.75	4.38	7.53	6	6
Pedro Miguel	1.82	3.91	2.14	6.51	6	7
Rio Grande	1.27	4.04	1.59	5.45	9	11
Central Section—						
Culebra	.31	4.87	1.50	7.41	23	14
Camacho	1.34	3.46	1.98	6.06	8	11
Empire	.20	3.71	2.03	5.22	10	16
Gamboa	.97	3.63	1.82	6.81	31	17
Juan Mina	.64	2.02	1.62	5.22	4	14
Alhajuela	.39	2.20	1.59	6.70	15	15
El Vigia	.45	1.53	1.03	5.60	6	14
Frijoles		5.65	4.73	5.19	9	22
Trinidad	3.09	5.61	4.12	10.03	2	18
Monte Lirio	2.30	5.24	7.19	10.53	6	13
Atlantic Section—						
Gatun	2.25	9.82	8.06	12.79	7	23
Brazos Brook	1.86	9.63	12.52	13.98	9	22
Colon	2.63	11.47	6.55	12.18	8	21
Porto Bello	2.16	11.52	10.46	20.63	43	23

WEATHER CONDITIONS, CANAL ZONE, DECEMBER, 1913.

Except for a general rain on the 12th and frequent showers along the Atlantic Coast, dry season weather prevailed during the greater part of the month. The rainfall was below the station averages at all stations except Ancon The deficiencies were greatest in the central section and over the Chagres River basin. The monthly totals ranged from 1.03 inches at El Vigia to 12.52 inches at Brazos Brook. The maximum precipitation recorded in one day was 3.75 inches at Brazos Brook on the 1st.

Air temperatures, wind movement, and atmospheric pressure were slightly above normal, while the cloudiness was generally deficient.

Few fogs were observed during the month. Of the fogs observed, 59 per cent were dissipated by 6.30 a. m., 74 per cent by 7.30 a. m., and 96 per cent by 8.30 a. m.

The following table summarizes the weather conditions for the month:

STATIONS.	Press're (reduc'd to mean of 24 hours.)	Temperature.					Mean relative humidity.	Precipitation.			Wind.				
		Mean.	Maximum.	Date	Minimum.	Date.		Total inches.	Station average.	Number of rainy days.	Total movement (in miles).	Prevailing direction.	Max. velocity (in miles).	Direction.	Date.
Colon	29.876	79.7	86	Dec. 8	72	Dec. 12	84	6.55	12.18	21	8,758	N.	32	N. E.	Dec. 28
Culebra	29.850	78.5	88	Dec. 24	68	Dec. 6	94	1.50	7.41	14	5,820	N. W.	23	N. W.	Dec. 8
Ancon	29.840	80.0	92	Dec. 24	68	Dec. 5	89	4.84	4.22	9	5,547	N. W.	22	N. W.	Dec. 10

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings of the Panama Railroad Steamship Company; of the Royal Mail Steam Packet Company; of the Hamburg-American Line; and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.

*Colon	P. R. R.	Tuesday	Jan.	6
*Advance	P. R. R.	Monday	Jan.	12
*Panama	P. R. R.	Monday	Jan.	19
*Allianca	P. R. R.	Saturday	Jan.	24
*Colon	P. R. R.	Friday	Jan.	30
*Advance	P. R. R.	Thursday	Feb.	5

CRISTOBAL TO NEW YORK.

†Allianca	P. R. R.	Sunday	Jan.	11
†Colon	P. R. R.	Sunday	Jan.	18
†Advance	P. R. R.	Saturday	Jan.	24
†Panama	P. R. R.	Friday	Jan.	30
†Allianca	P. R. R.	Thursday	Feb.	5
†Colon	P. R. R.	Wednesday	Feb.	11
†Advance	P. R. R.	Tuesday	Feb.	17

NEW YORK TO COLON.

*Metapan	U. F. C.	Wednesday	Dec.	31
*Prinz Aug. Wilhelm	H.-A.	Saturday	Jan.	3
*Pastores	U. F. C.	Saturday	Jan.	3
*Danube	R. M.	Saturday	Jan.	3
*Zacapa	U. F. C.	Wednesday	Jan.	7
*Emil L. Boas	H.-A.	Saturday	Jan.	10
*Tagus	R. M.	Saturday	Jan.	17
*Calamares	H.-A.	Saturday	Jan.	17
*Prinz Joachim	H.-A.	Saturday	Jan.	17
*Santa Marta	U. F. C.	Wednesday	Jan.	21
*Carl Schurz	H.-A.	Saturday	Jan.	24
*Pastores	U. F. C.	Saturday	Jan.	24
*Metapan	U. F. C.	Wednesday	Jan.	28
*Prinz Aug. Wilhelm	H.-A.	Saturday	Jan.	31
*Tenadores	U. F. C.	Saturday	Jan.	31
*Oruba	R. M.	Saturday	Jan.	31

COLON TO NEW YORK.

Santa Marta	U. F. C.	Thursday	Jan.	8
Pastores	U. F. C.	Sunday	Jan.	11
Carl Schurz	H.-A.	Tuesday	Jan.	13
Pastores	U. F. C.	Tuesday	Jan.	13
Metapan	U. F. C.	Thursday	Jan.	15
Tenadores	U. F. C.	Sunday	Jan.	18
Prinz Aug. Wilhelm	H.-A.	Tuesday	Jan.	20
Oruba	R. M.	Tuesday	Jan.	20
†Zacapa	U. F. C.	Thursday	Jan.	22
Calamares	U. F. C.	Sunday	Jan.	25
Emil L. Boas	H.-A.	Tuesday	Jan.	27
Almirante	U. F. C.	Thursday	Jan.	29
Pastores	U. F. C.	Sunday	Feb.	3
Trent	R. M.	Tuesday	Feb.	3
Prinz Joachim	H.-A.	Tuesday	Feb.	3
Santa Marta	U. F. C.	Thursday	Feb.	5
Tenadores	U. F. C.	Sunday	Feb.	8

NEW ORLEANS TO COLON.

*Atenas	U. F. C.	Saturday	Jan.	3
*Parismina	U. F. C.	Wednesday	Jan.	7
*Turrialba	U. F. C.	Saturday	Jan.	10
*Cartago	U. F. C.	Wednesday	Jan.	14
*Abangarez	U. F. C.	Saturday	Jan.	17

COLON TO NEW ORLEANS.

†Abangarez	U. F. C.	Thursday	Jan.	8
‡Heredia	U. F. C.	Saturday	Jan.	10
†Atenas	U. F. C.	Thursday	Jan.	15
‡Parismina	U. F. C.	Saturday	Jan.	17

BOSTON TO COLON.

Sixaola	U. F. C.	Thursday	Jan.	8
Carrillo	U. F. C.	Thursday	Jan.	15
Tivives	U. F. C.	Thursday	Jan.	22

COLON TO BOSTON.

Tivives	U. F. C.	Sunday	Jan.	11
Sixaola	U. F. C.	Sunday	Jan.	18
Carrillo	U. F. C.	Sunday	Jan.	25

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 2 p. m.; for Southampton, on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays and Saturdays at 3 p. m.; ships for New York via Kingston, on Thursdays at 2 p. m.; for New York, via Limon and Havana on Sundays at 5 p. m.; for Limon and Bocas del Toro, on Tuesdays at 3 p. m.; and for Bocas del Toro direct, on Mondays at 5 p. m.

Hamburg-American steamers sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays: the *Prinz August Wilhelm* and the *Prinz Joachim* at 10 a. m.; the *Carl Schurz* and the *Emil L. Boas* at 2 p. m.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, JANUARY 14, 1914. No. 21.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Additional Pier at Cristobal Terminal.

At a meeting of the Board of Directors of the Panama Railroad Company, held in New York City, on December 22, the construction of an additional pier in the dock system at the Cristobal terminal was authorized at a cost of approximately $1,100,000. This pier, which will be known as pier No. 7, will be of about the same size as pier No. 8, and, although there will probably be some modifications as to details, the plans, in general, will conform to those for piers Nos. 8 and 9, now nearing completion. Borings on the site of the proposed pier, which will be separated only by the width of the slip from pier No. 8, directly south, have been begun. Mr. T. B. Mönniche, formerly designing engineer in the Department of Construction and Engineering, in charge of the details for the emergency dams, was transferred, effective December 31, 1913, to the Panama railroad, and will have charge of the design of the new pier.

The matter of abandoning the old Colon docks of the railroad company on or about January 1, 1919 came up at the directors' meeting on December 22, but in view of the fact that it will be 12 months, or more, before dock No. 7 can be completed, definite action was postponed until a later date.

Transfer of Generating Equipment to Miraflores Power Plant.

In order to supply the shops at Balboa with electrical energy before the permanent electric system is in operation, the Miraflores power plant is being supplemented by the transfer to it of one of the three generating units in the steam plant at Gatun. The two stations were originally twin plants, having three Curtis steam turbines of 1,500 kilowatts capacity, direct-connected to generators, which, driven at a speed of 1,500 revolutions per minute, produced each 394 amperes of alternating current at a potential of 2,200 volts. Steam for each turbine is supplied at 175 pounds pressure from twin Keeler boilers, oil-burning, and equipped with superheaters, each having accessory equipment of condenser and vacuum pump.

The transfer is being done by forces of the Mechanical Division, which has charge of both plants. The turbogenerator and its accessories are being handled directly to flat cars, on a track entering the north end of the plant, by the 20-ton overhead electric crane; the boiler parts will be handled by locomotive crane. The material will be hauled to the west side of the upper approach to Gatun Locks and loaded on a barge, which will carry it through the Canal to Miraflores.

Vacuum Cleaners for New Administration Building.

Award has been made to the American Rotary Valve Company for supplying a vacuum cleaning system at the new administration building at Balboa, at the price of $1,869. The contract calls for six vacuum cleaning machines, equipped with 20-horsepower motors of the 230-volt, 3-phase, 25-cycle, A.C. type, together with six 12-inch carpet renovators, six 18-inch bare floor renovators, six desk and shelf renovators, six wall brushes, six 1-inch automatic valve handles, 450 feet of 1½-inch wire line vacuum hose, and 36 bronze flush valves. All exposed parts of the vacuum machines are to be treated with an anticorrosive preparation.

New Sightseeing Barge.

The passenger-carrying barge for the Panama railroad's sightseeing service has been completed, and will be placed in use within the next few days. A steel mud dump barge, one of four built by William Cramp and Sons Ship and Engine Company for the Isthmian Canal Commission, brought in sections to the Isthmus in July, 1909, and assembled at the Balboa shipways, has been utilized for the purpose. It has a length of 154 feet; beam, 32 feet; depth, 10 feet and seven inches, and is of 500 gross tons. The work of converting the barge to its new use was performed in the slip between docks Nos. 8 and 9, by forces of the Panama railroad.

The dock structure is modeled after that on the sightseeing cars; its floor is raised at the after end to a height of eight feet nine inches, and gradually descends to about two feet at the forward end, so that the occupants of the rear seats can overlook those in front without obstruction to the view. The roof and floor timbers are eight by 16 inches in size, the latter being bolted securely to the hull. The roof, upheld by 8 by 8-inch wooden stanchions, is covered with 1-inch ceiling lumber, in turn covered over with sailcloth, painted and sanded. For the protection of those who prefer to ride on the roof, a double row of 2½-inch pipe railing has been built around the outer edge. An aisle, or passageway extends through the center of the interior of the structure, with rows of wooden seats on either side. Seating accommodations have been provided for 276 passengers. The barge will be equipped with the usual marine safeguards, including life preservers to a number equivalent to its passenger-carrying capacity. These preservers will be stored in a specially designed loft attached to the ceiling in the after part of the structure, so arranged that in case of use, they can all be released at one time. Toilet facilities have been installed in the space underneath the high part of the structure, served by an iron tank placed between it and the master's cabin. A wooden railing extends entirely around the main barge deck, with space between it and the superstructure for a passageway. A rate of $1.50 will be charged for the lake trip between Gatun and Gamboa.

Work at Cucaracha Slide.

Conditions at Cucaracha slide have remained practically the same during the past week, the least width of channel being still about 160 feet, with the seven dredges engaged on either side of the narrowest point. The slide appears to be in slight motion clear to its outermost break, which is 1,832 feet from the Canal center line, and it is believed that not less than 1,500,000 cubic yards of spoil, and possibly more, will have to be removed from it before it will cease to menace the channel.

Two more of the six 1,000-cubic yard dump barges ordered from the Maryland Steel Company, of which two are now in service, left the plant of the contractor at Sparrow's Point, Md., on January 10, in tow for the Isthmus.

Permanent Locomotive Roundhouse at Balboa.

Most of the material for the motor-driven turntable to be installed in the permanent roundhouse of the Balboa terminals, situated on the northeastern edge of the site of the shops and south of the yards at the head of the proposed new pier, has arrived from the United States, and the foundation for the turntable is being erected. The foundation will consist of a reinforced concrete pivot at the center of the 35-foot radial turning area, mounted on a 6-foot caisson, and of supports for the outside track, made of reinforced concrete resting on concrete piles and 10 and 12-inch steel tubes, filled with reinforced concrete. All caissons have been sunk to rock, which is about 40 feet below the surface of the ground.

The steel work for the roundhouse building has been completed, with the exception of final alignment of some of the roof purlins. The roundhouse is 75 feet deep, with its interior rim 45 feet from the outer track of the turntable carriage, and is built in a segment of 160 degrees. It is to have 15 stalls, and the concrete work for all the pits has been completed, in readiness for the track. The three pits centrally situated have extra heavy and wide walls, for the use of jacks in repair work. Opposite them, on the outer side of the roundhouse, is an office and machine shop, about 20 feet deep by 100 feet long. Foundations for nine machines, such as drills, lathes, boring mill, etc., are to be placed in the machine shop.

All the steel work of the structure is to be encased in concrete to protect it against the corrosive effect of the gases from the locomotives, and the roof is to be of reinforced concrete, provided with concrete smoke jacks for ventilation. The outer side of the roundhouse is to be enclosed with a concrete wall to a height of six feet above the ground, with the exception of the machine shop, for which a wall three feet six inches high will be built and surmounted by movable louvres.

Fill at Miraflores.

The triangular space between the spur track leading to the summit of the hill at Miraflores, on which the new water purification plant now under construction by the Division of Municipal Engineering is located, and the Panama railroad main line, is to be filled level with the top of the present railroad embankments. This fill does away with the pool of stagnant water occupying the depression, and provides space for a wagon road, which will probably be built after the tracks are removed, connecting the site of the purification plant with the Canal Zone highway. This road can be utilized by teams in the transportation of chemicals and other materials required at the purification plant. The work of making the fill has already been begun by Fourth Division forces. About 12,500 cubic yards will be required.

Progress on Pontoon Barge for Crossing the Canal.

In the construction of the pontoon barge to support the trestle for railway and highway traffic across the Canal at Paraiso, by which the Empire suspension bridge and bridge No. 57½ of the Panama railroad will be supplanted, the transverse floor timbers, spaced about 20 inches apart, have been laid for the full 378 feet of length, the seven lengthwise bulkheads directly over the floor timbers have been extended almost the entire length, and the deck beams extending across the tops of the bulkheads have been laid for over one-third of the length of the barge. Work has been begun on the decking. No work has been done on the flooring, or sheathing, which will be placed on the under side of the floor timbers to form the hull. The sheathing will be of 12-inch plank, three inches thick, and all joints are to be securely calked.

The barge is being constructed on the east, or Mount Hope, bank of the French canal, immediately north of the approach to the dry dock. It is mounted on cribbing, built up about five feet above the surface of the earth, and is to be launched, when completed, by means of improvised shipways laid alongside. A force of 16 gold and about 78 silver men is employed on the work, and it is expected that the barge will be finished, ready for launching, within three months.

Water was admitted to the west chamber of Pedro Miguel Lock on Friday, January 2, and to the east flight of Gatun Locks on January 3, in the course of tests of valves and gates, preparatory to getting the flights in readiness for operation. As far as the tests have advanced, the results have been satisfactory.

Progress on Electrical Substations.

The structural steel for the superstructures of the four substations, through which current from the Gatun hydroelectric station will be distributed along the Canal, in connection with the 44,000-volt transmission line, is arriving from the plants of the American Bridge Company, which has the contract for its fabrication and erection. The superstructures of the buildings will be identical; each will have approximate plan dimensions of 126 by 72 feet, with a maximum height of 36 feet. The first steel for the Gatun substation arrived at the site, immediately north of the Atlantic Division office building, on January 3, and forces of the contractor are engaged in sorting material and erecting the first columns.

The foundation of this station, built by forces of the Quartermaster's Department under supervision of the First Division, was completed ready for steel, with masonry plates and anchor bolts in place, on December 17. Excavation for the foundation had been started in November. Excavation for the substation at Miraflores, also begun in November, has been completed and the foundation is nearly in place. No work has been done on the sites of the Balboa and Cristobal substations. A committee has recently selected the ground in rear of the north end of Dock 13, between Mount Hope and Cristobal, as the site for the Cristobal station. That for the Balboa station is under advisement.

Ancon Crusher.

Following is a statement of rock crushed at Ancon quarry during the week ending January 10:

DATE.	Cubic yards.	Hours worked.
Jan. 5	1,915	8.20
Jan. 6	1,832	6.20
Jan. 7	2,793	8.50
Jan. 8	2,321	8.35
Jan 9	2,444	8.25
Jan 10	2,450	6.40
Total	13,755	47.10

Progress on Hydroelectric Station.

At the Gatun hydroelectric station the concrete work under way at present consists in finishing the under parts of the 12-foot overhanging eaves which are recessed in architectural design based on the position of the supporting beams, smoothing the exterior and interior surfaces of the concrete walls, and various touches of finishing work in the installation of machinery. No concrete is received from the spillway mixing plant, but cement is drawn from the supply store at the plant. The first and second galleries in the west side of the building, to contain the bus compartments and the switchboards, respectively, and the gallery at the south end for office space, have been completed, except for smoothing, and the installation of bus bars, oil switches, etc., is under way.

The turbines for the turbogenerators have been completed for some time, except for the connection of their governors and lubricating systems; masons are now engaged in lining the turbine pits with white enameled brick. The 30-ton overhead electric crane is about ready for use, and in a short time power for its operation will be supplied from the Gatun steam electric plant, through the duct lines laid to connect the hydroelectric station with the transformer station east of Gatun Locks. The crane will then be used in installing the generators on top of the turbine frames.

The reinforced concrete headgate house, at the east end of the spillway dam, has been completed; mechanical installation of the controlling machinery is complete, and the placing of electrical connections and control panels is in progress.

Renewing Storage Batteries on Submarines.

Three of the five submarine vessels stationed at the Atlantic entrance are having their storage batteries replaced by new cells, which are charged with current from the Subsistence Department's plant at Cristobal. For the purpose of this work, the vessels were transferred from alongside Dock 8 to the east end of Dock 13 on January 5. The charging of the batteries will begin about January 15, under the direction of forces of the Mechanical Division. Direct current of 300 amperes, at 140 volts, is supplied from the motor generator set in the Subsistence Department plant.

Visit of Masons.

Mr. Charles F. Buck, sovereign inspector general of the Louisiana and Canal Zone consistory of Masons, accompanied by Mr. Gus D. Levy, grand master of the Kadosh, Mr. William A. Briant, knight commander, and secretary of the Louisiana bodies, and Mr. Thomas F. Gessner, representative of Jerusalem temple, all from Louisiana, arrived on the Isthmus on Monday, January 12, on the *Parismina*, for the purpose of completing arrangements for a consistory reunion and shrine ceremonial, which it is planned to hold here in March. Messrs. Buck, Levy, and Gessner are thirty-third degree Masons.

Missing Men.

Any one having information regarding the following named men who are supposed to be on the Isthmus is requested to communicate with the American Legation, Panama: William J. Reid of Brooklyn, N. Y., James J. Bowes, or Phillips, of New York City, and William Donahue of Clifton Springs, N. Y.

Fong Tsiang Kwong has been appointed consul-general of the Republic of China in Panama, succeeding Owyang King. He entered upon the duties of his office on January 7.

The Sosa Hill and Balboa dry dock excavation work were combined on January 1, under Superintendent J. A. Walker of the Second Division.

The fire protection pump, formerly a part of the equipment of the tug *Bolivar*, has been transferred to clapet *No. 7*.

The road paralleling the water front at Colon, between the Strangers Club and Eleventh street, is to be improved.

The Pedro Miguel post-office was moved on January 9, from the west side of the Panama railroad, in an area later to be raised by filling, to the building formerly occupied by the Pedro Miguel police station. This building is on a knoll at about the center of the permanent town.

SOCIAL LIFE OF THE ZONE.

Woman's Clubs.

The Ancon Study Club resumed its sessions after two weeks' vacation, on Thursday afternoon, January 8, and will continue regular meetings on Thursday afternoons at 2.30 o'clock. At the meeting on January 15, the plan of study for the next six months will be decided upon. On January 29, there will be an election of officers, and, as the occasion will be the third anniversary of the club, a special program will be provided.

There was a large attendance at the meeting of the Cristobal Woman's Club on Wednesday afternoon, January 14, when Dr. M. E. Connor spoke on "Eugenics." The president of the club, Mrs. Thomas Edwin Brown, Jr., will read the principal paper on social problems at the meeting on Wednesday afternoon, January 22.

Folk Dancing.

Folk dancing has been introduced as extension work in the Y. M. C. A. at Cristobal, and classes have been organized for women and girls under the direction of the physical director, H. Darnell Brittin, who has made a specialty of the work. The classes of girls is divided into two sections. Class A is composed of 20 girls between the ages of 12 and 15, while Class B has 12 girls of 12 years old and under. The work of Class A consists of gymnastic exercises, and games, leading to the folk dances. The little girls in Class B, which meets on Monday afternoons, do folk dances only. Although these two classes have been organized only a little over a month, the members were able to give an exhibition of their work at the clubhouse in December. On Friday afternoon, January 9, a class for women was organized, when practice in the first work of gymnastics was begun.

Sunday School Work.

The quarterly convention of the Isthmian Sunday School Association was held in the Commission clubhouse, Corozal, on Sunday afternoon, January 11, when there was an attendance of 91 delegates, Sunday school workers, and visitors. The federated Sunday schools were represented by 36 delegates; these were from East Balboa, Panama, Corozal, Paraiso, Culebra, Empire, Gatun, Cristobal, and Porto Bello. The questions discussed at the business meeting included the matter of supplying books from the traveling library for the families living in the more isolated villages on the relocation of the Panama railroad. The president, Mr. J. M. Weaver, asked for volunteer assistance in the work of distributing and collecting the books at these outlying centers. Mr. Weaver also asked the cooperation and assistance of the federated Sunday schools in the establishing of Union church work on a permanent basis. The report of the treasurer showed the finances of the association to be in a good condition. The nominating committee was composed of Messrs. Higgins, Keyser, Chase, and Mesdames Tomey, and Harrison. This committee presented the following names for officers of the association for the six months ending June 30, 1914: For president, J. F. Warner, Culebra; vice-president, W. E. Hoffman, Empire; secretary, W. H. Kromer, Cristobal; treasurer, James Stokoe, Balboa. By unanimous vote of the convention the nominating ticket as presented was accepted.

The formal program, which began about 3.30 o'clock, included the following numbers: Contralto solo, Mrs. Adolf Faure of Culebra; paper on mechanical aids in Sunday school work, Mr. Hoffman of Empire; vocal duet, the Misses Harrison and Larcom of Cristobal, accompanied by Mrs. Brittin of Cristobal; a talk on the influence of the teacher on the every day life of her pupils, Mrs. Hackenberg of Corozal; an address on the potential influence of the Sunday school by the Hon. William Jennings Price, United States Minister to Panama.

A statistical report of the association follows: Number of Sunday schools federated in the association, nine; number of children enrolled, 600; number of adults enrolled, 163; number in the cradle roll, four schools, 153; total enrollment in all schools, 916; average attendance at all schools, 523. The largest Sunday school is at Cristobal, with a total enrollment of children, adults, and the cradle roll, of 262.

Preceding the meeting of the Sunday school association, a meeting of the committee on union church federation was held, representatives being present from Panama, Balboa, Corozal, Empire, Culebra, Gatun, Cristobal, and Porto Bello. The reports of these representatives showed a promising outlook. It was conservatively estimated that a monthly sum of $250 could be depended upon for the support of the work. The members of the committee expect that within a short time enough money will be pledged to warrant the calling of two ministers for the undenominational work in the Canal villages. Such ministers will be accorded the privileges of Canal employes by the courtesy of the Isthmian Canal Commission. There will be a general meeting for the further discussion of this work at the Commission clubhouse at Corozal, on Sunday, January 25.

Cristobal Union Church.

Col. Charles Rothwell of the Salvation Army will preach in the Union Church, Cristobal, on Sunday evening, January 18, at 7.45.

Colonel Rothwell comes direct from Southampton, England, and is on a tour through the West Indies, Central America, and the northern states of South America.

Members of the Union Church are urged to attend; all others are cordially invited.

Reopening of Canal Zone Schools.

The Canal Zone schools were reopened on Monday, January 5, after a vacation of two weeks. The number of pupils attending on the opening day in the white schools, including the high schools, was 975, or 12 more than the number in attendance when the schools opened in October, 1913. The attendance in the colored schools on the opening day was 732, being an increase of 182 over the attendance at the opening of the schools in October. The colored school in the native village of Mandingo was not reopened, because the children have all moved away.

A set of new regulations governing the registration of students in the high school was issued before the opening of the school. These regulations apply to the number of subjects to be carried, the voluntary discontinuance of subjects, the regulation of credits, the provision for examination to be given at the end of each semester, and the provision for the frequent use of tests, with the object of developing habits of thoroughness, neatness, and accuracy in mechanical work and independent thought.

On Saturday, January 10, the first teachers' meeting for the year was held in Ancon schoolbuilding. At the general session of white teachers an address was delivered by Dr. E. G. Dexter, director of the National Institute of Panama.

The program for the colored teachers' meeting included original papers on various topics, as automatic accuracy in the fundamental processes, reading and literary interpretation, arithmetic, as a means of teaching independent thought, and its relation to the general experiences of the child outside of the schoolroom.

Isthmian Tennis Association.

The Isthmian Tennis Association tennis tournament, in doubles, held at Gatun on January 11, was won by the Ancon Hospital club team. The matches were played, as follows:

Gatun (Wells and Rose) defeated Tivoli Club of Ancon (Edwards and Kalor), 6–3, 2–6, 6–3.

Ancon Hospital (Runyan and Earhart) defeated Culebra (Goethals and Fleischman), 6–3, 6–4.

Pacific Club of Ancon (Pearman and Nevius) defeated Camp Otis (Swartz and Stewart), 6–1, 6–4.

Gatun defeated Empire (Newbold and Oakey), 6–3, 6–3.

Ancon Hospital defeated Pacific Club, 6–4, 6–2.

Ancon Hospital defeated Gatun, 6–4, 6–2.

Annual Dinner of the Society of the Chagres.

The third annual dinner of the Society of the Chagres will be held on the roof of the Hotel Washington in Colon, on Saturday evening, January 17. If the weather is unfavorable, the event will take place inside the hotel.

Order of Railroad Telegraphers.

There will be a meeting of Panama Railway System Division, No. 158, Order of Railroad Telegraphers, in the courthouse, Cristobal, at 8.30 p. m., January 17, 1914. All members are requested to attend.

J. F. Stahl,
Secretary-Treasurer.

Culebra, C. Z., January 10, 1914.

I. B. of S. S. and D. M.

The regular meeting of Local No. 19, International Brotherhood of Steamshovel and Dredgemen, will be held at Empire lodge hall on Sunday, January 18, at 12.30 p. m.

◆

The Wandering Herd, consisting of members of the Benevolent and Protective Order of Elks residing on the Isthmus, accompanied by their families, gave an excursion to the island of Taboguilla on Sunday, January 11. The party numbered about 240. The trip was made on the tug *Bolivar* and barges.

Married.

SPANGLER–COSSEY—At the Union Church, Cristobal, on December 11, 1913, Mabel Tuller Cossey of Mechanicsville, N. Y., to Henry Everett Spangler of Cripple Creek, Va., the Rev. Carl H. Elliott officiating. Canal Zone residence, Cristobal.

LEVY–JACOBS—On Sunday evening, December 28, at Houston, Texas, Miss Tillie Jacobs, daughter of Mr. and Mrs. J. Oppenheim, to Mr. N. L. Levy, Dr. Henry Barnstein officiating. Canal Zone residence, Gatun.

FORGING PRESS AT BALBOA.

Heavy Machine for Working Down Billets at Permanent Forge.

A 500-ton forging press, is being built by the Bethlehem Steel Company of South Bethlehem, Pa., for use in the forge shop of the new Balboa shops. The contract price of the machine is $9,600, and delivery is to be made within 170 days from the date of receipt of notice of award. The following extra dies and tools, at an additional cost of $1,740, were ordered at the same time: Two sets of V dies, with two die holders; 20 chipping gouges, with handles, and 10 knives, with holders.

The press will be capable of working down an 18-inch billet, and is designed to operate normally with compressed air at a pressure of from 85 to 95 pounds per square inch, but it may be operated with steam at 100 pounds pressure per square inch, if desired. It is of the 4-column type, and will be equipped with an intensifier, low pressure tank, necessary valves, pipes, etc. The total stroke of the forging die will be 30 inches, with a power or forging stroke of five inches as the maximum; it will be possible to obtain the full stroke at any point of the 30-inch travel.

The base plate of the press proper will be a massive iron casting, machined top and bottom, and bored and faced for the attachment of colums and die holders. The press will be supported on two heavy cast iron girders grouted and bolted to the foundation, which will be of concrete sunk to rock. All of the four columns are to be forged steel, and will be used as guides for the crosshead, a heavy steel casting machined to receive the upper die holders, and arranged to slide smoothly on the vertical guide columns. The stalk of the crosshead is fitted to receive the plunger cap, and as the cylinder is bored a close fit throughout its length, and no grooving of any kind is done, the plunger cap can be used as a guide for the forging ram, in addition to the guide on the columns, thereby insuring steadier forging, when work is placed on one side of the dies only. The cylinder will be a steel casting exactly parallel with the guide columns; the plunger will be of close-grained cast iron.

The upper frame will be a heavy steel casting, bored in the upper ends for the four columns, and faced for connecting the main hydraulic cylinder with the lifting cylinders. The latter will be of cast iron and placed on the upper frame, one on each side of the main hydraulic cylinder, so arranged that the main press plunger can be lowered clear of the cylinder for examination and repacking.

The lower die holder will be a steel casting attached to the bedplate of the machine in such a manner as to permit ready removal of the bottom die. Two sets of flat dies of hard tool steel, approximately one per cent carbon, will be furnished. These will be keyed to the lower die holder and crosshead, respectively.

Pneumatic pressure will be transformed to hydraulic pressure by means of an intensifier, located on one side of the press. Normally, air at a pressure of from 85 to 95 pounds per square inch will be admitted to the lower vertical cylinders, and the resulting load transmitted through forged rod and piston to the upper, or water cylinder. The air and water cylinders and spacers will be tied together by means of four forged steel rods, so as to relieve the cylinder bolts of undue strains. Sufficient compression will be provided in the oil cylinder to prevent knocking or shock when the piston is lowered quickly. The hydraulic cylinder will be of forged steel founded on an entablature carried by the four steel columns. The movements of the intensifier and the press will be regulated by the valve control gear.

In order to compensate for leakage of water, a pressure tank will be installed on one side of the intensifier, designed for a safe working pressure of 90 pounds of air per square inch, and tested to a pressure of 500 pounds per square inch.

The operating mechanism of the press will be simple. The adjusting and power strokes of the main hydraulic cylinder will be controlled by a single lever conveniently situated, so that the operator can see the pressure gages, as well as the work under the dies. The press will be fitted with single lever control gear, all motions being obtained by the operation of a single lever to give short, rapid strokes, as well as for lifting and quickly lowering the press head in any part of the total stroke, according to the requirements of the work, and allowing the press head to return immediately and automatically to working on the short strokes, as soon as the longer strokes are no longer required. The control lever to bring the lifting cylinder into action immediately the forging stroke begins, prevents any possibility of the crosshead dropping should the resistance be relieved suddenly. If the pressure is raised or lowered, working with long strokes, or short power strokes, the die will at all times, and in any position, exactly follow the movements of the operator's hand. A small movement of the lever will give a short stroke of the press, and a greater movement, a longer stroke.

In recapitulation, the press will exert a maximum pressure of 500 tons; its maximum consumption of free air per minute, based on twenty 5-inch strokes per minute at 500 tons pressure, will be 4,000 cubic feet; its maximum consumption of steam under the same conditions, 172 pounds per minute; maximum pressure per square foot on foundation, 2,000 pounds; number of power strokes per minute, short (one inch), over 100; medium (two and one-half inches), over 60; long (five inches), over 20.

An arrangement has been entered into with the contractor, whereby Mr. E. M. Ploessel, a blacksmith at the Balboa shops, will spend some time at the South Bethlehem works familiarizing himself with the machine, or one of similar capacity. He sailed for the United States on the *Panama* on Monday, January 5.

Progress on Duct Lines for Electrical Distribution.

The digging of the trench for the subterranean duct line to connect the Miraflores substation of the transisthmian system of electrical distribution with Miraflores Spillway and Locks, began on January 12. The line between this station and Pedro Miguel Lock, following the right-of-way of the Panama railroad for most of the distance, has been completed, with the exception of a part which crosses an area now occupied by construction tracks, west of the Panama railroad at Pedro Miguel. The duplicate lines, about 600 feet apart, from the hydroelectric station to Gatun Locks, and the transformer station east of the locks, have been completed, except about 200 feet near the hydroelectric station. All of these lines have duct sections of vitrified tile, encased in concrete. The duplicate lines from the hydroelectric station have each 20 ducts; the line to Pedro Miguel Lock has 16 ducts, and that to Miraflores Spillway and Locks has 16 sections. The cable required at present has been pulled into the line to Pedro Miguel Lock, and in one line in Gatun Dam; the placing of cable in the second line to Gatun Locks and substation is in progress.

Opportunities in Detroit—A Communication.

Editor, THE CANAL RECORD,
ANCON, C. Z.

Dear Sir: I have read with interest the communication of the four gentlemen from Detroit, in this week's issue of THE CANAL RECORD. They advise our mechanics to "Keep away from Detroit." In response to their cordiality, it might be noted that four gentlemen from Rochester, Rome, or Rahway might advise the Canal workers to "Keep away" from their towns with just as much reason, as jobs are just as hard to find in these towns as in Detroit. The ex-Canal workers should then stay away from the United States entirely, and it might be better to direct the Panama railroad boats to Barcelona, or Hongkong, or some place where Canal men will be more welcome than in their native land.

Last month I visited my native city of Detroit, and I did not hear of any bread line or soup kitchen recently established there. The factories were running at as great a capacity as in any similar town in the country, and I noted that the largest manufacturer of motor cars is building an enormous addition for the purpose of doubling his output this coming year.

The American mechanics of the Isthmus are picked men, while the foreigners are the laborers and helpers. First-class men, such as we have, are never idle for long periods through lack of a chance to work, and I hope if any Canal workers come to Michigan, they will come to stay "In Detroit, where life is worth living." Very truly yours,

MAURICE W. FOX.

CULEBRA, C. Z., January 9, 1914.

Postal Savings Bank Transactions.

A statement of the postal savings bank transactions at Canal Zone post-offices for the month of December, follows:

OFFICE.	Amount issued.	Amount paid.
Ancon	$11,484.00	$12,582.00
Balboa	17,389.00	25,196.00
Bas Obispo	295.00	3,590.00
Corozal	26,676.00	38,251.00
Cristobal	10,233.00	13,345.00
Culebra	7,613.00	10,826.00
Empire	11,657.00	13,409.00
Gatun	12,690.00	13,738.00
Las Cascadas	2,398.00	8,829.00
Paraiso	7,611.00	8,998.00
Pedro Miguel	8,673.00	14,405.00
Cristobal, Station A	535.00	925.00
Cristobal, Station B	1,430.00	1,351.00
Total	$118,684.00	$165,445.00
Balance on hand December 1, 1913	$596,609.00	
Deposited during the month	118,684.00	
Withdrawn during month		165,445.00
Balance on hand January 1, 1914		549,848.00
	$715,293.00	$715,293.00

LOST—Sorority pin in the form of a crescent, set with small pearls, somewhere between Panama and Balboa. Finder is requested to return article to the office of THE CANAL RECORD. Reward.

RULES FOR THE MEASUREMENT OF VESSELS FOR THE PANAMA CANAL.

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA.

A PROCLAMATION.

I, WOODROW WILSON, President of the United States of America, by virtue of the power and authority vested in me by the Act of Congress, approved August twenty-fourth, nineteen hundred and twelve, to provide for the opening, maintenance, protection, and operation of the Panama Canal and the sanitation and government of the Canal Zone, do hereby prescribe and proclaim the "Rules for the measurement of vessels for the Panama Canal," which are annexed hereto and made a part of this proclamation.

In witness whereof, I have hereunto set my hand and caused the seal of the United States to be affixed.

Done at the city of Washington this twenty-first day of November in the year of our Lord one thousand nine hundred and thirteen and of the independence of the United States the one hundred and thirty-eighth.

[SEAL]

WOODROW WILSON.

By the President:
W. J. BRYAN,
Secretary of State.

[No. 1258.]

Rules for the Measurement of Vessels for the Panama Canal.

All vessels to present tonnage document at Canal.

ARTICLE I. All vessels, American and foreign, except warships, including vessels of commerce and Army and Navy transports, colliers, supply ships, and hospital ships, applying for passage through the Panama Canal shall present a duly authenticated certificate stating the vessel's gross and net tonnage as determined by these rules. Vessels of commerce, Army and Navy transports, colliers, supply ships, and hospital ships without such certificate shall, before passing through the Canal, or before being allowed to clear therefrom, be measured, and shall have their gross and net tonnage determined in accordance with these rules.

All warships, American and foreign, other than transports, colliers, supply and hospital ships, shall present duly authenticated displacement scale and curves stating accurately the tonnage of displacement at each possible mean draft.

Vessels designated as "supply ships and colliers."

It is to be understood that "Supply ships" shall include Army and Navy ammunition ships, refrigerator ships, distilling ships, repair ships, submarine tenders, and destroyer tenders, as well as Army and Navy vessels used to transport general Army and Navy supplies, and that "Colliers" shall include Army and Navy vessels used to transport coal or fuel oil.

Rules Applying to Vessels of Commerce, Army and Navy Transports, Colliers, Supply Ships, and Hospital Ships.

GROSS TONNAGE.

What shall be included in gross tonnage.

ARTICLE II. Gross tonnage as determined by these rules shall express the total capacity of vessels, i. e., the exact cubical contents of all spaces below the upper deck, and of all permanently covered and closed-in spaces on or above that deck, excepting such spaces as may be hereinafter permitted as exemptions from measurement. Gross tonnage shall include not only all permanently covered and closed-in spaces which are or may be used for stowing cargo and stores or for providing shelter and other comfort for passengers or crew, but also such spaces as are used, or are intended to be used, in navigating and serving the vessel.

Only such spaces as are specifically mentioned in Article IV, below, shall be exempted from measurement. All other spaces shall be considered as closed-in and shall be included in gross tonnage.

What shall be considered permanently covered and closed-in spaces.

ARTICLE III. By permanently covered and closed-in spaces on or above the upper deck are to be understood all those which are separated off by decks or coverings, or fixed partitions, and which, therefore, represent an increase of capacity that is or may be used for the stowage of cargo, or for the berthing and accommodation of the passengers, the officers, or the crew. No break in a deck, nor any opening or openings in a deck or the covering of a space or in the partitions or walls of a space, nor the absence of a partition shall prevent a space from being measured and comprised in gross tonnage if the openings in the deck, partition, or side wall can be closed in, or if the absent partition can be put in place, after admeasurement and the spaces thus closed in be thereby better fitted for the transport of goods or passengers.

In the case of a vessel having a "Trunk" or "Turret," the deck forming the covering of the trunk or turret shall be considered the upper deck, and all spaces below that deck within the trunk or turret shall be considered as covered and closed-in. The space within the turret or trunk shall be measured as are other between-deck spaces.

Spaces considered as "Permanently closed-in" and spaces permitted to be exempted from measurement shall be determined solely by the provisions contained in these rules, and not by any definitions or provisions contained in the measurement rules or regulations of any country.

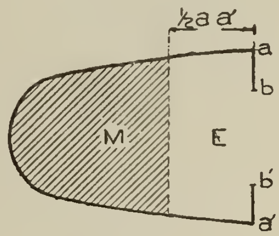
Spaces exempted from measurement and gross tonnage.

ARTICLE IV. The following spaces shall be exempted from measurement and shall not be included in the gross tonnage, and no other spaces shall be exempted:

SECTION 1. Spaces on or above the upper deck not permanently covered or closed-in, or which may not be readily covered or closed-in. In the application of this rule it will be understood that—

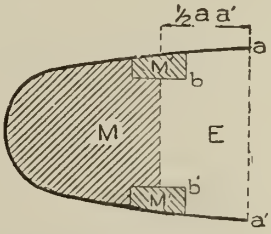
(*a*) Spaces under decks or coverings having no other connection with the body of the ship than the stanchions necessary for their support are not spaces separated off, but are spaces permanently exposed to the weather and the sea and are not to be included in the gross tonnage.

FIG. 1.—Poop.



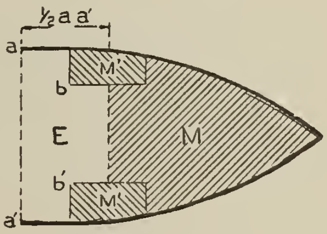
bb'>½aa'.
E=space exempted.
M=space measured.

FIG. 2.—Poop.



bb'>½ aa'.
E=space exempted.
M'=closed-in houses, measured.
M=space measured.

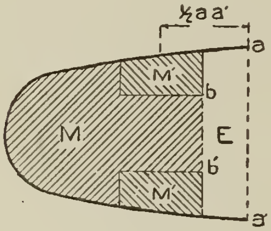
FIG. 3.—Forecastle.



bb'>½ aa'.
E=space exempted.
M'=closed-in houses, measured.
M=space measured.

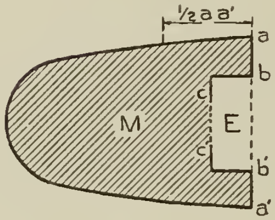
(*b*) A space within a poop, forecastle, bridge house, or other "Permanently covered and closed-in" superstructure or erection may be considered as not permanently covered or closed-in, and may consequently be excluded from tonnage, if the space is opposite an end opening which is without a coaming and has no headplates or planks and is not provided with means of closing, and which opening has a breadth equal to or greater than half the breadth of the deck at the line of the opening, and if the space opposite the opening cannot be used to shelter other merchandise than cargo or stores that do not require protection from the sea. If the opening is fitted with a coaming, the space within it is to be included in the gross tonnage. This provision shall be so applied as to exempt from measurement only the space between the actual end opening and a line drawn parallel to the line or face of the opening at a distance from the opening equal to one-half the width of the deck at the line of the opening; provided, that any closed-in space between the open face and the line drawn parallel to it shall be measured. The remainder of the space within a poop, forecastle, bridge house, or other superstructure or erection shall be considered as available for the accommodation of cargo or stores, of passengers or of the ship's personnel, and shall be measured and included in the gross tonnage. (See Figs. 1, 2, and 3.)

FIG. 4.—Poop.



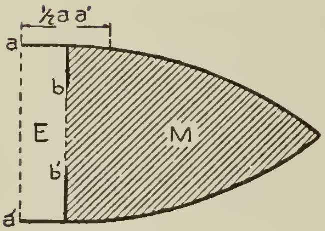
$bb' < \frac{1}{2} aa'$.
E=space exempted.
M'=closed houses, measured.
M=space measured.

FIG. 5.—Poop.



$bb' > \frac{1}{2} aa'$.
$cc' < \frac{1}{2} aa'$.
E = space exempted.
M = space measured.

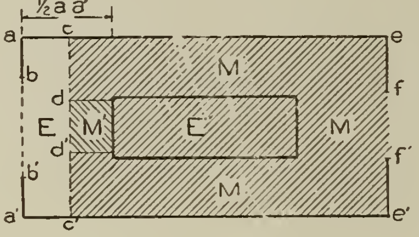
FIG. 6.—Forecastle.



$bb' < \frac{1}{2} aa'$.
E = space exempted.
M = space measured.

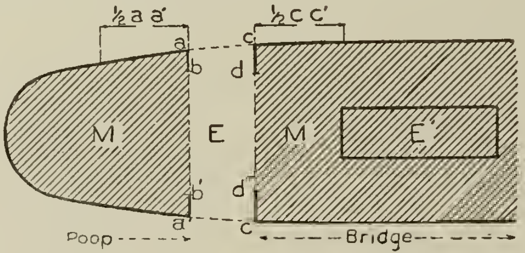
Should the open space within a poop, forecastle, bridge house, superstructure, or erection between the end opening and a parallel line distant from the opening by half the breadth of the deck, become, because of any arrangement, of less width than half the breadth of the deck, then only the space between the line of the end opening and a parallel line drawn through the point where the athwartship width of the open space within the poop, forecastle, bridge house, superstructure, or erection becomes equal to, or less than half the breadth of the deck shall be exempted from measurement. (See Figs. 4, 5, 6, and 7.) The remainder of the space within the poop, forecastle, bridge house, superstructure, or erection is to be included in the gross tonnage.

FIG. 7.—Bridge.



$bb' > \frac{1}{2} aa'$.
$cd < \frac{1}{2} aa'$.
$c'd' < \frac{1}{2} aa'$
$ff' < \frac{1}{2} ee'$.
E = space exempted.
E' = light and air and funnel space in lowest tier of erections, measured under Art. IV, Sec. 3.
M = space measured.
M' = closed house, measured.

FIG. 8.—Poop and bridge with interval less than ½ the least half breadth of the deck in way of interval.

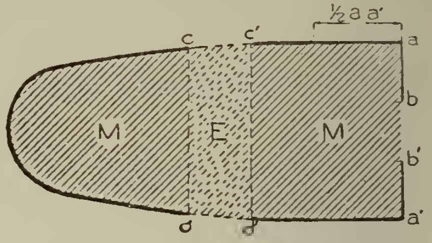


$ac < \frac{1}{2} aa'$.
$a'c' < \frac{1}{2} aa'$.
$bb' > \frac{1}{2} aa'$.
$dd' > \frac{1}{2} cc'$.
M=spaces measured.
E=space exempted.
E'=light and air and funnel space in lowest tier of erections, measured under Art. IV, Sec. 3.

When two erections extending from side to side of the ship are separated by an interval the fore-and-aft length of which is less than the least half breadth of the deck in way of such interval, then whatever be the breadth of the permanent end openings of the erections, the entire erections, less the interval separating them, shall be measured and included in the gross tonnage. (See Fig. 8.)

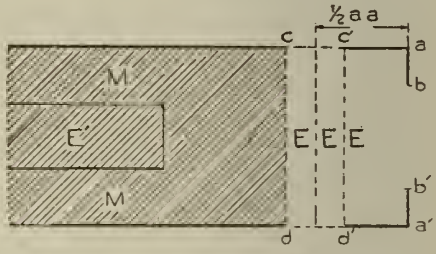
(*c*) In a poop, forecastle, side-to-side bridge house, or other "Permanently covered and closed-in" superstructure or side-to-side erection, the space directly in way of opposite openings, the height of which is at least three feet, in the side walls of the ship not provided with means of closing and corresponding to each other in the opposite walls of the ship shall be exempted. (See Figs. 9 and 10.)

FIG. 9.—Poop.



cc and dd'=side openings under deck covering.
E=space exempted.
$bb' < \frac{1}{2} aa'$.
M=spaces measured.

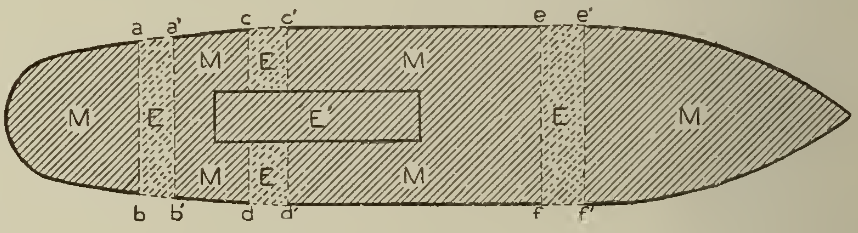
FIG. 10.—Bridge



$bb' > \frac{1}{2} aa'$.
cc' and dd'=side openings.
E=spaces exempted.
M=space measured.
E'=light and air and funnel space in lowest tier of erections, measured under Art. IV, Sec. 3.

SECTION 2. Spaces in way of opposite side openings at least three feet in height not provided with means of closing shall be exempted. In the case of a continuous deck with one or more deck openings (usually designated as tonnage openings) that may be so closed as to permit cargo or stores to be carried in the space under the deck, or under portions thereof, only the spaces under such a deck that are exactly in way of opposite openings at least three feet in height in the side walls of the ship not provided with means of closing and corresponding to each other in the opposite walls of the ship shall be exempted; and the remaining spaces under such a deck shall be measured and included in gross tonnage. In case the openings in the side walls of the ship are provided with means of closing, no portion of the space under such a deck shall be exempted. (Fig. 11.)

FIG. 11.—Continuous deck with opposite side openings.



(aa') (bb') (cc') (dd') (ee') (ff')=side openings.
E=spaces exempted opposite side openings below continuous deck.
M=spaces measured.
E'=light and air and funnel space, measured under Art. IV, Sec. 3.

SECTION 3. The spaces framed in round the funnels and the spaces required for the admission of light and air into the engine rooms shall be exempted from measurement to the extent that such spaces are above the deck or covering of the first or lowest tier of side-to-side erections, if any, on the upper deck. A deck with one or more deck openings (usually designated as tonnage openings) that may be so closed as to permit cargo or stores to be carried in the space under the deck or portions thereof is to be considered as the upper deck, provided that no space beneath it abreast side openings is exempted under the provisions of Section 2. There shall, however, be measured and included within gross tonnage the spaces situated within closed-in side-to-side erections on the upper deck, spaces framed in round the funnels and those required for the admission of light and air to the extent that such light and air and funnel spaces are below the deck or covering of the first or lowest tier of such side-to-side erections on the upper deck. There shall be exempted from the measurement of any superstructure or erection situated above the first or lowest tier of side-to-side erections on the upper deck such portion or portions thereof as are occupied by the spaces framed in round the funnels or by the spaces required for the admission of light and air into the engine rooms. Such exempted spaces must not be used for any other than their designated purpose and must be reasonable in extent.

Section 4. Space or spaces between the inner and outer plating of the double bottom of a vessel that are so enclosed and that have such openings as to make them usable only for water ballast shall be exempted from measurement, but such spaces within the double bottom as are or may be used for carrying cargo, stores, feed water, coal, or other fuel shall be measured and included in the gross tonnage.

Section 5. The cubical contents of hatchways shall be obtained by multiplying the length and breadth together and the product by the mean depth taken from the top of beam to the underside of the hatch. From the aggregate tonnage of the hatchways there shall be deducted one-half of one per cent of the vessel's gross tonnage, exclusive of hatchways, and only the remainder shall be added to the gross tonnage of the ship, exclusive of the tonnage of the hatchways.

Section 6. Companionways and companion houses shall be exempted when used solely as companionways or companion houses. When used as smoking rooms or for any other purposes than companionways or companion houses, the parts so used shall be measured and included in gross tonnage.

Section 7. Domes and skylights shall be exempt from measurement. When there is an opening in the floor of a superstructure immediately below a skylight, the exemption shall include the space between the skylight and the opening in the floor of the superstructure immediately under the skylight. The remainder of the superstructure shall be included in the measurement. The space, in addition to the skylight, that may be exempted by this rule is that indicated by A, B, C, D, in the following drawing:

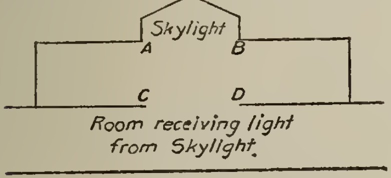


Fig. 12.—Open space under skylight.

Exempted spaces, if used, must be added to gross tonnage.

Article V. Should a vessel at any time stow cargo of any kind, bunker coal, or other fuel, or stores of any description in any portion whatever of any exempted space, except spaces exempted under Article IV, Section 1, Paragraph (*b*) and spaces on open decks not permanently covered, or upon decks as defined in Article IV, Section 1, Paragraph (*a*) of these rules, the whole of that space shall be measured and added to the gross tonnage, and the space shall not thereafter be exempted from measurement.

Spaces available for passengers not to be exempted.

Article VI. Spaces for the use or possible use of passengers shall not be exempted from measurement, except as stated in Article IV, Section 1, Paragraph (*a*).

In case of Army and Navy transports, colliers, supply ships, and hospital ships as defined in Article I, the term "Passengers" shall include all officers, enlisted men, and other persons who are not assigned to duty and who are not duly inscribed on the ship's rolls.

Tonnage upon which charges are payable shall be increased by space occupied by cargo carried upon deck in spaces not permenently covered and closed in.

Article VII. If any ship carries stores, timber, cattle, or other cargo in any space upon an open deck not permanently covered or in spaces exempted under Article IV, Section 1, Paragraphs (*a*) and (*b*) of these rules, all tolls and other charges payable on the vessel's net tonnage shall be payable upon the vessel's net tonnage(as defined below in Articles X and XII) increased by the tonnage of the space occupied (at the time at which the tolls or other charges become payable) by the goods carried upon deck and not permanently covered or closed-in. The deck space occupied by the goods thus carried shall be determined at the time of the application of the vessel for passage through the Canal and shall be deemed to be the space limited by the area occupied by the goods and by straight lines enclosing a rectangular space sufficient to include the goods. The tonnage of the space occupied by the goods shall be ascertained in the manner prescribed below by Article IX, Rule I, for the measurement of poops or other closed-in spaces.

Nothing in this article shall in any manner affect the provisions of Articles II, III, and IV.

Measurement of the cubical contents of spaces may be by the Moorsom system in each country, or by the Moorsom system as prescribed in these rules.

Article VIII. The cubical contents of the spaces included, by these rules, in gross tonnage may, in any country where the Moorsom system of measurement has been adopted, be ascertained under that system as applied in measuring vessels for national registry, provided that system is substantially similar to the Moorsom system of measurement as set forth in Article IX of these rules.

Rules for measurement of contents of spaces.

Article IX. In countries that have not adopted the Moorsom system of measuring spaces within vessels, the cubical contents of any of the spaces included in gross tonnage shall be ascertained according to the Moorsom system as set forth in the following rules: Rule I for the measurement of empty vessels; Rule II for laden vessels; Rule III for open vessels.

RULE I.—FOR MEASURING THE GROSS TONNAGE OF EMPTY VESSELS.

Rule for the measurement of empty vessels.

Section 1. The length for the admeasurement of ships having one or more decks is taken on the tonnage deck, which is—

(*a*) The upper deck for vessels having one or two decks.

(*b*) The second deck from below for vessels having more than two decks.

Measure the length of the ship in a straight line along the upper side of the tonnage deck from the inside of the inner plank (average thickness) at the side of the stem to the inside of the midship stern timber or plank there, as the case may be (average thickness), deducting from this length what is due to the rake of the bow in the thickness of the deck and what is due to the rake of the stern timber in the thickness of the deck, and also what is due to the rake of the stern timber in one-third of the round of the beam; divide the length so taken into the number of equal parts required by the following table, according to the class in such table to which the ship belongs:

Class 1. Ships of which the tonnage deck is, according to the above measurement, 50 feet long, or under, into four equal parts.

Class 2. Ships of which the tonnage deck is, according to the above measurment, above 50 feet and not exceeding 120 feet, into six equal parts.

Class 3. Ships of which the tonnage deck is, according to the above measurement, above 120 feet long and not exceeding 180 feet, into eight equal parts.

Class 4. Ships of which the tonnage deck is, according to the above measurement, above 180 feet long and not exceeding 225 feet, into 10 equal parts.

Class 5. Ships of which the tonnage deck is, according to the above measurement, above 225 feet long, into 12 equal parts.*

In the case of a break or breaks in a double bottom for water ballast, the length of the vessel is to be taken in parts according to the number of breaks, and each part divided into a number of equal parts according to the class in the above table to which such length belongs.

Section 2. Then the hold being first sufficiently cleared to admit of the required depths and breadths being properly taken, find the transverse area of the ship at each point of division of the length or each point of division of the parts of the length, as the case may require, as follows: Measure the depth at each point of division, from a point at a distance of one-third of the round of the beam below the tonnage deck, or, in case of a break, below a line stretched in continuation thereof, to the upper side of the floor timber (upper side of the inner plating of the double bottom) at the inside of the limber strake, after deducting the average thickness of the ceiling which is between the bilge planks and the limber strake, subject, however, to the provisions of these rules, Article IV, Section 4, regarding the measurement or exemption of double bottom spaces. In the case of a ship constructed with a double bottom for water ballast if the space between the inner and outer plating thereof is not available for the carriage of cargo, stores, feed water, coal, or other fuel, then the depth shall be taken to be the upper side of the inner plating of the double bottom, and that upper side shall, for the purposes of measurement, be deemed to represent the floor timber of the vessel. This rule for measuring the depth of the hold applies to double bottom ships having top of double bottom *not* horizontal.

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*A greater number of divisions is permissible, provided there be an even number of divisions.

If the depth at the midship division of the length does not exceed 16 feet, divide each depth into five equal parts; then measure the inside horizontal breadth at each of the four points of division, and also at the upper point of the depth, extending each measurement to the average thickness in that part of the ceiling which is between the points of measurement. Number these breadths from above (i. e. numbering the upper breadth 1, and so on down to the fifth breadth); multiply the second and fourth by four, and the third by two; add these products together, and to the sum add the first breadth and the fifth. Multiply the quantity thus obtained by one-third of the common interval between the breadths, and the product shall be deemed the transverse area of the upper part of the section; then find the area between the fifth and lower point of the depth by dividing the depth between such points into four equal parts, and measure the horizontal breadths at the three points of division and also at the upper and lower points, and proceed as before, and the sum of two parts shall be deemed to be the transverse area; but if the midship depth exceed 16 feet, divide each depth into seven equal parts, instead of five, and measure, as before directed, the horizontal breadths at the six points of division, and also at the upper point of the depth; number them from above, as before; multiply the second, fourth, and sixth by four, and the third and fifth by two; add these products together, and to the sum add the first breadth and the seventh. Multiply the quantity thus obtained by one-third of the common interval between the breadths, and the products shall be deemed the transverse area of the upper part of the section; then find the lower part of the area as before directed, and add the two parts together, and the sum shall be deemed to be the transverse area.

This section applies to vessels with double bottoms, the tops of which have a rise from the middle line to each side. In vessels in which the top of the double bottom is horizontal, or in which there is no double bottom, the depths are to be divided by four or six (instead of five or seven), according as their midship depths do not or do exceed 16 feet, respectively. In such cases no subdivision of the lower part is to be made.

SECTION 3. Number the transverse sections or areas, respectively, 1, 2, 3, etc., No. 1 being at the extreme limit of the length at the bow, or of each part of the length, and the last number at the extreme limit of the length at the stern or the extreme limit at the after end of each part of the length; then, whether the length be divided according to the table into four or 12 parts, as in Classes 1 and 5, or any intermediate number, as in Classes 2, 3, and 4, multiply the second and every even-numbered area by four, and the third and every odd-numbered area (except the first and last) by two; add these products together, and to the sum add the first and last, if they yield anything; multiply the quantity thus obtained by one-third of the common interval between the areas, and the product will be the cubical contents of the space, or cubical contents of each part if the ship is measured in parts under the tonnage deck. The tonnage of this volume is obtained by dividing it by 100, if the measurements are taken in English feet, and by 2.83 if the measurements ar taken in meters. The multiplier 0.353 may be used instead of the divisor 2.83.

SECTION 4. If the ship has a third deck the tonnage of the space between it and the tonnage deck shall be ascertained, as follows: Measure in feet the inside length of the space at the middle of its height from the plank at the side of the stem to the lining on the timbers at the stern, and divide the length into the same number of equal parts into which the length of the tonnage deck is divided, as above directed; measure (also at the middle of its height) the inside breadth of the space at each of the points of division; also, the breadth at the stem and the breadth at the stern; number them successively 1, 2, 3, etc., commencing at the stem; multiply the second and all the other even-numbered breadths by four, and the third and all the other odd-numbered breadths (except the first and last) by two; to the sum of these products add the first and last breadths; multiply the whole sum by one-third of the common interval between the breadths, and the result will give in superficial feet the mean horizontal area of the space; measure the mean height of the space, and multiply by it the mean horizontal area, and the product will be the cubical contents of the space; divide this product by 100 (or by 2.83 if the measurements are taken in meters) and the quotient shall be deemed to be the tonnage of the space, and shall be added to the tonnage of the ship ascertained as aforesaid; and if the ship has more than three decks, the tonnage of each space between decks above the tonnage deck shall be severally ascertained in the manner above described, and shall be added to the tonnage of the ship ascertained as aforesaid.

SECTION 5. If there be a break, a poop, or any other permanently covered or closed-in space on or above the upper deck (as defined above in Article III) the tonnage of such space shall be ascertained, as follows; Measure the internal mean length of the space in feet, and divide it into two equal parts; measure at the middle of its height three inside breadths, namely, one at each end and the other at the middle of the length; then to the sum of the end breadths add four times the middle breadth, and multiply the whole sum by one-third of the common interval between the breadths; the product will give the mean horizontal area of the space; then measure the mean height and multiply by it by the mean horizontal area; divide the product by 100 (or by 2.83 if the measurements are taken in meters) and the quotient shall be deemed to be the tonnage of the space.

SECTION 6. In measuring the length, breadth, and height of the general volume of the ship or that of the other spaces, reduce to the mean thickness the parts of the ceiling which exceed the mean thickness. When the ceiling is absent, or when it is not permanently fixed, the length and breadth shall be reckoned from the main frames of the ship, not from the web or belt frames. The same principle is to hold in the case of deck erections; that is, the breadth is to be reckoned from the main framing or stiffeners of the same, when ceiling is not fitted. When the main framing of the ship is curved or carried upward and inboard, so as to permit the building of topside tanks or compartments outboard of the main framing, the breadth of the ship shall be reckoned from the outboard framing of such outboard tanks, thus including these tanks in the measurement.

RULE II.—FOR MEASURING THE GROSS TONNAGE OF LADEN SHIPS.

Rule for the measurement of laden vessels.

SECTION 7. When ships have cargo on board, or when for any other reason their tonnage cannot be ascertained by means of Rule 1, proceed in the following manner:

Measure the length on the uppermost full-length deck from the outside of the outer plank at the stem to the aft side of the sternpost, deducting therefrom the distance between the aft side of the sternpost and the rabbet of the greatest breadth of the ship where the counterplank crosses it. Measure also the greatest breadth of the ship to the outside of the outer planking or wales at the middle perpendicular. Then, having first marked on the outside of the ship on both sides thereof the height of the uppermost full-length deck at the ship's sides, girt the ship at the middle perpendicular in a direction perpendicular to the keel from the height so marked on the outside of the ship, on the one side, to the height so marked on the other side, by passing a chain under the keel; to half the girth thus taken add half the main breadth; square the sum, multiply the result by the length of the ship taken as aforesaid, then multiply this product by the factor 0.17 in the case of ships built of wood, and by the factor 0.18 in the case of ships built of iron or steel. The product will give approximately the cubical contents of the ship, and the tonnage can be ascertained by dividing by 100 or by 2.83, according as the measurements are taken in English feet or in meters.

SECTION 8. If there be a break, a poop, or other permanently covered and closed-in spaces (as defined above in Article III) on or above the uppermost full-length deck, the tonnage of such spaces shall be ascertained by multiplying together the mean inside length, breadth, and depth of such spaces and dividing the product by 100, or 2.83, according as the measurements are taken in English feet or meters, and the quotient so obtained shall be deemed to be the tonnage of the spaces, and shall be added to the other tonnage, in order to determine the gross tonnage or total capacity of the ship.

RULE III.—FOR MEASUREMENT OF OPEN VESSELS.

Rule for the measurement of open vessels.

SECTION 9. In ascertaining the tonnage of open ships, the upper edge of the upper strake of the shell plating is to form the boundary line of measurement, and the depths shall be taken from an athwartship line, extended from upper edge to upper edge of the said strake at each division of the length.

Deductions from the Gross Tonnage to Ascertain the Net Tonnage.

(A) DEDUCTIONS FOR VESSELS NOT PROPELLED BY ENGINES.

ARTICLE X. The following spaces (enumerated below in Sections 1 to 10 of this article) shall be deducted from the gross tonnage, in order to ascertain the net tonnage of *vessels not propelled by engines*, and no other spaces shall be deducted. Unless otherwise expressly stipulated, these spaces shall be deducted whether located above or below the upper deck.

The volume or cubical contents of deducted spaces shall be ascertained in the manner specified in Article VIII or Article IX of these rules. The remainder, resulting from deducting from the total space included in gross tonnage the sum of the cubical contents of the spaces whose deduction from gross tonnage is permitted by these rules, shall be the net or register tonnage of vessels not propelled by engines and unrigged craft upon which tolls and other charges based upon tonnage shall be paid by vessels of commerce, Army and Navy transports, colliers, supply ships, and hospital ships (as defined in Article I) for passage through the Panama Canal. One hundred cubic feet, or 2.83 cubic meters, shall constitute one gross or net ton.

Spaces for the use, or possible use of passengers (as defined in Article VI) shall not be deducted from the gross tonnage, except in so far as their deduction may be specifically provided for in the following sections (1 to 10) of this article of these rules.

Definition of stores and cargo carried on Army and Navy transports, colliers, supply ships and hospital ships.

Spaces available for the stowage of stores (other than boatswain's stores) or cargo shall not be deducted from gross tonnage. In case of Army and Navy transports, colliers, supply ships, and hospital ships, as defined in Article I, the term "Stores (other than boatswain's stores) or Cargo" shall include, in addition to goods or cargo ordinarily carried as freight on vessels of commerce, the following articles:

On transports, food, stores, luggage, accouterments, and equipment for passengers.

On colliers, coal, coaling gear, and fuel oil not for the use of the colliers.

On supply ships, stores, supplies of all kinds, distilling machinery and distilled water (other than feed water stored in double bottom compartments), machines, tools, and material for repair work, mines and mining material, torpedoes, arms, and ammunition.

On hospital ships, food stores for passengers, medical stores, and hospital equipment.

Guns mounted on transports and supply ships, for defense of the ships, and ammunition required for use in such guns shall not be classed as cargo.

Deductions from gross tonnage allowed vessels not propelled by engines.

SECTION 1. The tonnage of the spaces or compartments occupied by, or appropriated to the use of, the officers and crew of the vessel shall be deducted. The term "Officers and crew" shall include the personnel inscribed on the ship's rolls, i. e., the ship's officers, engineers, doctors, apothecary, sick attendants, sailors, apprentices, firemen, mechanics, and wireless operators, but shall not include clerks, pursers, stewards, and other members of the personnel provided by the ship for the care of the passengers. The spaces or compartments occupied by the officers and crew shall include their berthing accommodations, spaces provided for medical attention, mess rooms, ward and dressing rooms, bath and wash rooms, water closets, latrines, lavatories, or privies for their exclusive use, and passageways exclusively serving these spaces.

SECTION 2. On hospital ships, the spaces or compartments occupied by doctors, apothecary, and sick attendants duly inscribed on the ship's rolls, shall form part of the deduction under Section 1 of this article. Spaces provided for the medical attention of the officers and crew of a hospital ship shall likewise be deducted, but spaces fitted for the transportation, or for the medical attention, of other persons than those duly listed in the ship's rolls shall not be deducted.

SECTION 3. The space occupied by the master's cabin shall be deducted.

SECTION 4. Cook houses, galleys, bakeries, laundries, and rooms for ice machines, when used exclusively to serve the officers and crew, and the condenser space, and distilling rooms, when used exclusively for condensing and distilling the water for the officers and crew, shall be deducted.

SECTION 5. Spaces used for the anchor gear, steering gear, and capstan; the wheel house, the dynamo rooms; the chart room used exclusively for keeping charts, signals, and other instruments of navigation; lookout houses; spaces for keeping electric searchlights, and wireless telegraph appliances; and other spaces actually used in the navigation of the ship, shall be deducted. Such spaces upon vessels of commerce as may be devoted to the mounting of guns and to the stowage of ammunition for the guns thus mounted shall be deducted. The deduction of all spaces, other than those devoted to the mounting of guns, enumerated in this section must be reasonable in extent and be subject to the limitations stipulated below in Article XI.

SECTION 6. In case of a ship propelled wholly by sails, any space, not exceeding 2½ per cent of the gross tonnage, used exclusively for storage of sails shall be deducted.

SECTION 7. Spaces used exclusively for boatswain's stores shall be deducted. The deduction is not, however, to exceed one per cent of the gross tonnage in ships of 1,000 tons gross and upward, nor more than 75 tons in any ship however large. In vessels from 500 to 1,000 tons gross the limit is fixed at 10 tons and in vessels from 150 to 500 tons at not more than two per cent of the gross tonnage. In vessels under 150 tons at not more than three tons.

SECTION 8. The space occupied by donkey engine and boiler shall be deducted if the donkey engine and boiler are connected with the main pumps of the ship, or if they are located in a permanently covered or closed-in structure on or above the upper deck.

SECTION 9. Passages and passageways shall be deducted if they serve deducted spaces exclusively for the officers and crew.

SECTION 10. Water ballast spaces, other than spaces in the vessel's double bottom, shall be deducted if they are adapted only for water ballast, have only ordinary manholes for access and are not available for the carriage of cargo, stores, or fuel. If used to carry oil or other fuel, these spaces shall be regarded as part of the vessel's fuel space and shall not be subject to separate deduction.

The marking and use of exempted spaces shall be according to national laws.

ARTICLE XI. Each of the spaces enumerated in Article X, Sections 1 to 10, unless otherwise specifically stated, shall be subject to such conditions and requirements as to marking or designation and use or purpose as are contained in the navigation or registry laws of the several countries, but no space, other than fuel spaces deducted under Article XIII of these rules, shall be deducted unless the use to which it is to be exclusively devoted has been appropriately designated by official marking. In no case, however, shall an arbitrary maximum limit be fixed to the aggregate deduction made under Article X.

(B) DEDUCTIONS FOR VESSELS PROPELLED BY ENGINES.

ARTICLE XII. The net or register tonnage upon which tolls and other charges based upon tonnage shall be paid by *vessels* of commerce, Army and Navy transports, colliers, supply ships, and hospital ships, as defined in Article I, *propelled by engines*, for passage through the Panama Canal, shall be the tonnage remaining after the following deductions have been made from the gross tonnage. One hundred cubic feet, or 2.83 cubic meters, shall constitute one gross or net ton. Vessels propelled partly by sails and partly by engines shall be classed as "Vessels propelled by engines."

Deductions from gross tonnage allowed vessels propelled by engines.

SECTION 1. The spaces specified above in Article X shall be deducted from the space included in gross tonnage in the case of vessels propelled by engines as in the case of vessels not propelled by engines.

SECTION 2. The space occupied by the engines, boilers, coal bunkers, fuel oil tanks, double bottom fuel and feed water compartments, shaft trunks of vessels with screw propellers, spaces, within a closed-in side-to-side erection, that are framed in around the funnels, or that are required for the introduction of light and air to the engine room to the extent that the framed-in spaces around the funnels and the light and air casings are located below the deck or covering of the first or lowest tier of such erections, if any, on the upper deck, as defined in Article IV, Section 3, and are contained in closed-in side-to-side erections, spaces necessary for the proper working of the engines, and spaces occupied by the donkey engine and boiler when situated within the boundary of the engine room or within the light and air casings above the engine room, and when used in connection with the main machinery for propelling the vessel. When the shafts of screw propellers pass through open spaces not enclosed within tunnels, the spaces allowed in lieu of the tunnels must be of reasonable dimensions suitable for the vessel in question. When any portion of the engine or boiler rooms is occupied by a tank for fresh water, the space thus taken up shall not be deducted.

Donkey engine and boiler spaces, when deducted according to Article XIV below, shall not be made a separate deduction.

The portion of the framed-in spaces around the funnels and of the light and air casings that extend above the deck or covering of the first or lowest tier of side-to-side erections, if any, on the upper deck, as defined in Article IV, Section 3, and surrounding the said space or spaces are exempted from measurement and form no part of the space deducted under this section.

SECTION 3. The deductions made for propelling power, including all those provided for in Section 2 of this article, shall in no case exceed 50 per cent of the gross tonnage, except in case of tugs employed exclusively as tugs. In other respects the spaces enumerated in Section 2 shall, except as otherwise specifically stated, be subject to the requirements as to designation or marking and use or purpose contained in the navigation or registry laws of the several countries.

SECTION 4. The deductions made for propelling power provided for in Section 2 of this article shall be made according to the provisions of Article XIII, or of Article XIV, *as the owner of the vessel may elect.*

SECTION 5. Double bottom compartments that are set aside to be used exclusively for the stowage of feed water for the ship's boilers shall be deducted.

Propelling power deduction for vessels with bunkers having movable par-

ARTICLE XIII. In ships that do not have fixed bunkers, but transverse bunkers with movable partitions, with or without lateral bunkers, and in ships with fuel tanks of titions, or having fuel oil compartments that may be used to stow cargo or stores.

double bottom fuel compartments which may be used to stow cargo or stores, measure the space occupied by the engine rooms, and add to it for vessels with screw propellers 75 per cent and for vessels with paddle wheels 50 per cent of such space.

By the space occupied by the engine rooms is to be understood that occupied by the engine room itself and the boiler room, together with the spaces strictly required for the working of the engines and boilers, with the addition of the spaces taken up by shaft trunks (in vessels with screw propellers), the spaces which enclose the funnels and the casings necessary for the admission of light and air into the engine room to the extent that such spaces are located below the upper deck or below a deck with openings (usually designated as tonnage openings) which may be so closed as to permit the carriage of cargo or stores under the deck or a portion thereof, and donkey engine and boiler spaces when the donkey engine and boiler are situated within the boundary of the main engine room or of the light and air casing above it, and when they are used in connection with the main machinery for propelling the vessel. When the shafts of screw propellers pass through open spaces not enclosed within tunnels, the spaces allowed in lieu of tunnels must be of reasonable dimensions suitable for the vessel in question. When a portion of the space within the boundary of the engine or boiler rooms is occupied by a tank or tanks for fuel oil or fresh water, the space considered to be within the engine room shall be reduced by the space taken up by the tank or tanks for fuel oil or fresh water.

The cubical contents of the abovenamed spaces occupied by the engine room shall be ascertained in the following manner: Measure the mean depth of the space occupied by the engines and boilers from its crown to the ceiling at the limber strake; measure also three, or, if necessary, more than three, breadths of the space at the middle of its depth, taking one of such measurements at each end and another at the middle of the length; take the mean of such breadths; measure also the mean length of the space between the foremost and aftermost bulkheads or limits of its length, excluding such parts, if any, as are not actually occupied by or required for the proper working of the engines and boilers. Multiply together these three dimensions of length, breadth, and depth, and the product will be the cubical contents of the space below the crown. Then, by multiplying together the length, breadth, and depth, find the cubical contents of the space or spaces, if any, which are framed-in for the machinery, for enclosing the funnels, or for the admission of light and air, and which are located between the crown of the engine room and the uppermost deck or covering of the first or lowest tier of side-to-side erections, if any, on the upper deck, as defined in Article IV, Section 3. Add such contents, as well as those of the space occupied by the shaft trunk and by any donkey engine and boiler located within the boundary of the engine room or of the light and air casing above the engine room, and used in connection with the main engines for propelling the ship, to the cubical contents of the space below the crown of the engine room; divide the sum by 100 or by 2.83, according as the measurements are taken in feet or meters, and the result shall be deemed to be the tonnage of the engine and boiler room and shall be the tonnage taken as the basis for calculating the deduction for propelling power.

If in any ship in which the space for propelling power is to be measured the engines and boilers are in separate compartments, the contents of each compartment shall be measured separately in like manner, according to the above method; and the sum of the tonnage of the spaces included in the several compartments shall be deemed to be the tonnage of the engine and boiler rooms, and shall be the tonnage taken as the basis for calculating the deduction for propelling power.

Propelling power deduction for vessels with fixed bunkers, or having fuel oil compartments that can not be used to stow cargo or stores.

Article XIV. When vessels are fitted with fixed coal bunkers or with fuel oil tanks or double bottom fuel compartments which cannot be used to stow cargo or stores, and when such bunkers, tanks, and fuel compartments have been certified by official marking to be spaces for the vessel's fuel, the deduction for propelling power may either be in accordance with the provisions of Article XIII above, or by deducting the actual tonnage of the spaces enumerated in Article XII, Section 2 as measured in accordance with the following provisions, as the owner of the vessel may elect: Measure the mean length of the engine and boiler room, including the coal bunkers. Ascertain the area of three transverse sections of the ship (as set forth in the rules given in Articles VIII or IX for the calculation of the gross tonnage) to the deck which covers the engine. One of these three sections must pass through the middle of the aforesaid length, and the two others through the two extremities. Add to the sum of the two extreme sections four times the middle one, and multiply the sum thus obtained by the third of the distance between the sections. This product divided by 100 if the measurements are taken in English feet, or by 2.83 if they are taken in meters, gives the tonnage of the space measured. If the engines, boilers, and bunkers are in separate compartments, measure each compartment, as above set forth, and add together the results of the several measurements. The bunkers measured for fuel deductions shall include only those bunkers that are absolutely permanent, from which the coal can be trimmed directly into the engine room or stokehole, and into which access can be obtained only through the ordinary coal chutes on deck and from doors opening into the engine room or stokehole. Thwartship bunkers that can be in any way extended are not to be included in the measurements for deductions. When any portion of the engine or boiler rooms is occupied by a tank for fresh water, the space considered to be within the engine and boiler rooms shall be reduced by the space taken up by the tank for fresh water.

The contents of the shaft trunk shall be measured by ascertaining, and multiplying together, the mean length, breadth, and height. The product divided by 100, or 2.83, according as the measurements are taken in English feet or in meters, gives the tonnage of such space. When the shafts of screw propellers pass through open spaces not enclosed within tunnels, the spaces allowed in lieu of tunnels must be of reasonable dimensions suitable for the vessel in question.

The tonnage of the following spaces below the deck or covering of the first or lowest tier of side-to-side erections, if any, on the upper deck, as defined by Article IV, Section 3, is ascertained by the same method, viz: (*a*) The spaces framed-in around the funnels. (*b*) The spaces required for the admission of light and air into the engine room. (*c*) The spaces, if any, necessary for the proper working of the engines. (*d*) Spaces occupied by the donkey engine and boiler when used in connection with the main engines for propelling the ship and when situated within the boundary of the engine room or of the casing above the engine room. (*e*) Fuel oil tanks and double bottom compartments fitted for the stowage of fuel oil.

No space may be deducted unless included in gross tonnage.

Article XV. Under no circumstances shall any space which has not been included in the gross tonnage be deducted from gross tonnage.

Deducted spaces, if used, must be added to net tonnage.

The use of the whole or any portion of a deducted space, other than fuel spaces deducted under Article XIII, to stow cargo of any kind or stores other than boatswain's stores, or to provide passenger accommodations, shall be evidence that the entire space thus wholly or partially occupied is a part of the actual earning capacity of the ship, and the entire space shall be added to, and become a permanent part of, the net tonnage upon which Panama Canal tolls shall be collected.

Officials that may measure vessels and issue certificates.

Article XVI. Only such officials as are authorized in the several foreign countries and in the United States to measure vessels and to issue tonnage certificates for purposes of national registry, and such other officials as are authorized by the President of the United States, or by those acting for him, to measure vessels and to issue Panama Canal tonnage certificates, shall have authority to measure vessels for Panama navigation or to issue Panama tonnage certificates.

Tonnage certificates issued under these rules may be corrected by officials at the Panama Canal.

Article XVII. Tonnage certificates presented at the Panama Canal shall be subject to correction by the official or officials authorized by the President of the United States, or by those acting for him, to administer these measurement rules, in so far as may be necessary to make the certificates conform to these rules.

Panama Canal tonnage certificates.

Article XVIII. The Panama Canal tonnage certificates issued by the measurement authorities of the United States and the several foreign countries shall correspond in substance and form to the sample certificate appended to these rules. Blank certificates in English will be furnished by the Secretary of War or the Governor of the Panama Canal upon request of the measurement authorities of foreign countries. The measurement authorities of any foreign country may also provide themselves with Panama Canal measurement certificates printed in English, or in the language of the foreign country, provided such certificates strictly correspond in substance and form to the sample certificate appended to these rules.

Rules Applying to Vessels of War, Other Than Army and Navy Transports, Colliers, Supply Ships, and Hospital Ships.

Article XIX. The toll on warships, other than Army and Navy transports, colliers, supply ships, and hospital ships, shall be based upon their tonnage of actual displacement at

Tolls upon warships shall be levied upon actual displacement upon arrival at Canal.

the time of their application for passage through the Canal. The displacement tonnage of such warships shall be their displacement before the vessels have taken on such coal, fuel oil, stores, or supplies, as may be purchased and taken on board after arrival at the Canal for transit through the same.

"Warships" defined.

ARTICLE XX. "Warships" in the meaning of Articles XIX to XXIV shall be considered to be all vessels of war, other than Army and Navy transports, colliers, hospital ships, and supply ships, as defined in Article I. Warships are vessels of Government ownership that are being employed by their owners for military or naval purposes.

For determination of draft, warships to anchor at station designated by governor of Panama Canal.

ARTICLE XXI. Every warship, other than Army and Navy transports, colliers, supply ships, and hospital ships (as defined in Article 1) upon applying for passage through the Panama Canal shall, in order to facilitate the ascertainment of its mean draft, be anchored or placed at such station or location as shall be designated by the Governor of the Panama Canal or by the officials authorized to act for him.

Commander of each warship to exhibit vessel's displacement scale and curves.

ARTICLE XXII. The commander of every warship, other than Army and Navy transports, colliers, supply ships, and hospital ships (as defined in Article I) applying for passage through the Panama Canal, shall exhibit for examination by the Governor of the Panama Canal or by the officials authorized to act for the Governor of the Panama Canal an official document containing the vessel's curve of displacement, its curves for addition to displacement for change of trim, and a scale so arranged that the displacement at any given mean draft is shown. Such document or documents shall be issued and be certified as correct by competent authorities of the Government to which the vessel belongs.

Actual displacement to be determined, and to be expressed in tons of 2,240 pounds.

ARTICLE XXIII. The actual displacement of warships shall be determined from their official displacement scale and curves, and shall be expressed in tons of 2,240 pounds. Should the displacement scale and curves of a warship show or state the vessel's displacement tonnage in metric tons of 2,204.62 pounds, the tonnage so expressed shall be multiplied by 0.9842 for the purpose of converting the tonnage into tons of 2,240 pounds.

Rule for determining displacement of a warship not supplied with displacement scale and curves.

ARTICLE XXIV. Should any warship, other than Army and Navy transports, colliers, supply ships, and hospital ships (as defined in Article I) apply for passage through the Panama Canal and, for reasons satisfactory to the Governor of the Panama Canal, not have on board the duly certified document or documents specified in Article XXII, the Governor of the Panama Canal, or the officials authorized to act for him, shall then determine the displacement of the vessel, using such reliable data as may be available, or by taking such dimensions of the vessel and using such approximate methods as may be considered necessary and practicable. The displacement tonnage so determined shall be considered to be the displacement of the vessel.

PANAMA CANAL TONNAGE CERTIFICATE
FOR THE

SHIP ....

Name of ship..........Official number or signal..........Port of registry..............Tonnage on certificate of national registry: Gross.........Net.........Register length..........Register breadth..............

Register depth........

DETAILS OF PANAMA CANAL GROSS TONNAGE.

The spaces measured for gross tonnage in this ship comprise the following and no others, viz:

	Tons of 100 cubic ft.	*Cubic ft. or cubic meters.*	*Tons of 100 cubic ft.*
1. Space or spaces under the tonnage deck, viz:			
(*a*) Space between tonnage deck and double bottom..........	....		
(*b*) Double bottom compartments available for fuel, cargo, feed water, or stores..........			
Total space under tonnage deck..........	....	....	....
2. Space or spaces between the tonnage deck and uppermost full length deck...	....	....	....
3. Closed-in spaces under or in permanent constructions on or above the uppermost full length deck, viz:			
(*a*) Forecastle..........	....		
(*b*) Bridge space..........	....		
(*c*) Poop..........	....		
(*d*) Break or breaks..........	....		
(*e*) Turret space..........	....		
(*f*) Trunk space..........	....		
(*g*) Round houses......tons....tons....tons....tons....tons.....tons Round houses......tons....tons....tons....tons....tons.....tons	....		
(*h*) Side houses........tons....tons....tons....tons....tons.....tons Side houses........tons....tons....tons....tons....tons.....tons	....		
(*i*) Companion house or companionway (dimensions and tonnage of part used as smoking room or for other special purposes)..........	....		
....	....		
(*j*) Passageways serving measured spaces..........	....		
(*k*) Cookhouses, galleys, bakeries, and condenser spaces..........	....		
(*l*) Lavatories, water closets, latrines, privies, toilets, wash and bath rooms..........	....		
(*m*) Wheelhouses, chart house, house for donkey engine and boiler, spaces for anchor gear, steering gear and capstan, lookout houses, and other closed-in spaces used in working the ship..........	....		
(*n*) Sail room..........	....		
(*o*) Boatswain's stores..........	....		
(*p*) Hatchways........tons....tons....tons....tons....tons.....tons Hatchways........tons....tons....tons....tons....tons.....tons Excess above one-half per cent of the gross tonnage as figured above..........	....		
Total closed-in spaces on or above the uppermost full length deck..........	....	....	....
Panama Canal gross tonnage*..........	....	....	....
*For spaces not included in gross and net tonnage, see other part of this certificate.			
DEDUCTIONS FROM GROSS TONNAGE.†			
1. Crew accommodations, viz:			
(*a*) Berthing accommodations and passageways serving them (name them):— Seamen......tons, firemen......tons, quartermasters......tons, ...tons, ...tons, ...tons..........	....		
(*b*) Mess rooms, ward and dressing rooms, bath and wash rooms, medical attention rooms, etc., if separate from berthing accommodations......	....		
2. Officers' accommodations and passageways serving them. (State dimensions and tonnage.)			
(*a*) Berthing accommodations: (Name them): Chief officer....tons, Second officer..................tons, ...tons, Chief engineer..................tons, Second engineer........tons, Third engineer..................tons, ...tons, Boatswain.......................tons, carpenter.............tons, ...tons, ...tons,	....		
(*b*) Mess rooms: Officers.............tons, ...tons, Engineers..........tons, petty officers..........tons,	....		
(*c*) Bath and wash rooms: Officers.....tons, ...tons, Engineers...tons, petty officers..........tons,	....		
(*d*) Doctor's cabin..........	....		
(*e*) Master's cabin..........	....		
3. Cookhouses, galleys, bakeries, and condenser spaces for exclusive use of officers, engineers, and crew (state dimensions and tonnage):			
....	....		
....	....		
4. Lavatories, water closets, latrines, privies, and toilets for exclusive use of officers, engineers, and crew, and passageways serving them (state dimensions and tonnage) viz:			
Crew............................tons, ...tons, Crew............................tons, ...tons, Crew............................tons, ...tons.	....		
5. Closed-in spaces used in working the ship, and passageways serving them (state dimensions and tonnage) viz:			
Chart house.......................tons. Lookout house........tons, Signal house......................tons. Wheelhouse............tons, Space for steering gear....tons, space for capstan ....tons, donkey engine and boiler room, as under Article X, Sec. 8‡.........tons, ...tons,........tons,........tons,..........................	....		
6. Sailroom as limited in Article X, Sec. 6 (dimensions and tonnage)..........	....		
7. Boatswain's storerooms (dimensions and tonnage)..........	....		
8. Water ballast spaces other than double bottom compartments, under conditions provided in Article X, Sec. 10..........	....		
9. Double bottom feed water compartments as under Article XII, Sec. 5......	....		
Total deduction, other than for propelling power..........	....	....	....
Panama Canal net tonnage (*Without deduction for propelling power*).......	....	....	....
FURTHER DEDUCTIONS FOR PROPELLING POWER IN CASE OF VESSELS PROPELLED BY ENGINES:			
Either (1) applicable to ships with fixed bunkers or with fuel oil tanks or double bottom compartments which cannot be used to stow cargo or stores:			
(*a*) Engine room as measured (as defined in Article XIV)— Tonnage below deck.......... Tonnage between decks..........	....		
(*b*) Fixed coal bunkers or fuel oil tanks and double bottom compartments fitted for stowage of fuel oil..........	....		
Total deduction for propelling power..........	....	....	......

DEDUCTIONS FROM GROSS TONNAGE—*(Continued.)*

	Tons of 100 cubic ft.	*Cubic feet or cubic meters.*	*Tons of 100 cubic ft.*
PANAMA CANAL NET TONNAGE, POWER DEDUCTION BY ACTUAL MEASUREMENT (Arts. XII and XIV) *(Limited except for tugs to 50 per cent of gross tonnage)*........	....	....	....
Or, (2) Danube rule as defined in Articles XII and XIII:			
(*a*) Engine room as measured (as defined in Article XIII)— Tonnage below deck........ Tonnage between decks........	....		
(*b*) In a vessel with screw propellers + 75 per cent of engine room as measured........	....		
(*c*) In a vessel with paddle wheels + 50 per cent of engine room as measured........	....		
Total deduction for propelling power. *(Limited except for tugs to 50 per cent of gross tonnage)*........	....	....	....
PANAMA CANAL NET TONNAGE, POWER DEDUCTION BY DANUBE RULE (Arts. XII and XIII)........	....	....	....

†No space other than fuel spaces deducted under Article XIII of the Panama meaurement rules, shall be deducted unless the use to which it is to be exclusively devoted has been appropriately designated by official marking.

‡References to articles and sections are to the "Rules for the measurement of vessels for the Panama Canal."

SPACES NOT INCLUDED IN GROSS TONNAGE.

(Information must be given concerning all spaces exempted from measurement.)

1. Exemptions under Article IV, Sec. 1 (a)—(Name or otherwise identify)........
....
2. Exemptions under Article IV, Sec. 1 (b)—(Name and state separately the dimensions and tonnage of the parts exempted):
Poop........
Forecastle........
Bridge........
....
....
....
3. Exemptions under Article IV, Sec. 1 (c)—(Name and state separately the dimensions and tonnage of the parts exempted):
Poop........
Forecastle........
Bridge........
....
....
....
4. Exemptions under Article IV, Sec. 2.—(Name the deck and state separately the dimensions and tonnage of the parts exempted):
....
....
5. Exemptions under Article IV, Sec. 3.—(Name spaces exempted):
Spaces framed in round funnels........
Spaces framed in round light and air casings........
6. Exemptions under Article IV, Sec. 4.—(Name or give number of double bottom compartments exempted):
....
7. Exemptions under Article IV, Sec. 6.—(Name or otherwise identify spaces exempted):
....
....
8. Exemptions under Article IV, Sec. 7.—(Name or otherwise identify spaces exempted):
....
....
9. Particulars as to hatchways (Article IV, Sec. 5) need not be restated if fully given on second page of certificate........
10. State any other particulars of exempted spaces:

THIS IS TO CERTIFY that the........ship abovenamed has been measured in accordance with the rules for the measurement of vessels for the Panama Canal, and that the particulars of tonnage contained in this certificate are correct.

Given under my hand at........, this........,191..

........(Signature.)

........(Official position.)

Decorative Trees and Plants for Permanent Townsites.

The decorative trees and plants required at Balboa and other permanent townsites will be propagated at a nursery to be started at the Corozal farm, and handled in connection with the other operations at that point under Mr. N. E. Coffey, the farm superintendent. It is estimated that about 15,500 trees and plants will be necessary, comprising the greater part of well-known species indigenous to the tropics, and a number of nonindigenous varieties, which, it has been found by experimentation, will thrive on the Isthmus. The list, which was prepared by Mr. W. L. Phillips, the landscape architect, includes the following:

Three thousand Royal palms, 50 Porto Rico Royal palms, 500 coconut palms, 150 Royal poinciana, 400 Frangipani, 50 *Pritchardii Pacifica* (fan palm), 1,500 *Tabernæmontana coronaria* (crepe jessamine), 500 *Aralia Guilfoylii*, 50 *Artocarpus incisa* (breadfruit), 300 Caladium, 400 *Cæsalpina pulcherrina* (dwarf poinciana), 400 *Carludovica palmata* (Panama hat palm), 24 *Caryota urens* (fern palm), 24 *Cedrela odorata* (Jamaica cedar), 100 *Citrus acida* (lime), 300 *Citrus Aurantium dulcis* (sweet orange), 50 *Citrus Dancy* (tangerine), 24 *Cycas revoluta* (sago palm, one variety), 24 *Cycas circinalis* (sago palm, another variety), 200 *Dracæna lindeni* (dragon tree), 24 *Enterolobium cyclocarpum* (corutu), 1,000 *Euphorbia pulcherrina* (poinsettia), 24 *Ficus indica* (india rubber), 200 *Gardinia florida* (Cape jessamine), 500 *Glabra bougainvillea* (bougainvillea), 1,500 *Hibiscus rosea*, varieties, 50 *Ipomea bona-nox* (moonflower), 100 *Ipomea tube-rosa* (yellow morning glory), 24 *Ipomea horsfallii* (red morning glory), 100 *Jasmiuum gracillimum* (graceful jessamine), 50 *Jasmiuum grandiflorum* (Spanish jessamine), 24 *Latonia borbonica* (fern palm), 500 *Lawsonia alba* (henna), 48 mangoes, 1,000 *Murraya exotica*, 60 *Pandanus utilis* (screw pine), 12 *Pandanus regalis*, 60 *Passiflora quadrangula* (grenadilla), 60 *Passiflora laurifolia* (water lemon), 60 *Persea gratissima* (avocado), 24 *Phoenix dactylifera* (date palm), 800 *Phyllanthus nivassus* (snowflake), 60 *Jobo de Iguana*, 24 *Psidium guava* (guava), 12 *Swietonia mahogani* (mahogany), 300 *Yucca elephantoides* (Spanish bayonet), 24 *Tamarindus indica* (tamarind), 500 *Zingiber officinale* (ginger), 150 *Eucalyptus alba* (eucalyptus), 100 *Bambusa vulgaris* (bamboo).

Shoots from the greater part of the trees and plants mentioned above can be obtained on the Isthmus, but some, such as the date palm, etc., will have to be brought from abroad. Most of the varieties are found in the Ancon Hospital grounds; there is an eucalyptus tree at Empire, which was set out some years ago, and the East Indian bamboo, from which fishing rods are made, has been introduced, an excellent type of this tree existing at Culebra. It is expected that some of the trees and plants will be ready for transplanting by the first of next July, although they will not be required until the building operations at the new townsites have advanced to such an extent that they can be planted with safety.

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Net Emigration in Five Months Over 10,000.

The excess in the number of persons leaving the Isthmus during the month of December, according to the figures of the quarantine service, as compared with the number landing, amounted to 1,970, making the net emigration from the Isthmus during the past five months 10,766, the most of which consisted of laborers on the Canal.

The total number of steamship passengers embarking from the ports of Colon and Cristobal for foreign ports during December was 4,338, consisting of 1,339 cabin, and 2,999 steerage passengers. The number of persons landing from foreign ports was 2,457, consisting of 1,625 cabin, and 832 steerage passengers. The number of persons who embarked over those who landed at these ports was 1,881. The number of steerage passengers landing from foreign ports was 159 less than in November. The immigration from the West Indian ports in respect to steerage passengers, which are mostly of the laborer class, continues to fall off, only 387 arriving at the above ports in December, as compared with 505 in November. There was a large exodus of West Indians from the Isthmus at holiday time, but some of these will probably return. Of the deck passengers from other countries, Costa Rica contributed 108, Colombia, 104, the United States 33; only 90 came from all of Europe. The number of persons arriving "In transit" during the month of December, nearly all tourists, was 1,618, exactly the same number as arrived in November.

The number of persons arriving at the ports of Ancon and Panama from foreign ports during the month was 518, consisting of 343 cabin, and 175 steerage passengers. The number of persons embarking for foreign ports was 607, consisting of 208 cabin, and 399 steerage passengers. The number of those who embarked over those who landed was 89.

The total number of vessels arriving at Colon during December was 113, of which 10 were United States naval vessels, or naval vessels of other countries. The number of vessels arriving at the port of Ancon was 24.

LOCK ENTRANCE CAISSON.

Keel for the First Structure Laid at the Works of the Contractor.

The keel for the first lock entrance floating caisson was laid at the plant of the Union Iron Works in San Francisco in the latter part of December, and the erection of the caisson is proceeding. Up to that time, very little actual construction work on the caisson had been performed, the contractor having been engaged in ordering materials and preparing the contract drawings. Over 80 per cent of the drawings have been checked and approved by the representative of the Isthmian Canal Commission stationed at the works of the contractor; of the drawings in connection with the pumping system, about 25 per cent have been checked and approved.

All of the structural steel has been ordered from rolling mills in the East; over 90 per cent of it has been shipped and over 50 per cent has been received at the construction plant. Orders have also been placed for all the electric motors, pumps, anchor chain, and miscellaneous fittings. Many of the fittings, such as valves, valve stands, end reaction castings, etc., are being manufactured in the Union Iron Works shops. Work is in progress on the making of the wood templets necessary for laying out the structural steel for the caisson, and the laying off of some of the steel from the templets is under way. The cast steel castings that will be used in the construction of the caisson are being made by the Columbia Steel Company, of Pittsburg, Cal., a town on the Sacramento River about 60 miles from San Francisco, and an inspector for the Commission has been stationed at that plant.

A few minor modifications in the plans for the caisson structure have been made since the publication of a description of the caisson in THE CANAL RECORD of December 3, 1913. The most notable of these are in the size of the end peak longitudinal trimming compartments, which have been changed from the 31-foot breasthooks to the deck 16 feet above the keel; and in the end peak bulkhead, which has been moved to frame No. 22, below the 37-foot deck, from its former position on frame No. 24. These changes will allow trimming the structure from a greater angle of longitudinal inclination.

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Opinion in an Injunction Suit.

An opinion was given by Justice W. H. Jackson in the Circuit Court of the Second Judicial Circuit at Empire, on Tuesday, January 6, in the case of Encarnación Rangel, Edwin Holeness, and Manuel Gonzalez *versus* Frank Feuille and Guy Johannes praying that the defendants be restrained from complying with the following order:

> "You are hereby notified that it will be necessary for you to remove from this land, and to remove or destroy this building before January 1, 1914.
>
> "It will be necessary for the Isthmian Canal Commission to destroy this building if it is not removed before January 1, 1914.
>
> FRANK FEUILLE,
> *Head of the Department of Law.*"

In his opinion, Justice Jackson stated that the question involved in this case was solely as to the jurisdiction of the court. He contended that the Executive Order of the President in reference to the acquisition of private lands in the Canal Zone conferred authority only "To acquire title by agreement, and failing so to do, to take possession of the property by expropriation preceedings before a joint commission, which necessarily, under the obligation of the Treaty, presupposed the existence of such a commission.

"For the reasons stated herein, it must, therefore, be held that the threatened seizure and destruction of the properties of the plaintiffs would be taking of property without 'due process of law', and that under such circumstances this court is not without jurisdiction in the premises.

"It follows that the plea to the jurisdiction of the court must be denied and the injunction allowed, with leave to the defendants to move to vacate the same, when a joint commission may be organized for the hearing of claims."

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Official Moving Pictures of the Canal.

An exhibition of moving pictures of the Canal construction and operation, made by Mr. Roscoe G. Searle, a Government photographer stationed at the capitol in Washington, was given before officials of the Isthmian Canal Commission at Culebra on the night of January 7. The film shows the blowing up of Gamboa dike, steamshovel operations, the passage of vessels through the locks, etc., in unclassified sequence, just as taken, and it has been sent to the Commission photographer to be divided up in order and supplied with legends. This film is about 6,000 feet long, and several more are to follow as they are developed in the United States.

Steamshovel Operations in December.

During the month of December, the total amount of material excavated by the Fourth Division in Culebra Cut was 161,000 cubic yards. All of this amount was primary excavation for the Canal; 74,127 cubic yards were classified as earth excavation, and 86,873 cubic yards as rock excavation.

In addition thereto, the Fourth Division excavated at Sosa Hill 59,100 cubic yards of rock for use on the Naos Island breakwater.

All the yardage handled by this division was excavated by steamshovels.

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Concrete in the Locks and Auxiliary Works.

The following is a statement of the concrete laid in the Canal locks and auxiliary works up to January 1, 1914:

Gatun Locks	2,068,089
Gatun spillway	231,410
Gatun hydroelectric station	7,167
Gatun control house, ducts, etc	2,993
Pedro Miguel Lock	923,438
Miraflores Locks	1,500,525
Miraflores dam and spillway	79,094
Pedro Miguel-Miraflores duct line	6,193
Total	4,818,819

◆

Oil Supply to Permanent Shops at Balboa.

Two fuel oil tanks, one of 2,500 and the other of 600 barrels capacity, have been erected on the saddle between Sosa High and Sosa Low Hills, for supplying the burners in the permanent shop buildings at Balboa. Excavation on the site of the larger dry dock makes it impracticable at present to connect the tanks directly with the shops, and a temporary 6-inch line about 4,000 feet long, is being constructed around the south side of Sosa High, to reach the terminal site about opposite the Balboa dispensary.

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Superseding a provision that each prisoner discharged from the Canal Zone penitentiary be given $7.50 to provide himself with clothing and maintenance until he finds remunerative employment, the Isthmian Canal Commission has adopted by letter ballot, a resolution to the effect that the sum paid to the discharged convict shall vary between $5 and $25, according to the circumstances. The amount in each case will be determined by the warden.

◆

The "Eye-glass account" in connection with the eye, ear, nose, and throat clinic of Ancon Hospital has been abolished. Hereafter, patients requiring glasses will be given a prescription, which may be filled locally, or by mail order.

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Following the withdrawal of most of the Canal employes, and their families, from the villages of Bas Obispo and Las Cascadas, and the destruction or removal of the native houses in the vicinity, the dispensaries at those points have been closed.

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Rainfall, Jan. 1 to Jan. 10, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	.22	2	.24
Balboa	.20	2	.20
*Miraflores	.00	......	.00
Pedro Miguel	.11	10	.11
Rio Grande	T	10	T
Central Section—			
Culebra	T	Sev'ral dates	T
*Camacho	.02	7	.02
Empire	.04	3	.05
Gamboa	.02	4 & 10	.05
*Juan Mina	.09	10	.10
Alhajuela	.00	......	.00
*El Vigia	.03	6	.03
Frijoles	.05	4	.07
*Monte Lirio	.35	1	.42
Atlantic Section—			
Gatun	.02	2 & 5	.06
*Brazos Brook	.09	3	.15
Colon	.02	9	.04
†Porto Bello	.20	4	.43

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight. †To 5 p. m., January 9.

◆

Stages of the Chagres River, Gatun, and Miraflores Lakes.

Maximum heights of the Chagres River, Gatun and Miraflores Lakes for the week ending midnight, Saturday, January 10, 1914. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.					
	Vigia.	Alhajuela	Gamboa	Frijoles	Gatun Lake	Miraflores Lake
Sun., Jan. 4	126.0	92.6	84.4	84 4	84.4	50.4
Mon., Jan. 5	125.9	92.6	84.3	84.4	84 4	50 6
Tues., Jan. 6	125 8	92 5	84.2	84 3	84 3	50.5
Wed., Jan. 7	125.9	92.5	84.2	84 2	84.2	50.7
Thurs., Jan. 8	126.0	92 6	84.2	84.2	84.2	50.8
Fri., Jan. 9	126.0	92 6	84.2	84.3	84.2	50.5
Sat., Jan. 10	125.9	92.4	84 3	84.3	84.3	50.4
Height of low water, nearest ft.	125 0	91.0				

*Sluice gates in spillway at Gatun were closed on June 27, 1913, with surface of lake at elevation 48.25 feet above sealevel.

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Tide Table.

The following table shows the time of high and low tides at Panama for the week ending January 24, 1914:

DATE.	High	Low	High	Low	High
	A.M.	A.M.	A.M.	P.M.	P.M.
January 18	......	2 00	7.57	2.18	8.26
January 19	......	2.52	8.50	3.12	9.19
January 20	......	3.49	9.50	4.13	10.19
January 21	......	4.53	11 02	5.22	11.30
			P.M.		
January 22	......	6 05	12 22	6 30	......
January 23	12 44	7.14	1 38	7.44	......
January 24	1 52	8.16	2.13	8.44	......

75th meridian time.

OFFICIAL CIRCULARS.

Vacation of Family Quarters After Termination of Service,

CULEBRA, C. Z., January 13, 1914.

CIRCULAR, No. 134-C:

Hereafter, employes whose service is terminated will be expected to vacate family quarters within 10 days after the termination of service.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Reimbursement for Meals Taken at Ancon.

CULEBRA, C. Z., January 13, 1914.

CIRCULAR No. 265-A:

On account of the establishment of an I. C. C. hotel at Ancon, no reimbursement in excess of 30 cents will be allowed for meals taken at Ancon or Panama, effective January 15, 1914.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Cash Deposit Required Prior to Performance of Work for Employes or Others, with Exceptions Noted.

CULEBRA, C. Z., December 31, 1913.

CIRCULAR No. 519:

1. Effective January 1, 1914, no manufacturing or repair job shall be undertaken or miscellaneous service rendered for employes or other private individuals or companies until a cash deposit has been made to cover the cost of such work or services, including the usual surcharges, with the following exceptions:

Bond acceptable as security for payment—

(*a*). Services for contractors with the Isthmian Canal Commission and Panama Railroad Company, or steamship companies and others in cases in which the payment for such services is secured by a bond in form and with sureties satisfactory to the Examiner of Accounts and sufficient in amount to cover all credit granted by the Commission and conditioned for the payment for material, supplies, equipment, and services furnished by the Commission within thirty days from the end of the month within which delivery of the material, supplies, and equipment is made or the services rendered.

Indebtedness to Commission or Panama railroad. Security for payment—

(*b*). Services rendered contractors with the Isthmian Canal Commission or the Panama Railroad Company, and steamship companies in cases in which the Isthmian Canal Commission or the Panama Railroad Company is indebted to such contractors or companies for material furnished or services rendered by them to the Commission or the railroad company in an amount equal to or in excess of the value of any material, supplies, and equipment sold or services rendered by the Commission to such contractors or steamship companies.

Hospital services—

(*c*). Necessary hospital, surgical, or medical treatment furnished on account of employes or furnished to others in emergancy cases.

Quarantine services—

(*d*). Quarantine services, which, until otherwise provided, may be handled as at present.

Electric current—

(*e*). Electric current. A deposit to cover payment for same will be required under regulations to be hereafter prescribed.

Charges for boarding animals collected on pay roll month service rendered—

(*f*). Boarding animals in Commission corrals. This service shall be governed by the following rules:

Effective with the month of January, charges for boarding animals in the corrals will be deducted from employes' salaries for the month in which the service is rendered.

District quartermasters, immediately on the receipt of this circular and on the first day of each month thereafter, will forward to the Chief Quartermaster a certified statement, in triplicate, of employes having animals in the corrals, showing the privileges extended to each. One copy of each statement, after proper charges are inserted therein, will be forwarded to the Examiner of Accounts and the other copy to the Chief Timekeeper, who will deduct the amount certified on the pay rolls for the month in which the statement is received.

Whenever an animal is placed in the corral during any month immediate report thereof, in triplicate, shall be made to the Chief Quartermaster. Such reports shall be disposed of in the same manner as is provided for the monthly statements above. In addition, one copy shall be forwarded direct to the Examiner of Accounts.

Changes in corral privileges will only be made effective the first of each month. No reduction will be made in the monthly charge for corral services unless an employe is leaving the service and the animal is removed from the corral.

Rent of quarters to silver employes—

(*g*). Rent of quarters to silver employes. Rental shall be collected in advance by the district quartermaster and remitted to the Disbursing Officer. Cash abstract and other reports shall be submitted to the Examiner of Accounts as provided in Section 9. Special rules applicable to the rental of quarters will be issued hereafter.

METHOD BY WHICH SUFFICIENT SECURITY WILL BE MAINTAINED.

2. No work shall be undertaken until full and complete authority has been received. In the Quartermaster's Department, district quartermasters and storekeepers, and in the shops, the foreman and the costkeeping accountant, are charged with the duty of preventing the performance of any work for outside parties prior to the receipt of evidence in the prescribed form that payment for such work is adequately provided for. If in any case it is ascertained that the cost of the work will exceed the estimate, deposit, or other security, immediate steps must be taken to secure the deposit of an additional amount, additional authority for such additional work being required in the same form the first authority was issued. Reference on the second authority for work must be made to the first one issued and show that a deposit is required and made to continue the work.

PROCEDURE FOR SECURING PERFORMANCE OF WORK.

3. Requests for the performance of work shall be made and authority therefor shall be issued, as follows:

Chief Quartermaster will issue authority to district quartermasters—

(*a*). In the case of work to be performed by the Quartermaster's Department, request should be made upon the Chief Quartermaster, who, upon approval, will issue authority for the work to the proper district quartermaster.

Shop work restricted to dry dock, Empire and Balboa shops. Authority for work obtained from foreman of shop—

(*b*). The performance of work by shops of the Mechanical Division shall be restricted to the dry dock, Empire, and Balboa shops. Requests for the performance of work shall be made to the foreman of the shop at which the work is to be done, who will issue the order therefor after he has obtained general or specific authority to do the work contemplated.

Form of authority and amount of deposit—

(*c*.) Authority for the performance of work shall be issued on consecutive numbered forms in such number of copies as may be necessary. Each authority shall specify the nature of the work, where and by whom it is to be done, the estimated cost, including the usual surcharge and the amount necessary to be deposited to insure payment, which amount shall exceed the estimate by about 10 per cent. The authority shall also designate the person with whom the deposit is to be made.

Disposition of copies of authority where deposit is made—

(*d*.) Copies of each authority for work shall be disposed of, as follows: The original and first two copies will be sent to the person designated to receive the deposit, the quadruplicate to the party for whom the work is to be performed, with instructions to forward same to the designated receiving clerk with his deposit. Upon receipt of the deposit all copies will be receipted, the quadruplicate returned to the party for whom the work is to be done, the original forwarded to the district quartermaster or foreman, who is to perform the work, the duplicate to the Examiner of Accounts, the triplicate being retained in the files of the person receiving the deposit.

PROCEDURE NECESSARY TO SECURE PERFORMANCE OF WORK WHEN SPECIFIC DEPOSIT NOT MADE.

4. In case the work is to be performed without a special deposit under conditions specified in Section 1, paragraphs (*a*) or (*b*), four copies shall be forwarded to the Examiner of Accounts who, after determining that the security available is sufficient, will forward the original to the person who is to perform the work, the quadruplicate to the person for whom the work is to be done, returning the triplicate to the officer issuing the authority and fixing the estimate of cost.

PERSONS WITH WHOM DEPOSITS WILL BE MADE.

5. Deposits shall be made, as follows:

(*a*.) Deposits in excess of $100 will be made direct with the Disbursing Officer.

(*b*.) In other cases the official granting authority for the performance of the work may designate the proper bonded district quartermaster, shop receiving clerk, or other receiving officer to accept the deposit.

RENDITION OF BILLS.

6. Bills shall be rendered in the required number as soon as the work is completed, one copy to be forwarded to the Chief Quartermaster, or to the Superintendent of the Mechanical Division, as the case may require, the original and remaining copies to the Examiner of Accounts. Bills shall show the total charges for labor and material, and the usual surcharges, with reference to the authority for the work by number and date.

REFUNDMENT OF BALANCES IN EXCESS OF AMOUNTS DEPOSITED.

7. Upon receipt of the bill any refund necessary to be made by the Disbursing Officer will be made upon the certificate of the Examiner of Accounts specifying the amount to be refunded. In cases in which the amount to be refunded is less than $10, and the district quartermaster or other receiving clerk has an amount on deposit sufficient to cover, he will make the refund, taking a receipt on the prescribed form.

DISPOSITION OF RECEIPTS BY RECEIVING CLERKS.

8. District quartermasters and other receiving clerks will remit the amount of bills for work completed at least once each week, and oftener when the amount equals $50. The regular form of remittance letter shall be used for this purpose, reference thereon being given to the authorities for the work and the numbers of the bills rendered therefor. In all cases in which the amount on deposit to secure the payment for various jobs exceeds $200, the district quartermaster or receiving clerk shall remit that amount to the Disbursing Officer to be carried as a special deposit.

REPORTS REQUIRED TO BE MADE BY RECEIVING CLERKS.

9. Each district quartermaster and receiving clerk will submit to the Examiner of Accounts on the first day of each month a cash abstract of the business transacted by him during the preceding month. The abstract will show the cash balance on hand at the beginning of the month, the amount received during the month, the remittances and refunds, and the balance on hand at the end of the month. If the details of the receipts and disbursements are not shown on the cash abstract, a detailed statement of same shall accompany the report. The abstract shall be accompanied by duplicates of all receipts issued by the receiving clerk and also by the original of all receipts taken by him for amounts refunded.

The receipts of the Disbursing Officer for amounts remitted to him should not accompany the abstract.

ABOVE REGULATIONS NOT APPLICABLE TO OTHER DEPARTMENTS OF THE UNITED STATES GOVERNMENT, CANAL ZONE GOVERNMENT, PANAMA RAILROAD, OR COMMISSION CLUBHOUSES.

10. The above regulations will not be applied to services performed for other departments of the United States Government, the Canal Zone Government, the Panama Railroad Company, or Commission clubhouses. Authority for the performance of work for such interests will be made upon work request, form C. E. 159.

EXAMINER OF ACCOUNTS TO PRESCRIBE FORMS.

11. The Examiner of Accounts shall prescribe all forms and may change the details of the procedure fixed herein, should circumstances require such action.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

New General Accounts.

EMPIRE, C. Z., January 6, 1914.

CIRCULAR No. 52:

Effective July 1, 1913, the following new general accounts are authorized:

No. 3—STORES.

This account will be opened with a charge for the value of all material on hand July 1, 1913, as shown by the inventory of the Chief Quartermaster as of June 30, 1913. The account will thereafter be charged for the value of all material accepted by the Depot Quartermaster as shown by weekly abstracts of certified U. S. bills, with the amount of audited vouchers for purchases made by the Purchasing Officer on the Isthmus, with the value of manufactured articles taken into stock, material and supplies returned to stock, and with payments made for freight charges on account of transportation of material to the Isthmus.

The account will be credited for the value of all material issued from stock to divisions and departments and for the proceeds of sales.

The balance in this account will represent the value of material carried in stock by the Quartermaster's Department.

After the account has been subdivided and a separate account established for each warehouse of the Quartermaster's Department these accounts will be individually debited and credited for all receipts and issues of material and supplies.

No. 5—UNDELIVERED PLANT AND EQUIPMENT.

To this account will be charged partial payments made to manufacturing companies or other contractors engaged in furnishing plant or equipment, prior to final delivery including inspection and all other expenses entering into the final cost of such plant or equipment.

The account will receive credit when the plant or equipment is accepted and the cost is charged to the proper plant account, or otherwise disposed of.

The account will be maintained in such detail as will show at any time the amount of cumulative charges against each contract.

No. 23—VOUCHERS PAYABLE.

This account will be credited for the amount of all vouchers audited for payment on the Isthmus and charged for all payments made thereon by the Disbursing Officer.

No. 24—INVOICES PAYABLE.

This account will be credited for the value of all material taken into account by the Depot Quartermaster after June 30, 1913, as shown by weekly abstracts of certified U. S. bills. The account will also be credited for the amount of invoices certified for service only, such as repairs to surgical and survey instruments, etc., on account of which charges are made against Chairman's Office, pending proper distribution.

The account will be charged for payments made by the Disbursing Officer at Washington, or by Treasury settlements.

The amount of difference between certified U. S. bills and the amount of payment thereon will be carried in suspense for future adjustment.

No. 25—DIVISION STORES.

The account will be opened with a charge for the value of unissued material in the hands of divisions and departments (other than Quartermaster's stock) on July 1, 1913. It will also be charged with the value of all material issued from Quartermaster's stock, commissary-subsistence supplies, rock, sand, gravel, and other material as a result of manufacturing operations, material transferred from other divisions, and for payments to contractors where the expenditures are carried currently to division expenditure accounts.

The account will be credited with material issued as reported on monthly statement of expenditures, Form 132 C. E., and with material transferred to other divisions and departments.

The account will be maintained in detail by subheadings for each division and department as may be found necessary. The balance in old general account No. 5, "Material and Supplies, Subsistence Department," will be carried on this account.

H. A. A. SMITH,
Approved: *Examiner of Accounts.*
GEO. W. GOETHALS,
Chairman and Chief Engineer.

Amendments to Rules for Government of Prisoners.

DEPARTMENT OF CIVIL ADMINISTRATION,
DIVISION OF POLICE AND PRISONS,
ANCON, C. Z., December 26, 1913.

The rules and regulations for the government of prisoners in the Canal Zone penitentiary are amended to read, as follows:

ARTICLE 30.

Punishments—

1. Reprimand.
2. Loss of tobacco privilege.
3. Loss of letter writing privilege.
4. Solitary confinement on diet of bread and water.
5. Solitary confinement on diet of bread and water and handcuffed to door.
6. Reduction in grade.
7. Loss of all, or part, of "Good time."
8. Wearing of ball and chain for such period as in the judgment of the warden, or deputy warden, may be desirable.

ARTICLE 34.

Prisoners assigned to outside work upon beginning their terms of imprisonment shall be clothed in stripes and shall be known as Grade A prisoners. When a prisoner of this grade has earned a total of 90 good conduct points, he shall be transferred to Grade B, or Grade E, as conditions may require.

ARTICLE 35.

Grade B prisoners shall be clothed in stripes, and shall be assigned to outside work. When any prisoner of this grade shall earn a total of 90 good conduct points in the grade, he shall be transferred to Grade C, or Grade E, as conditions may require.

GUY JOHANNES,
Approved: *Acting Warden.*
RICHARD L. METCALFE, Approved:
Head of Department of GEO. W. GOETHALS,
Civil Administration. *Chairman, Isthmian*
Canal Commission.

Placing of Derail in Service on Pacific Spur, Old Main Line P. R. R.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT.
COLON, R. P., January 5, 1914.

G. S. BULLETIN No. 33:

All concerned—A derail, pipe connected to the switch stand, will be put in service at 12.01 p. m., on Tuesday, January 6, on the Pacific spur located three-fourths of a mile north of Bridge 57½ on the old main line.

F. MEARS,
General Superintendent.

Addition to P. R. R. Signal Service.

PANAMA RAILROAD COMPANY.
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., January 2, 1914.

G. S. BULLETIN No. 29:

All concerned—A southward automatic signal at the north end of Monte Lirio passing track will be added to the present scheme of signalling and placed in service at 5 p. m. on Saturday, January 3, 1914. This signal will be numbered 1409. F. MEARS,
General Superintendent.

Bas Obispo Block Signal.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., January 7, 1914.

G. S. BULLETIN No. 35:

All concerned—As Bas Ohispo is the initial point for all southward trains on the old main line, effective Friday, January 9, 1914, the arms and lamps will be removed from the block signal.

F. MEARS,
General Superintendent.

Closing of Doors on Block Telephone Boxes.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT.
COLON, R. P., January 8, 1914.

G. S. BULLETIN No. 36:

All concerned—The doors on outside block telephone boxes are being left open by train crews.

This practice must be discontinued at once.

F. MEARS,
General Superintendent.

Supplies for the Canal.

The following steamers, with supplies for the Isthmian Canal Commission and Panama Railroad Company, arrived at the ports of Balboa, Colon, and Cristobal, during the week ending January 10:

Allianca, January 5, from New York, with 26 cases incandescent lamps, 156 cases plumbing material, 418 packages conduit and fittings, 24 cases electrical machinery, 40 bundles spring plates, for Mechanical Division; 25 cases woodwork, 60 cases window glass, for Administration Building, Balboa; 356 packages roofing material, 367 packages electrical machinery, for First Division; 95 pieces steel plates, 334 bundles steel bars, 100 pieces angle steel, 15 cases tacks, 546 slabs spelter, 120 kegs nails, 100 kegs rivets, 53 boxes valves, 34 barrels pipe-fittings, for stock; and a miscellaneous cargo, the whole consisting of 3,249 packages, weighing 242 tons.

Heredia, January 5, from New Orleans, with 75 pieces of car castings, for Mechanical Division; 1,059 bales hay, 22 crates hammer handles, for stock.

American, January 5, from New York, with 19 barrels gasoline, for stock.

Aztec, January 5, from San Francisco, with 58 bales rubber hose, for stock.

Carl Schurz, January 5, from New York, with 46 kegs bolts and nuts, for First Division; 250 pieces steel bars, for stock; eight barrels silica wash, Mechanical Division; 65 kegs bolts and nuts, 14 boxes zinc plates, for stock.

Portinglis, January 7, from Baltimore, with 11 boxes medical supplies, for Sanitary Department; 97 packages dredging machinery, for Sixth Division; 309 packages chain fender material, for First Division; 63 boxes window glass, 234 bundles brooms, 20 bales oakum, 15,111 pieces sewer pipe, 225 bundles brooms, 785 cases gasoline, 20 cases benzine, for stock.

Metapan, January 7, from New York, with 37 cases structural material; 186 crates insulators and parts, 60 barrels paint, 81 packages electrical material, 34 packages pipe-fittings, 28 boxes bolt and washers, for First Division; 175 pieces steel sheets, 50 barrels pitch, for stock.

Atenas, January 8, from New Orleans, with 212 pieces oak lumber, for Mechanical Division; 39 pieces oak lumber for Atlantic Division; four pieces castings, for Sixth Division; 80 pieces oak lumber for stock.

Fort Gaines, January 9, from Mobile, with 1,356 cases powder, for fortifications.

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The following ships arrived at, or departed from, the port of Balboa, during the week ending January, 10:

Arrivals—January 5, *Guatemala*, from Callao; January 7, *Quito*, from intermediate ports; January 7, *City of Sidney*, from San Francisco; January 10, *Harlesden*, from Puget Sound.

Departures—January 5, *Pachitea*, to Callao; *Palena*, to Valparaiso; January 9, *Peru*, to San Francisco; January 10, *Ecuador* to Guayaquil; *Rupanco*, to intermediate ports.

◆

LOST—On New Year's Eve, a mate's license, and marine discharges, a $15 hotel coupon book and a year's passes on the Panama railroad. The finder will be rewarded upon return of the above to Jack Swan, Building 68, Cristobal.

LOST—Gold medal attached to watch fob with the name "Thaddeus Smith' first prize, April, 1912, Gatun Y. M. C. A.," engraved upon it. Reward for return to the Y. M. C. A., or to Mr. T. D. Smith, Corozal.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The moving picture schedule for the week January 19 to 24 is, as follows: Monday, Culebra; Tuesday, Balboa; Wednesday, Empire; Thursday, Cristobal; Friday, Gatun; Saturday, Corozal.

COROZAL.

Among the high scores in duckpins so far this month, are the following: Hartshorne 103, Owens 100, Garrett 101, Regan 109, 106, 102, 101; Lenow 101, 100, Parkis 101. Edwards 105, 101, Beall 100, 106, Smith 117, 114, Davis 109.

The Cristobal boys visited the Corozal boys on Saturday, staying all day. The boys played baseball, ran relay races, bowled, played basketball, and swam in the Canal. Corozal won the relay race and bowling matches.

During the past week, several members of the artillery, encamped in Corozal, have joined the Y. M. C. A.

CULEBRA.

On Monday night, the "Blues" defeated the "Reds" in the local duckpin tournament by the score of 1,274 to 1,215. On Thursday night, the "Orange" team was defeated by the "Blacks" by the score of 1,258 to 1,214. On Friday night, the "Reds" defeated the "Orange" team by the score of 1,267 to 1,256.

High scores for the week in duckpins are, as follows: Worsley 104, Chadbourne 103, Schmeck 123, Brown 106, 105, Bechlem 103, 101, 106, 101, 102, 105, Hill 106, Palmer 106, Fitzpatrick 100, Kiernan 103, 111, 101, Davis 100, Case 120, 116, 104, 100, Barnes 111, E. Koperski 105, DeCora 105, A. R. Brown 103, Kronmiller 111, Cornthwaite 101.

On Monday night, January 19, the reel showing the world's series baseball games will be shown.

GATUN.

Interest is being shown in the study of Spanish. There are now five classes, which are taught by Madame de Hess of Colon. All classes meet on Tuesday and Thursday of each week. The schedule of hours is, as follows: Class No. 1, ladies' advanced, 4 p. m. to 5 p. m.; class No. 2, ladies' beginners, 5 p. m. to 6 p. m.; class No. 3, men's advanced, 6 p. m. to 6.45 p. m.; class No. 4, men's intermediate, 6.45 p. m. to 7.45 p. m.; class No. 5, men's beginners, 7.45 p. m. to 8.45 p. m. New students may enter at any time. The tuition fee is $2 per month.

The Español Conversational Club was organized recently as an adjunct to the Spanish classes. Mr. Huber has loaned the club an I. C. S. phonograph, with a full set of Spanish language records. There is no charge for membership in the club; any Y. M. C. A. member may join. The club will meet about twice a week.

An athletic tournament is being organized for the members of the junior department. The contest will begin on January 19, and end about March 1. The boys will compete, as follows: Twenty-yard dash, 100-yard dash, one-half mile run, potato race, high jump, broad jump, shot put, pole vault, running high jump, running hop, step, and jump, pull-ups, push-ups, rope climbing, and goal throwing. Medals will be given as prizes. Any member of the junior department of the Y. M. C. A. may compete. Physical Director Kjellander will be in charge.

A first-aid-to-the-injured class was started on Saturday, January 10. At the end of the lessons the elementary examinations will be conducted and the successful students will be presented with certificates from the National Red Cross Society. A class for men will be organized if a sufficient number of men are interested. Mr. Kjellander, the physical director, is the teacher.

Swimming lessons will be given any member of the association who cares to learn.

A 2-man ragtime duckpin tournament was started on Saturday, January 10.

The Ernest Gamble concert company will appear at Gatun on Thursday, January 15.

CRISTOBAL.

Lieut.-Col. E. T. Wilson's address on "Tolls and traffic of the Panama Canal" proved of interest, and was attended by a large number of men. Colonel Wilson explained minutely the different kinds of tons; also, the different methods of measurements, and expressed the opinion that in the course of a few years the Canal will be selfsupporting.

Prof. Gomez will start another beginners' class in Spanish on Thursday night, January 15. The class will meet each Tuesday and Thursday, from 8 to 9 o'clock. With the opening of this class, Mr. Gomez will have classes five nights in the week.

Mr. Thos. F. Cahill, president of the Bank of the Canal Zone, will address the discussion club on Thursday, January 22, on "The new currency law.'

The Gamble concert party, will be at Cristobal on Friday night, January 16.

COMMISSARY DEPARTMENT.

The commissary stores are open during the following hours:

Cristobal, 8 a. m. to 12.30 p. m., and 2 to 7 p. m.
Balboa, 8 a. m. to 12.30 p. m., and 2.30 to 7. p. m.
Ancon, 8 a. m. to 1 p. m., and 3 to 6 p. m,
All others, 8 a. m. to 1 p. m., and 3 to 7 p. m.

Retail prices of cold storage provisions for the week beginning January 11, 1914:

FRESH MEATS.	Price.
Mutton—Stewing, per pound	7
Shoulder, neck trimmed off (4 pounds and over), per pound	9
Entire forequarter (not trimmed, 10 pounds and over), per pound	8
Legs (8 to 10 pounds), per pound	17
Cutlets, per pound	18
Short cut chops, per pound	20
Lamb—Stewing, per pound	8
Entire forequarter, neck trimmed off, per pound	10
Legs (5 to 8 pounds), per pound	20
Chops, per pound	24
Cutlets, per pound	24
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	17
Chops, per pound	26
Loin, for roasting, per pound	26
Cutlets, per pound	30
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	8
Plate, per pound	9
Corned, No. 1, per pound	14
Corned, No. 2, per pound	12
Chuck roast, 3 lbs., and over, per pound	12
Rib roast, second cut (not under 3½ pounds), per pound	16
Rib roast, first cut (not under 3 pounds), per pound	18
Pot roast, per pound	19
Rump roast, per pound	19
Porterhouse roast, per pound	20
Steak, Chuck, per pound	12½
Round, per pound	13
Rib, per pound	18
Sirloin, per pound	19
Rump, per pound	19
Porterhouse (not less than 1½ pounds), per pound	20
Tenderloin (Western), per pound	30
Pork—Hams, fresh, per pound	§20
Loin chops or roast, per pound	19
Shoulders, fresh, per pound	§17
Spare ribs, per pound	15
Backbones, per pound	15
Pigs' feet, each	7
Pigs' heads, whole	60
Pigs' heads, ½-head	30
Sausage, homemade, per pound	20

MISCELLANEOUS.	
Livers—Beef, per pound	11
Calf, each	60
Half, each	30
Steak, Hamburger, package	13
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Devonshire Farm, per pound	20
Sweetbread, beef, per pound	*27
Eggs, fresh, per dozen	*40
per ½-dozen	*20
Bluefish, per pound	11
Halibut, fresh, per pound	12
Salmon, per pound	12
Roe shad, each	75
Shad roes, per pair	40
Oysters, per quart	28
per gallon	1.52

POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, large, each	1.40
Fancy roasting, milk fed, med., each	1.10
Fancy roasting, corn fed, about 5½ pounds, each	1.25
Fancy roasting, corn fed, about 4½ pounds, each	1.00
Fowls, each ††60, 70, 80, 90, and	1.00
Ducks, Western (about 4½ pounds), each	1.25
Capons, about 8½ pounds, each	3.00
Broilers, milk fed, each	70
Broilers, corn fed, each	60
Turkeys, per pound	25
Squabs, each	50
Rabbits, skinned and unskinned, each	30
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30

CURED AND PICKLED MEATS.	
Ham—Real York and Cumberland, per pound	37
Genuine Westphalia, per pound	40
Sugar cured, per pound	20
Sliced, per pound	22
Half, (for boiling), per pound	21
Boiled, per pound	28
Hocks, per pound	‡8
Beef, salt, family, per pound	12
Bacon—Breakfast, whole piece, per pound	25
Sliced, per pound	26
Ham, lunch, per pound	32
Pork, salt, family, per pound	14
Ox tongues, each	1.00
Pigs' feet, per pound	7
Tongues, per pound	18

DAIRY PRODUCTS.	Price.
Butter—Creamery special, per pound	40
Sheffield Farms, extra fancy, per lb.	46
Cheese—Philadelphia cream, cake	10
Roquefort, per pound	35
Young America, per pound	22
Swiss, per pound	28
Edam, each	75
Edam, tin	25
Parmesan, per pound	35
Gouda, per pound	30
Snappy, per cake	10
Milk (certified), per bottle	**20
Fer-mil-lac, per bottle	**20
Ice cream, quart	‡25
½-gallon	‡50
Cream (certified), per pint	45

VEGETABLES AND FRUITS.	
Brussels sprouts, per quart	15
Beets, per pound	3
Celery, per head	7
Cabbage, per pound	3½
Cucumbers, per pound	10
Carrots, per pound	3
Cauliflower, per pound	8
Lettuce, per pound	8
Onions, per pound	3
Potatoes, white, per pound	3
sweet, per pound	2
sweet, Jersey, per pound	4
Parsley, per bunch	5
Parsnips, per pound	4
Peppers, per pound	16
Radishes, per pound	†8
Squash, per pound	3½
Turnips, per pound	3
Tomatoes, per pound	10
Yams, per pound	3
Apples, per pound	6
Grapes, Malaga and Tokay, per pound	†17
Cranberries, per pound	9
Grape fruit, American, each	7
tropical, each	4
Lemons, per dozen	*18
Limes, per hundred	80
Pears, per pound	7
Papayas, per pound	3
Oranges, Jamaican, per dozen	12
Tangerines, each	2

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

††Fowls weight each, about, as follows: 3, 3½, 4, 4½, and 5 pounds. Prices are based accordingly; when size ordered is not in stock, next lightest weight is supplied and refund note sent for difference.

‡Sold only from commissaries; no orders taken for delivery.

§Not less than half of a fresh ham or shoulder will be sold.

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Family Quarters.

Applications for married quarters on file on December 31, were, as follows:

DISTRICT.	List No. 1.	List No. 2.
Ancon	31 (26)	130 (50)
Ancon Hospital		6 (1)
Balboa	10 (9)	67 (21)
Corozal	12 (9)	149 (54)
Cristobal		97 (12)
Culebra	3	52 (12)
Empire	4 (1)	66 (11)
Gatun		71 (6)
Paraiso		90 (21)
Porto Bello	2 (2)	9 (7)
Toro Point		3 (3)
Total	62 (47)	740 (198)

NOTE—The figures in parentheses show the number of applicants already occupying regular or nonhousekeeping family quarters at stations other than those at which applications are filed.

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Misdirected Letters.

ANCON, C. Z., January 14, 1914.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addresses:

Clark, Frank L.
Creager, Gay H.
Dominquez, J. R.
Fabregas, José Rafael
Hull, Corina (pkg.)
Hutchinson, Mrs. K. E.
Jack, Thos. H. (parcel)
Lohmann, Mr. and Mrs. C.
Rose, Wm. H.
Schroter, Mrs. Lucy Duglas
Senhouse, Joseph (parcel)
Stout, Arthur G.
Townsley, Carrie L. (pkg.)

◆

LOST—Small black cloth bound book left on street car in Panama, morning of January 9. Finder requested to return article to office of THE CANAL RECORD. Reward.

LOST—Ladies' black bathing suit, red collar, in Indian fibre bag, at Bella Vista pavilion on Sunday, January 11. Finder please communicate with office of THE CANAL RECORD.

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings of the Panama Railroad Steamship Company; of the Royal Mail Steam Packet Company: of the Hamburg-American Line; and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.

*Advance	P. R. R.	Monday	Jan.	12
*Panama	P. R. R.	Monday	Jan.	19
*Allianca	P. R. R.	Saturday	Jan.	24
*Colon	P. R. R.	Friday	Jan.	30
*Advance	P. R. R.	Thursday	Feb.	5
*Panama	P. R. R.	Wednesday	Feb.	11
*Allianca	P. R. R.	Wednesday	Feb.	18
*Colon	P. R. R.	Tuesday	Feb.	24

CRISTOBAL TO NEW YORK.

†Colon	P. R. R.	Sunday	Jan.	18
†Advance	P. R. R.	Saturday	Jan.	24
†Panama	P. R. R.	Friday	Jan.	30
†Allianca	P. R. R.	Thursday	Feb.	5
†Colon	P. R. R.	Wednesday	Feb.	11
†Advance	P. R. R.	Tuesday	Feb.	17
†Panama	P. R. R.	Tuesday	Feb.	24
†Allianca	P. R. R.	Monday	Mar.	2
†Colon	P. R. R.	Sunday	Mar.	8

NEW YORK TO COLON.

*Emil L. Boas	H.-A.	Saturday	Jan.	10
*Tagus	R. M.	Saturday	Jan.	17
*Calamares	U. F. C.	Saturday	Jan.	17
*Prinz Joachim	H.-A.	Saturday	Jan.	17
*Santa Marta	U. F. C.	Wednesday	Jan.	21
*Carl Schurz	H.-A.	Saturday	Jan.	24
*Pastores	U. F. C.	Saturday	Jan.	24
*Metapan	U. F. C.	Wednesday	Jan.	28
*Prinz Aug. Wilhelm	H.-A.	Saturday	Jan.	31
*Tenadores	U. F. C.	Saturday	Jan.	31
*Oruha	R. M.	Saturday	Jan.	31
*Zacapa	U. F. C.	Wednesday	Feb.	4
*Emil L. Boas	H.-A.	Saturday	Feb.	7
*Calamares	U. F. C.	Saturday	Feb.	7

COLON TO NEW YORK.

Metapan	U. F. C.	Thursday	Jan.	15
Tenadores	U. F. C.	Sunday	Jan.	18
Prinz Aug. Wilhelm	H.-A.	Tuesday	Jan.	20
Oruba	R. M.	Tuesday	Jan.	20
†Zacapa	U. F. C.	Thursday	Jan.	22
Calamares	U. F. C.	Sunday	Jan.	25
Emil L. Boas	H.-A.	Tuesday	Jan.	27
Almirante	U. F. C.	Thursday	Jan.	29
Pastores	U. F. C.	Sunday	Feb.	3
Trent	R. M.	Tuesday	Feb.	3
Prinz Joachim	H.-A.	Tuesday	Feb.	3
Santa Marta	U. F. C.	Thursday	Feb.	5
Tenadores	U. F. C.	Sunday	Feb.	8
Carl Schurz	H.-A.	Tuesday	Feb.	10
Metapan	U. F. C.	Thursday	Feb.	12
Calamares	U. F. C.	Sunday	Feh.	15

NEW ORLEANS TO COLON.

*Turrialba	U. F. C.	Saturday	Jan.	10
*Cartago	U. F. C.	Wednesday	Jan.	14
*Abangarez	U. F. C.	Saturday	Jan.	17
*Heredia	U. F. C.	Wednesday	Jan.	21
*Atenas	U. F. C.	Saturday	Jan.	24

COLON TO NEW ORLEANS.

†Atenas	U. F. C.	Thursday	Jan.	15
‡Parismina	U. F. C.	Saturday	Jan.	17
†Turrialba	U. F. C.	Thursday	Jan.	22

BOSTON TO COLON.

Carrillo	U. F. C.	Thursday	Jan.	15
Tivives	U. F. C.	Thursday	Jan.	22

COLON TO BOSTON.

Sixaola	U. F. C.	Sunday	Jan.	18
Carrillo	U. F. C.	Sunday	Jan.	25
Tivives	U. F. C.	Sunday	Feb.	1

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 2 p. m.; for Southampton, on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays and Saturdays at 3 p. m.: ships for New York via Kingston, on Thursdays at 2 p. m.; for New York, via Limon and Havana, on Sundays at 5 p. m.; for Limon and Bocas del Toro, on Tuesdays at 3 p. m.; and for Bocas del Toro direct, on Mondays at 5 p. m.

Hamburg-American steamers sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays; the *Prinz August Wilhelm and the Prinz Joachim* at 10 a. m.; the *Carl Schurz* and the *Emil L. Boas* at 2 p. m.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, JANUARY 21, 1914. No. 22.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Transfer of Vessels in Dredging Service.

The seagoing suction dredge *Culebra*, launch *Sanidad*, and clapet *No. 9*, were transferred from the Pacific entrance to Culebra Cut during the forenoon of Tuesday, January 20. On the same date, the launch *Louise* was transferred from the Cut to the Pacific entrance for general service in Balboa harbor, and in carrying supplies to the Hotel Aspinwall on Taboga Island. The *Sanidad* is to be used as a supply boat for the dredging vessels in Culebra Cut and Gatun Lake. The *Culebra* is at present excavating near Gamboa in the removal of gravel washed into the channel by the Rio Chagres.

The transfer of the *Culebra* to Gatun Lake leaves only the pipeline dredge *No. 85*, the drill barge *Teredo*, and the rock breaker *Vulcan* in excavation work in the Pacific entrance and harbor. The French ladder dredge *Gopher* is dredging sand at Punta Chame; the barges in this service are towed by the tug *Chame*. The tug *Bolivar* is engaged in general work around the Pacific entrance.

Alignment of Tracks Through Central Division Dumping Area.

The track of the relocated line of the Panama railroad is now being reestablished on its original alignment between Caimito and Gamboa. When this line was first built through this section it was projected for fast single track service, and track and roadbed were constructed accordingly. The Central Division found it necessary to double track this section of the line in order to successfully operate the Lidgerwood trains between Culebra Cut and the spoil dumps. This was done by lining over the single track to be used as a northbound main and building a new track for the south main. In the development of the various dumps, numerous spur tracks and yard tracks were installed. When the relocated line between Gatun and Tower R was opened for traffic on February 15, 1912, it was found that the numerous switches in this section interfered with fast service, but as it was necessary to leave them in, trains were operated under a slow order of 20 miles an hour, pending completion of the dry excavation in the Cut. The use of this section for dumping purposes was discontinued between October and December of 1913, and at the beginning of the dry season, forces of the Panama Railroad Company were put in the field to reestablish the track. A few switches will be left to give access to the sidings on which rolling stock is stored, but the line will be placed on permanent center, raised to final grade, fitted with 90-pound rails, and heavily ballasted for fast service.

Taboga Sanitarium Becomes "Hotel Aspinwall."

Beginning January 16, the Subsistence Department assumed charge and operation of the former sanitarium on Taboga Island, and is now conducting it as a public hotel under the name of "Hotel Aspinwall." The rates and rules of the hotel are published among the official circulars in this issue.

Dredging in Culebra Cut.

The ladder dredges *Badger* and *Marmot* have been transferred from Cucaracha slide to the channel north of it and are engaged, with the ladder dredges *Corozal* and *No. 5*, along the section between Gold Hill and a point south of the Empire suspension bridge. This transfer is due to recent movements of the east Culebra slide and the fact that the dipper and pipeline suction dredges are making good progress at Cucaracha slide.

The dipper dredges *Cardenas*, *Chagres*, and *Mindi* are removing the heavy rock along the north side and center of the slide and the pipeline suction dredges *No. 86* and *No. 4* are excavating clay and loose rock at the south side. In order to expedite their work, by sluicing to them the clay and loose stone from higher levels while leaving the heavy rock for ladder and dipper dredges, pipeline suction dredge *No. 82* has been transferred from Gamboa to a point near *No. 86*, and is pumping water up to a monitor installed about 15 feet above the water level, near the south side of the slide.

The suction dredges take out rock as large as 10 inches in diameter, a considerable part of which is too heavy to be lifted through the relay station to the course of the Rio Grande, selected originally as their dumping ground; accordingly a "Y" line has been connected to the discharge pipe beyond the relay station and when the heavy rocks are encountered they are switched through the branch and discharged on the slope of the east bank, above the 95-foot berm. As a good deal of clay goes with the rock, a retaining dike of timber is being built along the east bank, above the berm, between station No. 1853 and station No. 1860 plus 50 feet, on the north side of a slight knoll, and provided with a discharge outlet south of the knoll, at station No. 1863.

When the suction dredges are handling clay and light stone, the discharge is made in the watercourse of the Rio Grande and carried away by the natural fall of the stream. The waters of the Rio Grande have been diverted into the Canal above the point at which the discharge pipes enter the valley, in order to eliminate their interference with the handling of the pipelines. The Rio Grande is a tributary of Miraflores Lake, but the washing of sediment into the Canal channel in the lake is prevented by the damming of the Rio Grande west of Pedro Miguel Lock. This has formed a lake in which all sediment settles before the water is released into Miraflores Lake. The dike across the Rio Grande was built about two years ago for the Sanitary Department, in order to flood a swamp west of the lock and facilitate the work of preventing mosquito breeding. At that time the water was raised to elevation 40 feet above sealevel; the dike has been raised and strengthened recently to make the water level about five feet above the normal surface of Miraflores Lake and afford a larger basin for the disposal of spoil.

Departure of the Marine Corps.

The battalion of the United States Marine Corps stationed at Camp Elliott, Bas Obispo, and designated as the "Panama Battalion," sailed from Colon for Vera Cruz, Mexico, on Wednesday, January 21, on the United States battleship *Minnesota*, sent down from Mexican waters for its transport. The battalion on embarking consisted of 12 officers and 375 enlisted men. The officers are Maj. Smedley D. Butler, commanding; Capt. J. C. Beaumont, Past Assistant Surgeon B. H. Dorsey, U. S. N., Captains E. P. Fortson and J. F. Dyer; Lieutenants H. W. Stone, E. A. Ostermann, C. L. Gawne, J. C. Smith, C. C. Riner, A. A. Vandegrift, and A. J. White. Capt. Russell H. Davis, post quartermaster, will remain behind temporarily with 27 enlisted men for the purpose of packing materials and closing the camp. The buildings in Camp Elliott, numbering now about 45, will be turned over to the Isthmian Canal Commission. On account of the assembling on the Isthmus of forces of the Army and Navy it is anticipated that the services of the Marine Corps will not be required hereafter for the protection of the Canal, and the Canal Zone will not be a Marine Corps station. The project for the erection of permanent barracks for it, at a cost of $400,000, for which an appropriation was approved on March 4, 1913, has been abandoned.

With the departure of this battalion, the Marine Corps terminates services on the Isthmus which have been continuous since the insurrectionary period preceding the revolution of 1903, and the independence of Panama. In 1903, a detachment was detailed to keep the Panama railroad open to transit and protect its property. There were then 1,400 men of the command on the Isthmus, in charge of Brigadier General Elliott, for whom the camp at Bas Obispo was named. The present camp was occupied early in 1905, the forces having been previously stationed at Mount Hope, Diablo, and Empire. Though mobilized several times on occasions of threatened disorders in Panama, they have seen no active service on the Isthmus; several expeditions were sent to points in Central America, in which the forces were actively engaged and suffered casualties.

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Sightseeing Barge in Gatun Lake.

The sightseeing barge of the Panama Railroad Company, in tow of the tug *Cocoli*, was locked through at Gatun on Sunday morning, January 18, and was then moored at the landing for small lake craft near the railroad station. It carried as passengers Lieut. Frederick Mears and party. After the lockage the *Cocoli*, with a party of Panama railroad employes, and others, continued on through the lake and cut sections to Paraiso.

The tug *La Boca* was passed from the lake to the Atlantic channel, for repairs at the Cristobal dry dock, immediately after the lockage of the sightseeing barge.

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Labor Trains to Be Discontinued North of Empire.

Effective Monday, January 26, I. C. C. labor trains will not be operated north of Empire.

◆

Canal Excavation in December.

The grand total of Canal excavation to January 1, 1914, was 215,458,272 cubic yards, leaving 16,894,728 cubic yards remaining to be excavated under the revised estimate of July 1, 1913.

The total excavation for the month of December was 1,581,726 cubic yards. The wet excavation amounted to 1,274,683 cubic yards, and the dry excavation to 307,043 cubic yards.

In the Atlantic section, the total excavation for December was 300,554 cubic yards. Of this amount, all but 2,168 cubic yards was wet excavation, consisting of 221,474 cubic yards dredged from the Atlantic entrance, 50,256 cubic yards dredged from the permanent coaling basin, and 26,656 cubic yards charged to "Plant" excavation, 14,318 cubic yards of which were removed from the harbor at Coco Solo Point, and the remainder from the slip and approach to the Cristobal coal dock.

The total excavation in the territory of the old Central Division aggregated 860,429 cubic yards. Of this amount, 161,000 cubic yards were removed by Fourth Division steamshovels to relieve the pressure on the banks of Culebra Cut in the zone of slides; 140,622 cubic yards were removed by suction dredge in the Chagres River section; 417,807 cubic yards were taken out by dredges working on slide material, and 141,000 cubic yards were handled by the Gold Hill sluicing plant.

In the territory of the old Pacific Division, operations by Sixth Division dredges resulted in the removal of 144,601 cubic yards from the Canal prism, 37,676 cubic yards from the channel in Miraflores Lake, and 94,591 cubic yards from the terminal basin, and berths at the Panama railroad wharf. Steamshovels dug 25,900 cubic yards at Miraflores spillway, 4,520 cubic yards from the channel below the spillway, and 112,620 cubic yards from the site of the dry dock. In addition, the shovels took out 829 cubic yards, charged to "Plant" excavation, from the coal pocket incline, coal pocket tracks, and dry dock ditches.

A detailed statement of excavation, and a summary of the work on the locks and dams, follow:

ATLANTIC DIVISION.

LOCALITY.	"Work" Excavation.	"Plant" Excavation.	Total Excavation.
Dry Excavation—	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
Locks, dam and spillway	2,168	....	2,168
Mindi	....	....	....
Terminal	....	....	....
Total	2,168	....	2,168
Wet excavation—			
Atlantic entrance	221,474	26,656	248,130
Dock at east breakwater	....	....	....
Terminal	50,256	....	50,256
Total	271,730	26,656	298,386
Total wet and dry excavation	273,898	26,656	300,554

CENTRAL SECTION.

Dry excavation—			
Culebra Section	161,000	....	161,000
Total dry	161,000	....	161,000
Wet excavation—			
Chagres Section, dredging	140,622	....	140,622
Dredges	417,807	....	417,807
Hydraulic	141,000	....	141,000
Total wet	699,429	....	699,429
Total wet and dry excavation	860,429	....	860,429

PACIFIC SECTION.

Dry excavation—			
Locks, dams and spillways	25,900	....	25,900
Terminal	112,626	829	113.455
Rio Grande Diversion	4,520	....	4,520
Total	143,046	829	143,875
Wet excavation—			
Pacific entrance	182,277	....	182,277
Miraflores Locks	....	....	....
Diversions	....	....	....
Terminal	94,591	....	94,591
Total	276,868	....	276,868
Total wet and dry excavation	419,914	829	420,743

TOTAL CANAL EXCAVATION.

Dry excavation	306.214	829	307,043
Wet excavation	1,248,027	26,656	1,274,683
Total	1,554,241	27,485	1,581,726

LOCKS AND DAMS.

MATERIAL.	Atlantic	Pacific	Total
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*
Concrete placed in locks	120	3,021	3,141
Concrete placed in dams and spillways	....	3	3
Fill placed in dams	20,485	10,635	31,120

Mean rainfall along Canal (nine stations), 3.57 inches.

By "Work" excavation is meant excavation actually made for one of the constituent parts of the Canal, such as prism, diversions, or locks, etc., that is, it represents material taken from the area to be occupied by the Canal and constitutes excavation useful for the completed Canal.

By "Plant" excavation is meant excavation outside any of the constituent parts of the Canal, such as prism, diversions, or locks, etc. It includes material necessary to be excavated for construction purposes only, and is chargeable against the particular plant item for which it is performed, such as prism, diversions, locks, etc.

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Upon the request of the commanding officer at Camp Otis, the material in the old Gorgona hotel has been transferred to the Tenth Infantry, and will be used in the erection of a recreation hall and gymnasium along the general lines of the Commission clubhouses. It is probable that the building containing the post exchange will be enlarged for the purpose.

Messrs. C. W. Fisher, A. O. Herman, and M. L. Padgett nave been appointed a committee to work out the details of a system for keeping the cost of work done in the car shop at Balboa, under the permanent organization.

The Panama Government has been granted the privilege of operating a F. I. A. T. automobile, model AKG, engine No. 30316, owned by it, and used by the President, over the streets and roads of the Canal Zone without the payment of the customary license tax.

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PERSONAL.

Lieut.-Col. William V. Judson will sail for New York on the *Ancon* on Friday, January 23, on his annual leave of absence.

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Coating Gas Buoys.

The Canal Commission has contracted with the American Bitumastic Enamels Company for the coating of 40 gas buoys with bitumastic solution and bitumastic enamel, at $25 each. The surface to be covered on each buoy amounts to about 271.2 square feet. There are 43 of these buoys in Gatun Lake, and the three not included in the above contract have been, or will be, covered with other paints and coatings for experimental purposes. The Binswinger moisture-proof paint has been applied to one of these; also to two buoys stationed in the Pacific entrance. The action of the water in Gatun Lake on the different kinds of coatings will be carefully observed with a view of determining the most lasting material.

◆

Removal of Offices.

The offices of the chief quarantine officer, Panama health office, and office for the collection of water rents, formerly located in the old administration building fronting the Plaza de la Independencia in Panama, were moved on Monday, January 19 to a one-story building in the Panama railroad yard just north of the freight house. The building was formerly used by the railroad company as a carpenter shop, and was remodeled to serve its new requirements.

◆

Visit of the "Minnesota."

The United States battleship *Minnesota* arrived at Colon on Saturday, January 17, from Philadelphia, via Vera Cruz, Mexico. The sailors were given shore leave and on Sunday, were taken to Gatun, thence to Culebra Cut on a special train. The vessel sailed for Vera Cruz, with the local battalion of the United States Marine Corps, on Wednesday, January 21.

◆

Missing Men.

Any one having knowledge of the present whereabouts of Richard W. Jones of Syracuse, Kansas, formerly employed as a boilermaker in the Mechanical Division, is requested to communicate with the office of the Chairman, Culebra.

Any one having information regarding the whereabouts of Mr. William Booth Carlyle, or Carlile, of Pulaski City, Virginia, is requested to communicate with the American Legation, Panama.

Any one having information regarding the present whereabouts of William H. Harrington, who was last heard from at Ancon on December 29, 1913, is requested to communicate with THE CANAL RECORD.

SOCIAL LIFE OF THE ZONE.

Woman's Clubs.

At the meeting of the Ancon Study Club on Thursday afternoon, January 15, the program of study decided upon for the next six months was the history of England and English literature. There will be provision for one original paper each month by a club member. It is proposed to present a more varied program for the term. Speakers from the outside will be invited from time to time and discussions of current events will be held. Plans are under way for library extension work among the young girls of Ancon and these will be announced as soon as they are perfected. The new course of study will be begun at the meeting on January 22, with Mrs. Morley as leader.

Church Notes.

The executive committee of the Panama federation of societies of women for Christian work met at St. Luke's Hospital chapel, Ancon, on Wednesday afternoon, January 14, Mrs. Stokoe, provisional chairman, presiding. The following representatives of Canal Zone societies were present: Mrs. E. H. Westerdorf of the ladies' aid society of the Union Church, Cristobal; Mrs. H. A. A. Smith of the ladies' auxiliary to the Empire Christian League; Miss Kate Feuille of the woman's altar guild, St. Luke's Church, Ancon, and Mrs. Stokoe of the Woman's Foreign Missionary Society of the Methodist Episcopal Church, Panama. The board accepted an invitation of the ladies' auxiliary of Empire to hold the first general convention in Empire, and arrangements for that meeting were made, as follows: The date fixed upon was Friday, March 6. The meeting will be held in the Commission chapel. Luncheon will be served to the visiting societies on arrival of the train at 12.50 p. m., and the program will begin as soon thereafter as possible. The program will consist of reports from the societies, two addresses, and music. The general topic for the afternoon will be mission work.

Mr. Earl Taylor, senior corresponding secretary of the board of foreign missions of the Methodist Episcopal Church, was a visitor to the Isthmus last week in connection with his tour around the world, inspecting evangelistic work in all countries. Mr. Taylor is accompanied by his wife and son. They arrived from New York on the steamer *Danube* on Sunday, January 11, and left on Monday, January 19, on the *Aysen* of the Chilean Line, for Callao. They will go from Callao to Argentina and Brazil, thence to northern Africa and through the countries of Europe. Mr. Taylor has obtained some unique photographs of the Canal, and of the *flora* and *fauna* of the Isthmus. He delivered a lecture on his travels at the seawall church in Panama on Saturday evening, January 17, illustrating his talk with photographs taken by himself on a similar trip in 1909, and preached in the same church on Sunday morning.

The Methodist evangelist, Mr. James Taylor, is also a visitor to the Isthmus and is holding meetings in the seawall church and in the newly opened church for negroes in Guachapali.

The evening service at the Union Church, Cristobal, on Sunday, January 18, was conducted by Col. Charles Rothwell, chief officer of the Salvation Army in the West Indies and the Republic of Panama, who is here on an inspection tour of the divisional work in Panama and the neighboring islands.

The newly organized Catholic Club of St. Mary's, Star of the Sea, Balboa, held its first public entertainment in the National Theatre, Panama, on Saturday evening, January 17. The theatre was well filled, and many Americans from the line were present. In addition to the regular program, Father McDonald, priest in charge of the parish of Balboa, delivered an informal address. The receipts, amounting to about $700, will be used for the benefit of the church.

Banquet of the Society of the Chagres.

The third annual banquet of the Society of the Chagres was held at the Hotel Washington, Colon, on Saturday evening, January 17. Three hundred and fifty Canal men sat down to dinner in the temporarily arranged dining room on the roof at the north end of the hotel. A projecting wall of canvas, 10 feet high, was erected, and the space within the enclosure was decorated with palms and tropical plants and lighted by colored electric lights arranged in garlands. Lieut.-Col. William L. Sibert, Engineer Corps, U. S. A., 1907, was toastmaster. Speeches were made by Edward Schildhauer, electrical department, 1906, F. G. Swanson, Mechanical Division, 1905, Thomas E. Brown, Jr., judiciary, 1907, and William F. Morrison, Mechanical Division, 1906. A vaudeville program was given during the progress of the dinner in which Messrs. Emery, Pearsall, Shuber, Downe, and Britt took part. Music was furnished by the Tenth Infantry band of 24 pieces, with Chas. Coe as leader.

The banquet committee consisted of W. F. Shipley, chairman; D. W. MacCormack, seating arrangements; Mr. S. M. White, lighting and decorations; Mr. E. A. Keeling, entertainment, Mr. J. J. Jackson, printing; Mr. L. E. Willson and Mr. F. G. Swanson. Mr. White was assisted in his work by Messrs. F. J. Jury and P. W. Reese. The chairman of the banquet committee desires to express his thanks to the above persons for their assistance and cooperation.

The menu printed by the I. C. C. Press at Mount Hope was neatly executed and received favorable mention. The year book for 1913, published by Mr. John O. Collins, under the supervision of Messrs. W. F. Shipley, R. H. Wardlaw, and G. D. Bliss, was distributed at the dinner. It was a departure from the previous year books, containing many interesting and amusing articles. Members who did not attend the banquet will receive their copies in a few days.

The present officers of the society of 6-year Canal employes are: President, Capt. R. E. Wood, U. S. A., 1905; vice-president, A. B. Herrick, 1904; secretary, W. F. Shipley, 1905. The executive committee is composed of John Burke, 1905; C. A. McIlvaine, 1905; A. S. Zinn, 1906, and Roy F. Watson, 1907. While this is probably the last banquet of the society of similar size that will be held on the Isthmus, calls will be issued for annual reunions and the year book will continue to be published.

Election of Officers.

The following officers were elected at the December meeting of Orchid Chapter, No.1, Order of the Eastern Star; Worthy matron, Minnie H. Kosier; worthy patron, David R. Wolverton; assistant matron, Marion Stanner; secretary, Katherine R. Casey; treasurer, Columbia Reimann; conductress, Anna Lucchesi, assistant conductress, Lydia Whitaker; chaplain, Annie L. Calvit; organist, Grace Dowell; Adah, Dora Westerdorf; Ruth, Nina Brown; Esther, Lucy von Pflug; Martha, May Jordan; Electa, Adeline Sweet; warder, Cecil Lowe; sentinel, William Jordan.

Colonel Gorgas Nominated for Surgeon General.

Col. William C. Gorgas, Chief Sanitary Officer of the Canal Zone, has been nominated by President Wilson to be Surgeon General of the United States Army Medical Corps, with the rank of brigadier general, to succeed the late Gen. George H. Torney. Col. Gorgas left the Isthmus for Johannesburg, South Africa, on October 13, on special leave of absence. He has just been granted additional leave of 30 days, which advances the date of his return to about April 15.

Isthmian Tennis Association.

At the meeting of the Isthmian Tennis Association held at Gatun, January 11, officers were elected for the season of 1914, as follows: President, board of governors, George R. Goethals; members of board of governors, B. C. Poole, R. W. Runyan, F. E. Pearman; secretary and treasurer, E. F. Ohlson.

The schedule of tournaments for the 1914 season is, as follows:

Place.	*Date*	*Play.*
Gatun..........	January 11.....	Doubles.
Empire..........	January 18.....	Singles.
Culebra.........	February 8.....	Doubles.
Ancon..........	February 22-23.	All comers, singles.
Gatun..........	March 8........	Singles.
Empire..........	March 22.......	Doubles.
Ancon..........	April 10-12.....	All comers, doubles.
Culebra.........	May 3..........	Singles.
Gatun..........	May 17.........	Doubles.
Ancon..........	May 30-31.....	Free for all, singles.
Empire-Culebra	June 7.........	Singles.

The results of the first tournament, held on January 11, appeared in THE CANAL RECORD of January 14.

Knights of Columbus Dance.

The first annual joint ball of Panama and Cristobal councils, Knights of Columbus, will be held in the Hotel Washington, Colon, on Saturday evening, January 24. A special train for the accommodation of guests from the line will leave immediately after the dance.

The regular meeting of both councils will occur on Sunday, January 25.

Obituary.

William Simpson, a member of the United States Marine Corps formerly stationed at Camp Elliott, received fatal injuries in a railroad accident which occurred between Empire and Culebra on Friday, January 9. He was standing on the footboard of engine No. 271, when it collided with engine No. 403, coming from the opposite direction. Owing to the fact that it was raining at the time, it is thought he did not notice the approach of engine No. 403 in time to save himself by jumping, as did three negro employes, also standing on the footboard. He was unmarried and had been on the Isthmus 19 months. His mother, Mrs. Margaret Simpson, lives at Glenshaw, Pa.

Married.

MULLER-EYRING—In Christ Church, Colon, on December 24, 1913, Margaret T. Eyring of Brooklyn, N. Y., to Jack A. Muller of Corozal, C. Z., the Rev. E. J. Cooper, officiating. Canal Zone residence, Corozal.

RECORD OF CANAL WORK SINCE AMERICAN OCCUPATION.

TOTALS BY CUBIC YARDS OF EXCAVATION AND LOCK AND DAM CONSTRUCTION.

[All figures are of work useful for the completed Canal.]

DRY EXCAVATION.

CENTRAL SECTION.

M'THS.	CULEBRA SECTION.*								CHAGRES SECTION.**				
	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1909.	1910.	1911.	1912.	1913.
Jan ...	120,990	566,750	1,227,022	1,150,249	1,323,693	1,356,394	1,416,035	1,135,580	389,399	175,802	255,385	28,357	....
Feb ..	168,410	639,112	1,248,265	1,194,454	1,259,173	1,409,338	1,349,569	996,800	450,182	286,309	219,550	66,145	....
March .	239,178	815,270	1,290,885	1,434,597	1,509,728	1,728,748	1,539,618	1,183,900	619,491	484,846	297,339	172,607	....
April ..	213,177	879,527	1,242,574	1,272,746	1,288,845	1,414,336	1,455,216	1,178,000	510,020	428,777	102,103	171,731	....
May....	196,209	690,365	960,840	1,126,963	1,099,279	1,299,100	1,405,760	921,000	386,170	248,974	29,783	12,524	....
June..,	212,623	624,586	1,134,032	1,242,134	1,305,141	1,401,016	1,348,780	865,283	275,900	164,389	32,288	8,424	....
July ...	159,789	770,570	1,121,325	1,200,828	1,153,810	1,337,833	1,335,590	1,037,700	233,897	166,106	22,284	776	....
August	244,823	786,866	1,171,927	1,173,370	1,377,714	1,442,402	1,094,132	893,301	231,543	234,404	21,892	....	....
Sept .	291,452	753,468	1,122,860	1,235,978	1,339,948	1,340,173	922,712	448,200	235,818	234,290	21,272	....	....
Oct ...	327,009	834,499	1,160,101	1,302,901	1,320,314	1,306,971	1,113,420	382,270	221,409	271,409	12,216	....	132,703
Nov...	221,642	790,632	1,022,576	1,070,792	1,209,554	1,209,498	973,071	441,494	93,619	260,882	12,248	....	119,092
Dec,...	307,689	1,025,485	1,210,046	1,152,022	1,211,400	1,351,082	1,074,510	719,807	105,044	197,481	10,809	....	140,622
Totals..	2,702,991	9,177,130	13,912,453	14,557,034	15,398,599	16,596,891	15,028,413	10,203,334	3,752,492	3,153,669	1,037,169	460,564	392,417

ATLANTIC DIVISION.†

MOS.	GATUN LOCKS, DAM AND SPILLWAY.††				
	1909.	1910.	1911.	1912.	1913.
Jan ..	102,690	125,011	65,889	1,330	46,773
Feb..	95,031	123,738	50,511	1,228	11,241
Mar,.	90,051	132,007	51,431	254	35,705
Apl ..	70,009	103,243	12,548	27,134	29,649
May..	52,786	82,958	17,677	24,280	1,829
June .	36,556	88,088	4,840	19,605	388
July ..	39,058	95,503	6,897	1,974	17,756
Aug .,	40,346	99,737	22,558	....	2,161
Sept,	49,945	103,040	3,489	1,025	1,091
Oct .,	57,321	118,327	112	1,700	1,383
Nov..	63,452	94,552	....	2,203	1,210
Dec..	96,590	72,030	....	16,677	2,168
Tot'ls	793,835	1,238,234	235,952	97,410	151,354

PACIFIC SECTION.¶

MOS.	PEDRO MIGUEL LOCKS AND DAMS,‡					MIRAFLORES LOCKS, DAMS AND SPILLWAY,‡‡					BALBOA T'M'N'LS §
	1909.	1910.	1911.	1912.	1913.	1909.	1910.	1911.	1912.	1913.	1913.
Jan ..	83,726	27,320	15,690	24,969	1,147	61,202	31,479	48,744	95,609	26,483	54,114
Feb..	58,242	9,486	6,809	18,480	448	53,689	15,300	12,936	47,426	12,532	32,743
Mar,.	95,624	6,784	674	1,777	800	51,417	18,184	72,739	28,352	28,700	51,387
Apl ..	101,365	9,129	255	13,269	620	60,060	12,148	79,751	29,094	23,255	68,296
May..	57,523	10,405	5,905	26,018	127	47,588	20,250	57,975	13,096	3,778	53,215
June .	70,971	8,420	7,454	7,794	936	55,653	21,994	38,023	7,906	....	100,991
July ..	77,503	4,410	6,273	4,412	....	50,999	11,990	97,884	4,532	....	87,230
Aug .,	58,025	12,789	220	4,866	....	35,446	17,545	102,249	7,120	....	90,134
Sept,	48,825	10,405	3,472	1,613	....	31,803	8,590	96,112	5,192	....	69,432
Oct .,	39,002	7,433	5,365	1,257	....	25,349	9,850	107,790	14,107	6,980	122,241
Nov..	20,207	10,636	12,962	2,408	....	18,644	9,400	84,894	27,728	6,970	110,014
Dec..	28,342	11,195	17,320	3,176	....	20,083	17,906	79,480	30,319	30,420	112,626
Tot'ls	739,355	128,412	82,399	110,039	4,078	511,933	194,639	878,577	310,481	139,118	952,423

*Total to Jan. 1, 1914, 98,734,571 c. yds Excavated 1904, 243,472 cu, yds; 1905, 914,254; by sluicing, 732,074 c, yds.; by dredging, 677,371 c, yds.

**Total to Jan. 1, 1914, 12,777,072 cu. yds ; 1907, 192,769 cu. yds ; 1908, 3,787,992 cu. yds.; by sluicing, 188,239 c. yds ; by dredging, 392,417 c.yds.

†Dry excavation Mindi Hills 1907-1912, 2,196,198 cubic yards.

¶Excavated various points in prism to Jan. 1, 1914, 4,819 797 cu. yds.; Balboa Locks and Dams, 1907, 78,233 cu. yds.; Outside prism 1908, 172 cu. yds.

††Total to Jan. 1, 1914, 6,658,153 cubic yards; including 26,628 cu. yds in 1906; 1,340,179 cu. yds. in 1907; 2,774,561 cu. yds. in 1908.

‡Total to Jan. 1 1914, 1,321,063 cubic yards; including 256,780 cu, yds. in 1908.

‡‡Total to Jan. 1, 1914, 2 881,668 cubic yards; including 846,920 cu. yds in 1908.

§Total to Jan. 1, 1914, 1,271,154 cubic yards; including 318,731 cu. yds in 1912.

WET EXCAVATION.

ATLANTIC DIVISION.†

MOS.	ATLANTIC ENTRANCE.§						A'L'TIC T'NALS *
	1908.	1909.	1910.	1911.	1912.	1913.	
Jan .	490,701	521,050	510,055	520,181	520,228	508,338	....
Feb..	427,722	444,910	493,448	455,318	581,399	303,949	....
Mar,	546,886	461,208	412,325	391,736	103,373	380,243	....
Apl..	496,366	470,635	190,574	492,579	134,261	436,605	....
May,	564,386	315,370	447,578	514,178	229,626	685,163	....
June,	572,749	182,575	458,021	452,098	343,804	814,592	....
July	625,497	348,451	423,092	425,195	495,398	921,948	....
Aug.	638,217	422,846	508,829	367,456	429,415	512,089	....
Sept,	624,776	410,574	451,873	420,434	372,302	478,689	36,338
Oct	505,260	314,778	549,788	470,400	572,783	288,760	98,928
Nov	570,832	457,889	600,708	742,242	670,247	206,327	52,123
Dec	679,604	489,121	482,370	533,409	814,373	221,474	50,256
Tot'ls	6,742,996	4,839,407	5,528,661	5,785,226	5,267,209	5,758,177	237,640

PACIFIC SECTION.††

MOS.	PACIFIC ENTRANCE.§§						BALBOA TERMINALS**	
	1908.	1909.	1910.	1911.	1912.	1913.	1912.	1913
Jan .	460,250	469,529	518,936	379,810	334,735	215,025	77,383	216,540
Feb..	663,519	671,477	285,791	386,866	432,796	239,032	....	175,225
Mar,	783,281	865,696	462,588	639,761	404,939	379,845	....	166,800
Apl..	676,539	731,767	534,322	439,622	383,995	356,942	....	182,125
May,	530,466	720,753	484,509	548,047	388,310	369,703	....	194,510
June,	656,621	844,685	475,486	576,100	338,006	604,080	28,668	31,179
July	696,170	733,181	515,782	520,692	392,511	755,930	89,618	231,105
Aug.	737,774	623,263	506,969	630,241	441,644	726,256	131,111	286,127
Sept,	750,080	662,976	473,585	534,667	455,059	581,958	14,257	178,579
Oct	762,276	720,920	467,873	329,224	435,726	433,098	....	110,660
Nov	609,089	627,791	425,870	346,089	534,273	341,585	13,809	....
Dec	729,960	727,460	387,034	141,189	349,747	182,277	191,968	94,591
Tot'ls	8,056,025	8,399,498	5,538,745	5,472,308	4,891,741	5,184,731	546,814	1,867,441

†Dredging, Gatun Dam, 1907, 38,425 cu. yds.; Gatun Locks, 1908-13, 1,776,791 cubic yards.

††Miraflores Locks and Dam, 1909-12, 652,246 cu. yds.; total to Jan. 1, 1914, 652,246 cu. yds.

§Total to Jan. 1, 1914, 37,971 055 cu. yds.; including 4,049,379 cu. yds. in 1905-07.

§§Total to Jan. 1, 1914, 41,365 223 cu, yds.; including 3,820,175 cu. yds. in 1905-07.

**Total to Jan. 1, 1914, 2 678,811 cu. yds., including 264,556 cu. yds, in 1911.

*Total to Jan. 1, 1914, 237,640 cu. yds.

CONCRETE IN LOCKS AND DAMS.*

MONTHS.	GATUN LOCKS.†			PEDRO MIGUEL LOCKS.††			MIRAFLORES LOCKS.‡		
	1911.	1912.	1913.	1911.	1912.	1913.	1911.	1912.	1913.
Jan	72,919	34,983	28,085	38,513	15,003	4,652	24,018	48,416	50,456
Feb., ...	72,103	26,664	30,780	37,011	12,639	4,294	20,896	63,893	34,979
March	86,884	27,532	48,180	44,716	9,331	13,412	31,173	83,706	21,030
April...........	67,361	11,600	22,732	28,635	9,460	2,145	38,758	97,735	13,266
May............	67,844	7,746	13,046	19,135	10,736	1,144	36,154	92,095	6,956
June	55,305	6,095	5,509	18,243	10,061	773	26,536	68,398	3,836
July	71,046	8,093	3,431	19,906	11,480	1,829	32,840	66,026	3,810
Aug,...........	66,928	6,855	6,258	20,736	5,995	1,884	57,003	75,388	3,643
Sept...........	57,298	3,162	442	15,379	3,039	1,144	56,083	46,122	1,907
Oct.............	53,636	3,252	174	25,637	6,587	412	60,873	54,790	1,152
Nov............	43,907	6,029	280	19,622	7,972	630	41,726	39,874	2,007
Dec.............	43,590	5,697	120	14,360	6,958	1,162	48,772	46,746	1,859
Total........	758,821	147,708	159,037	301,893	109,261	33,481	474,832	783 189	144,901

*Concrete in dams to Jan 1. 1914—Gatun spillway, 231,410 cu. yds.; Miraflores dam and spillway, 79,004 cu. yds,; Pedro Miguel dam, 1,289 cu. yds.

†1,002,523 cu. yds. in 1909 and 1910. ††478,803 cu. yds. in 1909 and 1910. ‡97,603 cu. yds, in 1909 and 1910.

FILL PLACED IN DAMS—1906-1913.

YEAR.	GATUN.		PEDRO MIGUEL	MIRAFLORES.	
	Wet	Dry	Dry	Wet	Dry
	Cu, Yds.	Cu, Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.
To January 1, 1911..............	5,833,076	6,128 105	260,852	294,712	609,863
1911	3,493,388	2,613,066	57,659	366,336	460,514
1912....	1,402,501	2,499,092	352,159	....	418,042
1913...........................	....	910,741	25,258	....	246,640
Totals....................	10,728,965	12,151,004	695,938	661,048	1,735,059

CANAL EXCAVATION TO DATE.

By French Companies....................................		78,146,960
French excavation useful to present Canal..................		29,908,000
By Americans—		
Dry excavation..............................	128,747,980	
Dredges....................................	86,710,292	
Total....................................		215,458,272
May 4 to December 31, 1904..................	243,472	
January 1 to December 31, 1905...............	1,799,227	
January 1 to December 31, 1906..............	4,948,497	
January 1 to December 31, 1907...............	15,765,290	
January 1 to December 31, 1908...............	37,116,735	
January 1 to December 31, 1909...............	35,096,166	
January 1 to December 31, 1910...............	31,137,677	
January 1 to December 31, 1911...............	31,603,899	
January 1 to December 31, 1912...............	30,269,349	
January 1, 1913 to January 1, 1914...........	27,177,960	

TOTALS BY SECTIONS AND AMOUNTS TO BE EXCAVATED.

SECTIONS.	Amount excavated.		Remaining to be excavated.	
Atlantic—				
Dry excavation..................	8,854,351	48,878,262	649	4,288,738
Wet	40,023,911		4,288,089	
Central—				
Culebra Cut	98 734,571	111,511,643	6,277,429	6,185,357
All other points..................	12,777,072		*92,072	
Pacific—				
Dry excavation..................	10,372,087	55,068,367	415,913	6,420,633
Wet	41,696,280		6,004,720	
Grand total		215,458,272		16,894,728

* Estimate exceeded by this amount.

FIRE SERVICE AT NEW PIERS.

Protective Measures at Cristobal Include Installation of Additional Water Mains and Laterals.

A committee, consisting of Messrs. George M. Wells, Charles E. Weidman, J. D. Tysinger, and O. G. Tubby, appointed to consider protective measures to be taken against fires at the new Cristobal piers, has submitted its recommendations, and the same have been approved, as follows:

1. The existing 8-inch main from the head of Pier 8 to the present 10-inch main will be replaced by a 10-inch cast iron pipe line.

2. An additional 8-inch main, using the 8-inch pipe above referred to, will be laid along the bay side of Roosevelt avenue, from Eleventh and Front streets, and connected with the proposed 10-inch main at the head of Pier 9.

3. A 10-inch branch main will be laid into Pier 9 from the intersection of the 8 and 10-inch mains, for a distance of about 250 feet. At Pier 9, this main will be reduced to six inches, and will supply a 6-inch galvanized iron main laid the length of the pier. From this line, five 4-inch galvanized iron laterals will branch off, at intervals of about 200 feet, along the face of the pier to points directly below and inside the main building wall. At these points, 4-inch standpipes, each provided with 2½-inch standard fire hose connections, will be installed, extending about four feet above the floor of the pier. The existing 4-inch service line, with its 2½-inch metered laterals, will be retained, but it will be cross-connected with the new 6-inch fire main near the center of the pier.

4. For Pier 8, the new 10-inch main will be connected with the existing 6-inch main the entire length of the pier on the south side of the depressed track. A new 6-inch main will be laid along the north side of this track, connected into the first 6-inch main at the extreme outer end of the pier. At the head of the pier, this new line will connect with the new 10-inch main, which will be cross-connected with the two 6-inch lines at intervals of about 200 feet. From the 6-inch line on the south side of the track, five 4-inch laterals, provided with standpipes, will branch off, and from the one on the north side of the track, there will be four 4-inch laterals, also with standpipes. The standpipes will each be equipped with 2½-inch fire hose connections as in the case of Pier 9. From the standpipes on Pier 8, 2½-inch water service lines, ending in 2½-inch hose connections, will be run to the extreme face of the pier. On each of these lines there will be installed a 2-inch water meter, so located as to be conveniently read from the floor of the pier.

5. The new 6-inch main for Pier 9 will be extended along Dock 10 to a point approximately opposite house No. 220, and there connected with the present Cristobal water system. Two 4-inch laterals will lead off from this 6-inch main extension, which will be equipped with 2½-inch metered branches for combined fire and water service.

6. A new 10-inch Venturi meter, with a maximum recording capacity of 2,200 gallons a minute, will be installed at Eleventh and Front streets.

7. The necessary shelving will be installed and five 50-foot lengths of standard fire hose will be placed on same, on the inside face of the building walls of the piers directly above each 4-inch standpipe.

The estimated cost of the work follows:

Complete installation on Piers 9 and 10, exclusive of the 10-inch main branch......	$3,385.00
Complete installation on Pier 8...........	3,725.00
Laying new 10-inch main, and taking up and relaying present 8-inch main, and making necessary connections..........	2,300.00
Installation of new 10-inch meter, and removal of old one.....................	950.00
Total...............................	$10,360.00

The construction of Pier 7, recently decided on, will necessitate the laying of a 12-inch main in place of the proposed 10-inch main, which, it is estimated, will cost the additional sum of $240.

All of the above work lying within the limits of the piers will be done by forces of the Panama railroad; all work between Eleventh and Front streets, and the heads of the piers, will be done by forces of the Division of Municipal Engineering.

◆

Committee on La Boca Townsite Work.

Col. J. L. Phillips, Capt. R. E. Wood, George M. Wells, and W. L. Phillips have been appointed a committee to consider the completion of the new permanent silver camp at La Boca. It is expected that all work at this point will be advanced as much as possible during the present dry season, and the committee will, therefore, give consideration to the final grading underneath the houses, as well as in the vicinity thereof, the location of future buildings, the construction of suitable footpaths or walks connecting the houses with the streets, and any additional provision that may be deemed necessary to take care of the surface drainage. The matter of lighting facilities, and the setting out of trees, flowers, and plants will also be considered.

◆

The practice heretofore in vogue of furnishing free railroad transportation to regularly organized baseball teams, composed of Canal Commission or Panama railroad employes, will be continued during the present season.

The force engaged on townsite work at Balboa has been increased by the addition of one foreman on water main installation at $150; one foreman on sewer work at $150; and one at $125; one road foreman at $150; one team foreman at $125; one property and material clerk at $137.50; one silver foreman at $75; seventy-five laborers at 10 cents, and 50 laborers at 13 cents.

The resurfacing of Las Sabanas road from a point in front of the orphan asylum to the Corozal road has been authorized.

◆

Rainfall, Jan. 1 to Jan. 17, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	.22	2	.31
Balboa........................	.20	2	.30
*Miraflores	.00	......	.00
Pedro Miguel	.11	10	.19
Rio Grande..................	.03	17	.07
Central Section—			
Culebra	.03	15	.07
*Camacho	05	13 & 16	.16
Empire........................	.04	3 & 16	.12
Gamboa.......................	.14	17	.32
*Juan Mina....................	.10	16	.41
Alhajuela.....................	.03	14	.07
*El Vigia.....................	.09	15	.18
Frijoles	.41	16	.49
*Monte Lirio	2 10	16	2.63
Atlantic Section—			
Gatun	.33	16	.60
*Brazos Brook	.18	16	.56
Colon.........................	.42	16	.62
†Porto Bello	.20	4	1.08

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight.

†To 5 p. m., January 16.

◆

Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun and Miraflores Lakes for the week ending midnight, Saturday, January 17, 1914. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.					
	Vigia.	Alhajuela	Gamboa	Frijoles	Gatun Lake*	Miraflores Lake
Sun., Jan. 11...	125.8	92.4	84 3	84 3	84 3	50 4
Mon., Jan. 12..	126 6	93 0	84 3	84.4	84 4	50 4
Tues., Jan. 13 ..	126 6	93 2	84 4	84 4	84 4	50 4
Wed., Jan. 14..	126 0	92 4	84 4	84 5	84.4	50 8
Thurs., Jan. 15.	125.8	92 4	84 5	84 5	84.5	50 9
Fri., Jan 16....	125 8	92 3	84 5	84.5	84 5	50 9
Sat., Jan. 17....	126.2	92 7	84 5	84.6	84 6	50 9
Height of low water, nearest ft.	125 0	91.0				

*Sluice gates in spillway at Gatun were closed on June 27, 1913, with surface of lake at elevation 48.25 feet above sealevel.

◆

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending January 31, 1914:

DATE.	Low	High	Low	High	Low
	A.M.	A.M.	A.M.	P.M.	P.M.
January 25.....	......	2 52	9 10	3.30	9 36
January 26.....	......	3 42	9 57	4 14	10 22
January 27....	......	4 28	10 41	4 54	11 04
January 28....	......	5.08	11 21	5 32	11 43
			P M.		
January 29	......	5 46	12 00	6 06	......
January 30 ..	12 21	6 21	12 36	6 39	......
January 31	12 58	6 54	1 11	7.11	......

75th meridian time.

CLASSIFIED EXPENDITURES—ISTHMIAN CANAL COMMISSION.

A statement of classified expenditures of the Isthmian Canal Commission to October 31, 1913, follows:

PERIODS.	Department of Civil Administration.	Department of Law.	Department of Sanitation.	Department of Construction and Engineering	General Items.	Fortifications.	Total.
Total to June 30, 1909............	3,427,090.29	....	9,673.539.28	69,622,561.42	78,022,606.10	....	160,745,797.09
Total—Fiscal year, 1910	709,351.37	....	1,803,040.95	26,300,167.05	2,863,088.83	....	31,675,648.20
Total—Fiscal year, 1911	755,079.44	....	1,717,792.62	27,477,776.19	3,097,959.72	....	33,048,607.97
Total—Fiscal year, 1912	820,398 57	24,729.16	1,620,391.12	28,897,738.10	2.819,926 53	1,212,881.66	35,396,065.14
Total—Fiscal year, 1913	681,389.06	20,253.11	1,435,400.96	33.017,852 99	1,063,322 52	1,901,475.86	38,119,694 50
July, 1913..........................	61,472.81	1,597.91	121,487.47	2,138.540 39	237,534 13	131 333 71	2,691,966 42
August, 1913	57,950.95	1,469.10	112,802 29	2,299,554.75	244,860 32	150,364.19	2,867,001.60
September, 1913	63.469.40	1,835.57	106,731.16	2,276.467.78	242 779 94	149,735 89	2.841,019.74
October, 1913.......................	66,063 85	1,502 47	107,280.12	2,154,953.40	413,883.08	147,589.32	2,891,272.24
Grand total	6,642,265.74	51,387.32	16,698,465.97	194,185,612.07	89,005,961.17	3,693,380.63	310.277,072.90

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

Moving picture schedule for the week January 26 to 31 is, as follows:

Monday, Cristobal; Tuesday, Empire; and Balboa, Wednesday, Pedro Miguel; Thursday, Gatun; Friday, Corozal; Saturday, Culebra.

List of moving picture reels, January 19 to 24:

11809, When John brought home his wife.
11556—11557, Millionaire cowboy.
11807, The spring of life—Tightwad's predicament.
11662, Beau Brummell.
11471, Ma's apron strings.
11415, The three black bags.

January 26 to 31:

11643, Wild man for a day—Training Mr. Tightwad.
11571, The will of the people.
11801, The misjudging of Mr. Hubby.
11586—11587, The last block house.
11498, Plot and counterplot.
11574, Keeping up appearances.

BALBOA.

At the motion picture entertainment held on Tuesday, January 20, special piano music was furnished by C. C. Pearsall, former accompanist for the "College Girls."

A cigar counter has been installed and will be open all day and evenings.

The following members have entered the pool tournament which was started on January 17: Messrs. Brugge, Johnson, Potter, Grund, McDaid, Huff, Dubenburd, Skinner, O'Hagen, Lydon, Hulsebosch, Cook, Engelke, Tomey, McEwen, Wendler.

COROZAL.

About 260 people attended the last regular moving picture show. Miss Lindley gave three vocal selections. The next pictures will be shown on Saturday, January 24.

Medals for the 3-man team bowling tournament have been received by the winners, Messrs. Emerson, Smith, and Taylor. H. F. Edwards was also awarded medal for the high score average, and John Albert for the high score.

Suggestions are being received for new library books to be ordered from the United States.

The scores of 100 and over for the week ending January 17 were, as follows: Parkis, 113, 100, 106, 104; Sims, 105, 107, 110, 103; Smith, 100, 100; Davis, 112, 107; Phillips, 100; Edwards, 110; Owens, 106.

The standing in the "Ragtime" tournament is, as follows: High doubles, two games, Parkis and Smith, 388; high average, Parkis, 93; high score, Smith, 117.

PEDRO MIGUEL.

The clubhouse will be opened with appropriate exercises on Tuesday evening, January 27. Members from all the other clubhouses, and the public generally, are invited to attend. The address of the evening will be made by Mr. H. A. Gudger, Chief Justice of the Supreme Court. There will be a musical program by the Ernest Gamble Concert Company.

On Saturday evening, January 24, there will be "Open house," with tournaments and games.

CULEBRA.

Dr. Frederic Poole gave his third lecture to a good-sized audience on Tuesday, January 13. Colored slides and moving pictures were shown, illustrating the Canton Chinese at various occupations. The canals were also described and in a moving picture was shown the method of raising and lowering boats through the locks by hand power. A double-edged sword was also exhibited, which Dr. Poole obtained from an executioner, who, it was stated, had beheaded more than 5,000 Chinamen with it. A reel showing a portion of the Panama Canal and local Panamanian scenes, was also shown by Dr. Poole.

At the moving picture exhibition on Friday night, Mr. F. J. Shubert sang several popular songs.

A "Smoker" will be held in the schoolhouse on Friday night, January 23. A program has been arranged and refreshments will be served. All men are invited.

On Saturday night, January 17, a chess "Fest" was held at which the Empire and Corozal players were present. In the individual championship series, Mr. H. A. A. Smith of Empire won one game and lost one with Mr. F. V. Fields of Corozal. The gold medals won by the Culebra chess team in the all-Isthmian tournament were presented to Messrs. Wm. Dubois, J. F. Warner, A. M. Warner, A. E. McClure, and Geo. W. Strong. Refreshments, consisting of ice cream, cake, and lemonade, were served.

The following high scores were bowled during the week: Case, 101, 105; E. Koperski, 105; Bechlem, 117; Palmer, 104, 100; Kiernan, 106, 103, 100; DeCora, 101, 102, 117; Rudolph, 101; Perkins, 104; Wood, 1 18 Jefferies, 105; Ferguson, 100.

The following are the total scores for five games each in the recent duckpin tournament: "Greens" (Kiernan, captain) 6,478; "Blues" (DeCora, captain) 6,342; "Orange" (Palmer, captain) 6,271; "Blacks" (Cornthwaite, captain) 6,226; "Reds" (Koperski, captain) 6,177; "Whites" (Ferguson, captain) 6,067. E. Koperski won the high score medal, with a score of 126. Mr. DeCora won the high average medal with a score of 95 4-5. The five men on the winning team were Messrs. Kiernan, Whiting, E. Koperski, Worsley, and Brown.

EMPIRE.

The class in fencing was held twice last week with a good attendance, Mr. Russell has charge of the class.

Twenty-seven men have entered the "Ragtime" duckpin tournament. Each man rolls three games with each other player. It is requested that the men who have entered roll their games as rapidly as possible, so as to complete the tournament without delay.

The Empire clubhouse membership was 387 on January 1, 1914. This was the best record of any of the clubhouses, and is considered high on account of the many changes taking place in Empire.

GATUN.

The Ernest Gamble Concert Company, which appeared at Gatun on Thursday evening, January 15, returned and gave a sacred concert on Sunday evening, January 18.

Several fancy drills by the children of Gatun will be given in connection with the motion pictures on Friday evening, January 23.

A handicap pool tournament limited to seven men was started on Monday, January 19.

Entries are still being received for the "Ragtime" duckpin tournament.

Violin and piano lessons are now taught under the supervision of the Y. M. C. A. Any one interested may call on the secretary for particulars.

CRISTOBAL.

L. E. DuBois played C. R. Logan of Gatun in the opening game of the all-Isthmian chess championship, on Saturday, January 17. Mr. DuBois won the match by the score of 1½ to ½. On January 18, William DuBois of Culebra played L. E. DuBois, the match resulting in each winning a game.

Ensign, D. L. Dickson addressed a large audience at the discussion club meeting on Thursday, January 15. He gave a history of the submarine boat, described in detail the manner in which they are handled, and answered a number of questions at the close of the talk. The meeting set for January 19 will be in the nature of a debate between Messrs. Morrison and Swanson of Empire and Messrs. Verner and Wempe of Cristobal. The subject will be "Socialism."

The band from the United States battleship *Minnesota* gave a concert on Saturday night, January 17.

Mr. F. L. Bernsee, the checker player, will play a simultaneous checker match against all comers on Saturday, January 24. Much interest is being shown both in checkers and chess.

On Monday night, January 12, the monthly married folks tournament was bowled on the local alleys. The scores were, as follows:

CLASS A.

Mr. H. A. Collins	93	112	97	
Mrs. Collins	70	76	79	527
Mr. Cotton	89	80	88	
Mrs. Cotton	96	75	79	507
Mr. Sloan	89	88	85	
Mrs. Sloan	76	72	78	488
Mr. Barte	72	94	96	
Mrs. Barte	64	58	57	441

CLASS B.

Irvin Buser	85	85	81	
Mrs. F. H. Buser	71	66	70	457
Mr. Vaughn	71	84	76	
Mrs. Vaughn	66	62	54	413
Mr. Butters	56	80	70	
Mrs. Butters	72	70	55	403

During the week ending January 17, the following high scores were made in duckpins: Collins, 112, 101, 105; Russell, 106, 108; Farr, 104, 100, 105; D. Raymond, 101; Herrington, 106: Pinney, 110, 111, 117, 104, 111, 106, 113, 100, 105; Smith, 102, 107.

The monthly single folks bowling tournament will be held on Monday night, January 26. It is requested that entries be made early.

PORTO BELLO.

A pleasant social evening was spent on Wednesday night, January 14, when Mr. Chas. Ray, the banjo player, and Mr. William Christian, alternated in entertaining the crowd. Mr. Ray played several selections and Mr. Christian sang several baritone solos. Refreshments were served. The rest of the evening was utilized by the local dancing club.

The Ernest Gamble Concert Company will give a concert in the local clubhouse on Saturday night, January 24.

Movement of Vessels, Port of Balboa.

The following vessels arrived at, or departed from, the port of Balboa, during the week ending January 17, 1914:

Arrivals—January 12, *Mantaro*, from Callao; January 13, *Harlesden*, from north ports, *Santa Rita*, from Port Harford; January 14, *Aysen*, from Valparaiso, *Peru* (PSN), from Guayaquil; January 16, *Lyra*, from San Francisco, *Cyprus*, (yacht), from north ports.

Departures—January 11, *Rupanco*, to intermediate ports; January 12, *Guatemala*, to Callao; January 14, *Quito*, to intermediate ports; January 15, *Santa Rita*, to north ports; January 16, *Aztec*, to San Francisco; January 17, *City of Sydney*, to San Francisco.

Annual Rainfall for Three Years.

STATIONS.	1911	1912	1913	Station Av.	Years of record	Rai'y days, '13
Pacific Section–						
Ancon	64.14	71.78	65.98	70.90	16	180
Balboa	63.73	71.89	59.54	69.86	15	169
Miraflores	61.97	88.49	70.12	87.33	5	183
Pedro Miguel	64.12	75.71	69.65	82.32	6	180
Rio Grande	82.11	75.14	64.51	86.13	9	199
Central Section–						
Culebra	74.84	78.99	69.09	88.78	23	195
Camacho	84.72	77.98	73.79	91.46	7	190
Empire	66.70	74.56	74.78	80.43	9	196
Gamboa	70.67	89.07	86.28	92.65	31	207
Juan Mina	82.46	88.24	77.13	87.04	3	190
Alhajuela	90.05	83.73	77.41	102.43	14	196
El Vigia	82.64	94.65	77.13	105.22	5	197
Frijoles	......	104.66	109.34	107.01	2	243
Trinidad	91.53	103 04	97.27	117.03	6	258
Monte Lirio	113.27	100.74	107.58	129.75	6	177
Atlantic Section–						
Gatun	99.28	111.83	112.81	129.30	9	244
Brazos Brook	116.08	124.66	138.89	138.64	7	260
Colon	112.75	117.59	131.22	129.38	43	246
Porto Bello	148.94	147.61	171.19	169.15	6	272

WEATHER CONDITIONS, CANAL ZONE, YEAR 1913.

The rainfall for the year 1913 was deficient at all stations except Brazos Brook, Colon, and Porto Bello. The annual totals ranged from 59.54 inches at Balboa to 171.19 inches at Porto Bello. The average annual precipitation in the Pacific section was 65.96 inches, in the Central Section 84.93 inches, and in the Atlantic Section 138.50 inches,

The dry season rainfall amounted to but four per cent of the annual total in the Pacific Section, six per cent in the Central Section and 10 per cent in the Atlantic Section. May was the rainiest month in all sections, and March the month of least rainfall.

The maximum 24-hour rainfall recorded during the year was 10.65 inches, at Porto Bello on May 14–15.

Air temperatures and wind movement were generally slightly above normal, while the atmospheric pressure and cloudiness were generally deficient. During a rain squall at Culebra on November 19, the wind reached a velocity of 40 miles an hour from the northeast, establishing a new maximum wind velocity record for this station.

The following table summarizes the weather conditions for the year:

STATIONS.	Press're (reduc'd to mean of 24 hours).	Temperature.					Mean relative humidity.	Precipitation.			Wind.				
		Mean.	Maximum.	Date.	Minimum.	Date.		Total inches.	Station average.	Number of rainy days.	Av. hourly movement (in miles).	Prevailing direction.	Max. velocity (in miles).	Direction.	Date.
Colon	29.866	80.1	91	Jun. 22	71	Feb. 4	85	131.22	129.38	246	10.7	N.	36	N.	Nov. 14
Culebra	29.846	79.2	95	Apl. 14	64	Jan. 4	90	69.09	88.78	195	7.3	N. W.	40	N. E.	Nov. 19
Ancon	29.834	80.3	96	Apl. 27	66	Feb. 22	87	65.98	70.90	180	7.2	N. W.	32	S.	June 11

OFFICIAL CIRCULARS.

Changes in Organization.

CULEBRA, C. Z., January 20, 1914.

CIRCULAR No. 183-z-6:

Effective February 1, 1914, the following changes in the organization of the Department of Construction and Engineering will be made:

1. The Atlantic and Fifth Divisions will be abolished.
2. The property accountability of these divisions will be transferred to the Quartermaster's Department.
3. The Fourth Division will take charge of the records.
4. Breakwater construction and the operation of Porto Bello quarry will be transferred to the Second Division.
5. The work remaining at Gatun Dam, El Caño saddle, backfill at Miraflores, the Miraflores spillway channel, Ancon quarry, and sluicing at Gold Hill, will be completed under my direction as Chief Engineer, the personnel being carried on the rolls of the Fourth Division.
6. The Sixth Division will, effective February 1, 1914, be designated the Dredging Division, Department of Construction and Engineering.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Transfer of Timekeeping, Subsistence and Commissary Departments.

CULEBRA, C. Z., January 20, 1914.

CIRCULAR No. 183-z-5:

Effective February 1, 1914, the timekeeping for the Subsistence Department of the Isthmian Canal Commission and the Commissary Department of the Panama Railroad Company will be transferred to the Office of the Chairman and Chief Engineer, Fourth Division.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission,
President, Panama Railroad Company.

Rating of Boys "A" and "B."

CULEBRA, C. Z., January 14, 1914.

CIRCULAR No. 229-Z-9:

My attention has been invited to the fact that the intention of Circular No. 229 in regard to the ratings of boys "A" and "B" is not being carried out, it apparently being the usual practice to rate all boys as "Boy B" at seven cents an hour, regardless of the duties which they are required to perform. Effective January 16, 1914, therefore, the standard rating for all boys shall be "Boy A" at five cents an hour, and boys will not be rated under "Boy B" at seven cents an hour, except in special cases. General Superintendent G. A. Greenslade of this office may be consulted in regard to ratings of "Boy A" and "Boy B" in case of doubt.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Acting Superintendent of Transportation, Second Division.

CULEBRA, C. Z., January 16, 1914.

TO ALL CONCERNED:

Effective at once, and until the return of Superintendent W. J. Holmes to duty, Assistant Superintendent W. T. Snyder will act as superintendent of transportation, Second Division, Chief Engineer's Office.

Please be governed accordingly.

H. H. ROUSSEAU.
Assistant to the Chief Engineer.

Approved:
GEO. W. GOETHALS,
Chairman and Chief Engineer.

Rates and Rules for Hotel Aspinwall, Taboga Island.

SUBSISTENCE DEPARTMENT,
CRISTOBAL, C. Z., January 19, 1914.

CIRCULAR No. 494:

The following rates and rules for the Hotel Aspinwall are published, effective January 22, 1914:

Rates for bed and board—Employes, $2.25 per day; nonemployes, $3 per day; servants and children under 12 years $1 per day.

The daily bed and board rate will be divided, as follows: Three meals at 50 cents each and bed, 75 cents, for employes; Three meals at 50 cents each, and bed, $1.50, for nonemployes; three meals at 25 cents each, and bed, 25 cents, for servants, or for children under 12.

Persons at bed and board rate must pay for all meals unless one day's meals, or more, are missed consecutively, in which case notice must be given to the clerk in advance to secure credit.

When stay terminates in the morning, breakfast will be included in bill.

An extra charge of 25 cents per person will be made for meals served in room.

Nonemployes after staying 30 days, will, for the rest of their stay, be given employes' rate.

Rates for meals.—Breakfast, 50 cents; lunch, 75 cents; dinner, $1.

Meal tickets will be purchased at the office before entering dining room by all persons without rooms.

Charge on supply launch between Balboa and Taboga, one way.—Employes, 25 cents; nonemployes, 50 cents; children under five years, free.

Open accounts will not be permitted.

Guests will be required to pay their bills upon leaving.

Accounts of employes unpaid at time of leaving will be made up at the nonemployes' rate and sent to the Examiner of Accounts. Bills will be made up on the 7th, 14th, 21st, and last day of the month, and presented to all guests who have been at the hotel a week. All bills are due and payable on presentation. No variations from this rule will be made without authority from the Subsistence Officer.

No employe of the hotel has authority to make any other rates, or to modify any of the foregoing rules.

EUGENE T. WILSON,
Subsistence Officer.

Work for Individuals and Companies.

EMPIRE, C. Z., January 14, 1914.

CIRCULAR No. 53, (Amendment to Chairman's circular No. 519):

1. Authority for the performance of work in the Mechanical Division for private individuals and companies will be issued by the assistant superintendent of the Mechanical Division in the form of a shop work order. Work may be begun in the dry dock and Balboa shops immediately upon receipt of instructions to that effect, without waiting for receipt of formal authority.
2. Deposits in excess of $100 may be made with the bonded clerk at either dry dock or Balboa shops, if it is found impracticable to require that deposit in excess of that amount be made with the Disbursing Officer.
3. Refunds of the balance of deposits found after the work is completed, may be made at the dry dock and Balboa shops without reference to the Examiner of Accounts.

H. A. A. SMITH,
Examiner of Accounts.

Transportation Department Organization, P. R. R.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., January 16, 1914.

CIRCULAR No. 341:

Heads of Departments—The following organization of the transportation department, to be effective at once, is announced for the information and guidance of all concerned:

All station agents, with the exception of the agent at Colon depot, and the agent at Panama depot, will report to the trainmaster, on all matters pertaining to administration, personnel, transportation, accidents, etc. They will continue to be guided by the instructions received from the freight and passenger agent and the local auditor, regarding tariffs, rates, ticket sales, cash reports, etc.

The chief dispatcher will have jurisdiction over all dispatchers and operators, and over all transportation crews while on the road, and will report to the trainmaster.

The general yardmasters, Colon and Cristobal, and Panama and Balboa, will report to the trainmaster.

The general foreman of engine houses will have jurisdiction over all local shop and engine house employes and over all locomotive engineers and firemen while at terminals. He will handle the personnel of these employes, advertise for runs, and assign engine crews. He will report to the trainmaster.

The traveling engineer will supervise the work of all engine crews and assist and advise in regard to the economical use of fuel and supplies. He will act in an advisory capacity to the roundhouse foreman and trainmaster.

All conductors and collectors will be under the supervision of the trainmaster and report to the chief dispatcher while on the road.

F. MEARS,
General Superintendent.

Approved:
GEO. W. GOETHALS,
President.

Ramapo Signal Near Culebra Removed.

PANAMA RAILROAD COMPANY.
OFFICE OF GENERAL SUPERINTENDENT.
COLON, R. P., January 19, 1914.

G. S. BULLETIN No. 39:

All concerned—The ramapo signal governing northward trains and located at a point about 300 feet north of Culebra station will be disconnected and taken out of service at noon Tuesday, January 20.

F. MEARS,
General Superintendent.

Derail on Obispo Diversion Track in Service.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., January 19, 1914.

G. S. BULLETIN No. 40:

All concerned—The derail on the Obispo Diversion track, which was formerly controlled by the interlocking plant, will be connected to the switch stand and put in service at 12 o'clock noon, Wednesday, January 21.

F. MEARS.
General Superintendent.

Sailing of the "Ancon."

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., January 16, 1914.

CIRCULAR No. 342:

All concerned—The sailing of the steamship *Ancon* has been set for Friday, January 23, 1914, at 3 p.m., from Pier 8 (old No. 17), Cristobal, C. Z.

F. MEARS,
General Superintendent.

Train Order Signal at New Culebra Moved.

PANAMA RAILROAD COMPANY,
OFFICE OF THE GENERAL SUPERINTENDENT,
COLON, R. P., January 20, 1914.

G. S. BULLETIN, No. 41:

All Concerned—The train order signal at New Culebra will be moved at 12 o'clock noon, January 21, and located across the main and passing track opposite the cabin.

F. MEARS,
General Superintendent.

Supplies for the Canal.

The following steamers with supplies for the Isthmian Canal Commission and Panama Railroad Company, arrived at the ports of Colon, Balboa, and Cristobal, during the week ending January 17:

Danube, January 11, from New York, with three reels wire rope, for stock.

Alexandrian, January 11, from Liverpool, with 115 casks tile, for administration building, Balboa.

Prinz August Wilhelm, January 12, from New York, with 11 barrels silica wash, for Mechanical Division; 658 bundles galvanized sheet iron, for stock.

Parismina, January 12, from New Orleans, with 14 packages electrical machinery, 254 pieces oak lumber, for Mechanical Division; two pieces machinery, for Sixth Division; 25 rolls cotton duck, 120 bags feed, for stock.

Colon, January 12, from New York, with four cases castings, 89 packages structural material, 15 cases electrical machinery, seven reels cable, 276 kegs red lead, 474 crates roofing tile, for First Division; 11 bags pipe-fittings, 13 boxes armament, for fortifications; 23 barrels copper sulphate, six cases electrical machinery, for Mechanical Division; 65 cases fire plugs, for Division of Municipal Engineering; 28 cases hard wood, for administration building, Balboa; 102 kegs red lead, for emergency dams; 10 bundles derails, for Panama Railroad Company; 121 rolls wire reinforcing, for permanent quarters, Balboa; 50 cases turpentine, 69 drums lubricating oil, 17 boxes trucks, 27 cases paint, 43 barrels glassware, 16 boxes brushes, 60 rolls wire fencing, 126 cast iron fittings, for stock; and a miscellaneous cargo, the whole consisting of 1,877 packages, weighing 120 tons.

Ancon, January 12, from New York, with eight crates structural material, for fortifications; 69 packages structural material, for First Division; 500 pieces steel bars, 169 packages bolts and rivets, 84 cases wire cloth, 300 kegs paint, 500 bundles shovels, 39,986 bags cement, for stock; and a miscellaneous cargo, the whole consisting of 41,624 pieces, weighing 2,092 tons.

Harlesden, January 13, from Portland, Oregon, with 60,220 board feet, Douglas fir lumber, 157 pieces untreated piling, for Atlantic Division; 61,372 board feet, redwood lumber, for administration building, Balboa; 122,722 board feet, redwood lumber, for Mechanical Division; 872,767 board feet, Douglas fir lumber, 41 pieces untreated piling, for stock.

Zacapa, January 14, from New York, with six packages structural material, for fortifications; 73 packages structural material, 34 packages track material, for First Division; 254 crates asbestos roofing, for Division of Municipal Engineering; 209 bundles steel, for Empire, stock; three cases varnish, 200 cases linseed oil, 20 cases paint, 63 bundles wheelbarrows, for stock.

Turrialba, January 15, from New Orleans, with 500 sacks hydrated lime, for administration building, Balboa; 28 pieces cast iron pipe, 30 pieces hickory lumber, for stock.

Sixaola, January 16, from Boston, with seven boxes electric motors, for Mechanical Division; 20 bundles brass valves, for stock.

Tenadores, January 17, from New York, with 74 rolls wire cloth, for administration building, Balboa; 12 crates structural material, for fortifications; 131 cases electrical machinery, 195 barrels transil oil, 109 pieces structural material, for First Division; nine reels cable, for Mechanical Division; 15 cases lantern globes, 13 cases varnish, 150 rolls insulating paper, 30 barrels pipe-fittings, four kegs pipe-fittings, 140 pieces pipe-fittings, 150 cases paper, 173 bundles pipe, for stock.

COMMISSARY DEPARTMENT.

The commissary stores are open during the following hours:

Cristobal, 8 a. m. to 12.30 p. m., and 2 to 7 p. m.
Balboa, 8 a. m. to 12.30 p. m., and 2.30 to 7. p. m.
Ancon, 8 a. m. to 1 p. m., and 3 to 6 p. m,
All others, 8 a. m. to 1 p. m., and 3 to 7 p. m.

Retail prices of cold storage provisions for the week beginning January 21, 1914:

FRESH MEATS.	Price.
Mutton—Stewing, per pound	7
Shoulder, neck trimmed off (4 pounds and over), per pound	9
Entire forequarter (not trimmed, 10 pounds and over), per pound	8
Legs (8 to 10 pounds), per pound	17
Cutlets, per pound	18
Short cut chops, per pound	20
Lamb—Stewing, per pound	8
Entire forequarter, neck trimmed off, per pound	10
Legs (5 to 8 pounds), per pound	20
Chops, per pound	24
Cutlets, per pound	24
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	17
Chops, per pound	26
Loin, for roasting, per pound	26
Cutlets, per pound	30
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	8
Plate, per pound	9
Corned, No. 1, per pound	14
Corned, No. 2, per pound	12
Chuck roast, 3 lbs., and over, per pound	12
Rib roast, second cut (not under 3½ pounds), per pound	16
Rib roast, first cut (not under 3 pounds), per pound	18
Pot roast, per pound	19
Rump roast, per pound	19
Porterhouse roast, per pound	20
Steak, Chuck, per pound	12½
Round, per pound	13
Rib, per pound	18
Sirloin, per pound	19
Rump, per pound	19
Porterhouse (not less than 1½ pounds), per pound	20
Tenderloin (Western), per pound	30
Pork—Hams, fresh, per pound	§20
Loin chops or roast, per pound	19
Shoulders, fresh, per pound	§17
Spare ribs, per pound	15
Backbones, per pound	15
Pigs' feet, each	7
Pigs' heads, whole	60
Pigs' heads, ½-head	30
Sausage, homemade, per pound	20

MISCELLANEOUS.	
Livers—Beef, per pound	11
Calf, each	60
Half, each	30
Steak, Hamburger, package	13
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Devonshire Farm, per pound	20
Sweetbread, beef, per pound	27
Eggs, fresh, per dozen	40
per ½-dozen	20
Bluefish, per pound	11
Halibut, fresh, per pound	12
Salmon, per pound	12
Roe shad, each	75
Shad roes, per pair	40
Oysters, per quart	28
per gallon	1.52

POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, large, each	1.40
Fancy roasting, milk fed, med., each	1.10
Fancy roasting, corn fed, about 5½ pounds, each	1.25
Fancy roasting, corn fed, about 4½ pounds, each	1.00
Fowls, each ††60, 70, 80, 90, and	1.00
Ducks, Western (about 4½ pounds), each	1.25
Capons, about 8½ pounds, each	3.00
Broilers, milk fed, each	70
Broilers, corn fed, each	60
Turkeys, per pound	25
Squabs, each	50
Ducks, Mallard, each	65
Teal, each	40
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30

CURED AND PICKLED MEATS.	Price.
Ham—Real York and Cumberland, per pound	37
Genuine Westphalia, per pound	40
Sugar cured, per pound	20
Sliced, per pound	22
Half, (for boiling), per pound	21
Boiled, per pound	28
Hocks, per pound	‡8
Beef, salt, family, per pound	12
Bacon—Breakfast, whole piece, per pound	25
Sliced, per pound	26
Ham, lunch, per pound	32
Pork, salt, family, per pound	14
Ox tongues, each	1.00
Pigs' feet, per pound	7
Tongues, per pound	18

DAIRY PRODUCTS.	
Butter—Creamery special, per pound	40
Sheffield Farms, extra fancy, per lb	46
Cheese—Philadelphia cream, cake	10
Roquefort, per pound	35
Young America, per pound	22
Swiss, per pound	28
Edam, each	75
Edam, tin	25
Parmesan, per pound	35
Gouda, per pound	30
Snappy, per cake	10
Milk (certified), per bottle	**20
Fer-mil-lac, per bottle	**20
Ice cream, quart	‡25
½-gallon	‡50
Cream (certified), per pint	45

VEGETABLES AND FRUITS.	
Brussels sprouts, per quart	15
Beets, per pound	3
Celery, per head	7
Cabbage, per pound	3½
Cucumbers, per pound	10
Carrots, per pound	3
Cauliflower, per pound	8
Lettuce, per pound	8
Onions, per pound	3
Potatoes, white, per pound	3
sweet, per pound	2
sweet, Jersey, per pound	4
Parsley, per bunch	5
Parsnips, per pound	4
Peppers, per pound	16
Radishes, per pound	8
Squash, per pound	3½
Turnips, per pound	3
Tomatoes, per pound	10
Apples, per pound	6
Grapes, Malaga and Tokay, per pound	17
Cranberries, per pound	9
Grape fruit, American, each	7
tropical, each	4
Lemons, per dozen	18
Limes, per hundred	80
Papayas, per pound	3
Oranges, Jamaican, per dozen	12
Tangerines, each	2

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on last list.

††Fowls weight each, about, as follows: 3, 3½, 4, 4½, and 5 pounds. Prices are based accordingly; when size ordered is not in stock, next lightest weight is supplied and refund note sent for difference.

‡Sold only from commissaries; no orders taken for delivery.

§Not less than half of a fresh ham or shoulder will be sold.

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Examinations by Board of Local Inspectors.

BOARD OF LOCAL INSPECTORS,
ANCON, C. Z., January 15, 1914.

The Board of Local Inspectors will conduct examinations at the Administration Building, Ancon, on Wednesday, Januray 28, 1914, beginning promptly at 2 p. m., for persons desiring to secure the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for licenses must procure from the Executive Office, Ancon, forms of application and information respecting the filling out of same, not later than the day previous to the examination. In addition, all applicants for chauffeurs' licenses must provide themselves with automobiles with which to demonstrate their ability properly to operate the same.

NOTE.—The demonstration test for applicants for chauffeurs' licenses will be given on Tuesday, the day preceding the regular examination, at 2 p. m., at the Administration Building, Ancon; for out-of-town applicants, on the day of the regular examination, at 2 p. m., at the Administration Building, Ancon. No demonstration test will be given at Cristobal, except by appointment.

W. V. JUDSON,
Chairman, Board of Local Inspectors.

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Sale of Doors, Sash, Blinds, Etc.

OFFICE OF DEPOT QUARTERMASTER,
MOUNT HOPE, C. Z., January 19, 1914.

Sealed proposals will be received at the office of the Depot Quartermaster, Mount Hope, until 2 p. m. February 7, 1914, when they will be opened in the presence of attending bidders, for the purchase of all doors, blinds, sash, screens, window casings, frames, banisters, etc., which are now stored at the Cristobal shop stores.

Detailed list and full information relative thereto can be procured upon application to this office.

Proposals must be accompanied by a guarantee for 25 per cent of amount bid. The right is reserved to reject any or all bids. Bids must be plainly marked "Proposals for the purchase of doors, sash, blinds, etc., to be opened February 7, 1914", and addressed to

C. H. MANN,
Depot Quartermaster.

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.

		Sails.	*Arrives.*
*Panama	P. R. R.	Jan. 19	Jan. 25
*Allianca	P. R. R.	Jan. 24	Jan. 30
*Colon	P. R. R.	Jan. 30	Feb. 5
*Advance	P. R. R.	Feb. 5	Feb. 12
*Panama	P. R. R.	Feb. 11	Feb. 17
*Allianca	P. R. R.	Feb. 18	Feb. 24
*Colon	P. R. R.	Feb. 24	Mar. 2

CRISTOBAL TO NEW YORK.

†Advance	P. R. R.	Jan. 24	Jan. 31
†Panama	P. R. R.	Jan. 30	Feb. 5
†Allianca	P. R. R.	Feb. 5	Feb. 11
†Colon	P. R. R.	Feb. 11	Feb. 17
†Advance	P. R. R.	Feb. 17	Feb. 24
†Panama	P. R. R.	Feb. 24	Mar. 2
†Allianca	P. R. R.	Mar. 2	Mar. 8
†Colon	P. R. R.	Mar. 8	Mar. 14

NEW YORK TO COLON.

*Tagus	R. M.	Jan. 17	Jan. 25
*Calamares	U. F. C.	Jan. 17	Jan. 24
*Prinz Joachim	H.-A.	Jan. 17	Jan. 26
*Santa Marta	U. F. C.	Jan. 21	Jan. 28
*Carl Schurz	H.-A.	Jan. 24	Feb. 2
*Pastores	U. F. C.	Jan. 24	Jan. 31
*Metapan	U. F. C.	Jan. 28	Feb. 4
*Prinz Aug. Wilhelm	H.-A.	Jan. 31	Feb. 9
*Tenadores	U. F. C.	Jan. 31	Feb. 7
*Oruba	R. M.	Jan. 31	Feb. 9
*Zacapa	U. F. C.	Feb. 4	Feb. 11
*Emil L. Boas	H.-A.	Feb. 7	Feb. 16
*Calamares	U. F. C.	Feb. 7	Feb. 14
Almirante	U. F. C.	Feb. 11	Feb. 18
*Pastores	U. F. C.	Feb. 14	Feb. 21
*Trent	R. M.	Feb. 14	Feb. 23
*Prinz Joachim	H.-A.	Feb. 14	Feb. 23

COLON TO NEW YORK.

†Zacapa	U. F. C.	Jan. 22	Jan. 29
Calamares	U. F. C.	Jan. 25	Feb. 4
Emil L. Boas	H.-A.	Jan. 27	Feb. 3
Almirante	U. F. C.	Jan. 29	Feb. 5
Pastores	U. F. C.	Feb. 1	Feb. 11
Trent	R. M.	Feb. 3	Feb. 11
Prinz Joachim	H.-A.	Feb. 3	Feb. 11
Santa Marta	U. F. C.	Feb. 5	Feb. 12
Tenadores	U. F. C.	Feb. 8	Feb. 18
Carl Schurz	H.-A.	Feb. 10	Feb. 17
Metapan	U. F. C.	Feb. 12	Feb. 19
Calamares	U. F. C.	Feb. 15	Feb. 25
Orotava	R. M.	Feb. 17	Feb. 25
Prinz Aug. Wilhelm	H.-A.	Feb. 17	Feb. 25
Zacapa	U. F. C.	Feb. 19	Feb. 26
Pastores	U. F. C.	Feb. 22	Mar. 4

NEW ORLEANS TO COLON.

*Abangarez	U. F. C.	Jan. 17	Jan. 22
*Heredia	U. F. C.	Jan. 21	Jan. 26
*Atenas	U. F. C.	Jan. 24	Jan. 29
*Turrialba	U. F. C.	Jan. 31	Feb. 5

COLON TO NEW ORLEANS.

†Turrialba	U. F. C.	Jan. 22	Jan. 27
†Abangarez	U. F. C.	Jan. 29	Feb. 3
‡Heredia	U. F. C.	Jan. 31	Feb. 5

BOSTON TO COLON.

Carrillo	U. F. C.	Jan. 15	Jan. 23
Tivives	U. F. C.	Jan. 22	Jan. 30
Sixaola	U. F. C.	Jan. 29	Feb. 6

COLON TO BOSTON.

Carrillo	U. F. C.	Jan. 25	Feb. 2
Tivives	U. F. C.	Feb. 1	Feb. 9

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 2 p. m.; for Southampton, on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays and Saturdays at 3 p. m.; ships for New York via Kingston, on Thursdays at 2 p. m.; for New York, via Limon and Havana, on Sundays at 5 p. m.; for Limon and Bocas del Toro, on Tuesdays at 3 p. m.; for Bocas del Toro direct, on Mondays at 5 p. m; and for Boston, on Sundays at 3 p. m.

Hamburg-American steamers sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays; the *Prinz August Wilhelm* and *Prinz Joachim* at 10 a. m.; the *Carl Schurz* and the *Emil L. Boas* at 2 p. m.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, JANUARY 28, 1914. No. 23.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

New Canal Government.

The official announcement is made by cable from Washington that, on Tuesday, January 27, President Wilson signed an Executive Order putting the Canal Act of August 24, 1912 into effect on April 1, 1914. The full text of this Act was published in The Canal Record of August 28, 1912. The effect of the Executive Order will be to abolish the Isthmian Canal Commission on April 1. By the terms of the Canal Act, "The President is authorized thereafter to complete, govern, and operate the Panama Canal, and govern the Canal Zone, or cause them to be completed, governed, and operated through a Governor of the Panama Canal, and such other persons as he may deem competent to discharge the various duties connected with the completion, care, maintenance, sanitation, operation, government, and protection of the Canal and the Canal Zone."

The Act provides that the "Governor of the Panama Canal shall be appointed by the President by and with the advice and consent of the Senate commissioned for a term of four years and until his successor shall be appointed and qualified. He shall receive a salary of $10,000 a year."

Fill at Site of Cristobal Substation.

A fill of from 10,000 to 12,000 cubic yards will be necessary in preparing the site for the Cristobal substation in the rear of dock No. 13. The fill will be made by suction dredge, and it is planned to use dredge *No. 83*, at present engaged at the coaling plant nearby, by working the vessel at the coaling plant between the hours of 6 a. m. and 6 p. m., and on the substation fill from 6 p. m. to 6 a. m. This arrangement in working hours is made, because it will be necessary to stretch a pipeline across the French canal to carry the material to the substation site, thereby blocking the channel south of dock No. 11. The fill will reclaim a portion of the tidal area between the Cristobal yard tracks, and docks Nos. 13 and 14.

All Deck Beams of Pontoon Barge in Place.

The last deck beam in the pontoon barge being constructed next to the dry dock at Cristobal, for use in crossing the Canal by rail, was placed during the morning of Monday, January 26, and the deck is 80 per cent complete. The bottom sheathing is about 20 per cent complete, and progress on the entire structure has been so satisfactory that the barge will probably be launched during the first part of March. The trestle to support the railroad and highway will be built upon the barge after the launching.

Dredging Operations in Culebra Cut.

The dredges excavating in Culebra Cut are in practically the same position as described in The Canal Record of last week. At Cucaracha slide, a second hydraulic monitor is being installed in connection with the sluicing operations carried on by means of water pumped up by pipeline suction dredge *No. 82*. This monitor is to be placed about 75 feet north of the one now in service, and on about a level with it, which is approximately 30 feet above the present water level in the Cut. The channel at the base of Cucaracha slide is now about 165 feet wide at its narrowest point. The slide has shown increased motion during the past week along its north edge, adjoining Gold Hill, and rock masses have been breaking off the face of the hill.

Berth for Oil Vessels at Balboa.

A permanent berth, for oil vessels discharging their cargoes at Balboa, will be dredged along the east bank of the Canal just south of the Panama Railroad Company's steel pier. It is expected that a berth about 75 feet wide, 1,800 feet long, and from 40 to 45 feet deep at mean sealevel, will serve the requirements. Its length has been tentatively fixed at 1,800 feet, because this will permit of the docking of three vessels at one time, allowing 600 feet of space to each ship. If soundings and borings develop an excessive amount of hard rock at the point selected, the location may be varied to some extent to reduce the dredging cost. The Dredging Division has been requested to make the necessary surveys, and prepare an estimate of the cost.

Panama Railroad Storage and Demurrage Rates.

The old rate of five cents a package a day on material stored in the sheds of the Panama railroad docks, and the car demurrage rate of $5 a car a day, have been superseded by a reduced schedule effective until notice of change is given. In the past, and at the present time, a considerable quantity of goods has been brought to the Isthmus for transshipment to another steamer which may not arrive in port for several days after the cargo is discharged. This necessitates storing the freight in the dock sheds pending an opportunity for reloading. Under the new schedule, a charge of 10 cents a ton a day, weight or measurement, according as the freight charges are assessed, will be made on all goods stored in the dock sheds, with a minimum charge of 50 cents a ton for a single day's storage. For car demurrage, a rate of $2.50 a car a day has been fixed, with no free allowances, storage to begin on departure of the steamer from the wharf, and when loaded in cars for demurrage, holidays to be included. The railroad assumes no responsibility for loss or damage while freight is in storage on dock, or in cars, or for breakage in handling. The present rate of 50 cents a ton for the transfer of freight from one vessel to another will be maintained.

First of the Towing Locomotives Arrives.

The first towing locomotive of the order for 40 of the amended type, placed with the General Electric Company, arrived on the *Cristobal*, which docked on Tuesday, January 27. The machine was carried from the company's works at Schenectady to Jersey City on a special flat car, and was lifted to the deck of the *Cristobal* by the Merritt-Chapman Company's tug *Century*, which has a lifting capacity of 125 tons. The locomotive, which weighs about 50 tons, was placed in a specially constructed cradle on board the steamship, and lashed to the No. 4 hatch. The remaining 39 locomotives are to be delivered at the rate of four a month.

Limestone for Soil Treatment.

The use of limestone for the treatment of the soil in the vicinity of New Frijoles, where the Subsistence Department is planning to grow citrus fruits, is being considered. A report has been made by Mr. A. B. Nichols, office engineer at Culebra, on the available deposits of limestone in the Canal Zone. "Most prominent among these," he states, "is the so-called 'Emperador' limestone. Outcrops of this formation are found at Peña Blanca, along the relocated line of the Panama railroad, between New Frijoles and Caimito; on the Chagres River above Gamboa, near Cruces; on the Rio Chilibre; at Empire, and in the Culebra Cut, near Las Cascadas. Traces occur near Pedro Miguel, and in the swamps near El Diablo. The two locations which appear most favorable for working are at Empire and along the Panama railroad relocation, north of Caimito. The Empire deposit is found about 600 feet west of the railroad, behind the public market. It was worked by the Canal Commission some years ago for road material, and under the French, some of it was burned for lime for use in constructing the masonry foundations for buildings. The surface of this deposit is weathered and broken, but underneath it is fresh and hard. Some exploration may be necessary to determine the volume available. The deposit north of Caimito forms a layer on the surface, for about 1,200 feet along the railroad. It is a bedded deposit of coarse limestone, containing coral and shells. The limestone at Peña Blanca and Rio Chilibre presents the same appearance. The 'Caimito' formation of McDonald embraces a lime-bearing material which is very common along the route of the Canal. It is a fine sandstone, more or less rich in lime. It may be seen at Pedro Miguel, at Empire, behind the railroad station; at sundry places along the Panama railroad relocation, and along Rio Chagres."

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Automobile and Motorcycle Licenses.

A total of 217 automobile and 74 motorcycle licenses have been issued by the Collector of Revenues up to and including January 23, 1914. The first license for an automobile was issued on December 3, 1910, and for a motorcycle on November 16, 1911. When licenses expire without renewal, the old numbers are permanently vacated, and on this account no one is holder of license No. 1, at the present time, either for an automobile or motorcycle. The total licenses issued, however, may not represent the actual number now in use, as some of the machines probably have been abandoned, others sold and shipped away, and it is likely that few have taken out licenses good only on Panamanian territory.

Under the existing regulations, an automobile owner may take out a license in Panama, paying the established rate of $25 for a pleasure car, and $50 for a machine used for commercial purposes. If he wishes to operate the machine on the streets and roads of the Canal Zone, he is required to take out a reciprocal license, the charge for which in the case of pleasure cars is $5, and in the case of machines for commercial use, $30. For motorcycles, the license tax is $10, either in Panama or the Canal Zone, and the charge for a reciprocal license is $2. For both automobiles and motorcycles, a charge of $1 extra is made in Panama and the Canal Zone for each numbered tag. The Canal Zone police are furnished with a record of the licenses as they are issued, and a lookout is kept for machines operated without license, or renewal of license; the infractions in the latter case are more or less frequent.

The record of licenses issued for automobiles and motorcycles, during stated periods, up to an including January 23 is, as follows:

Period.	No.
AUTOMOBILES.	
December 3, 1910 to January 23, 1912	54
January 23, 1912 to January 23, 1913	81
January 23, 1913 to January 23, 1914	82
Total	217
MOTORCYCLES.	
November 16, 1911 to January 23, 1912	14
January 23, 1912 to January 23, 1913	36
January 23, 1913 to January 23, 1914	24
Total	74

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Building Operations at Ancon.

Four one-family, Type 17 quarters, transferred from Bas Obispo, have been reerected, repainted, and occupied on the west side of the highway leading to Bishop's Hollow, across the road from the recently opened Commission hotel, transferred from Pedro Miguel. At the south end of this row of houses a 2-family, Type-1 house has been erected and occupied; two other houses of this type are being erected on the other side of the road, adjoining the hotel, and a fourth is under construction opposite the office of the district quartermaster.

The foundations and first floor of the new concrete commissary building at Ancon have been completed, and the forms for the columns of the first story, and for the concrete eaves, are practically completed. The placing of concrete in these forms began on Tuesday, January 27.

LABOR FORCE AND QUARTERS IN DECEMBER.

The force report for December 31 shows the actual working force of the Canal Commission on that date to have been 26,953; of the Panama railroad, 5,195, and of the contractors, 415, a total effective working force of 32,563, a decrease of 2,404, as compared with the statement for November. The gold force on the Canal work, composed almost exclusively of white Americans, was 3,744, an increase of 49, as compared with the previous month. A statement of the Canal force, by divisions, follows:

Department or Division.	SILVER EMPLOYES*													Total silver.	Total gold.	Grand total.
	Artisans.						European laborers.		West Indian laborers.							
	Monthly	44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents	10 cents	7 cents.			
Construction & Engineering	4,037	8	9	465	1,249	3,268	1,524	314	72	321	4,436	2,168	178	18,049	2,727	20,776
Civil Admin...	132				..	..	.....	.....	...	..	....	......	..	132	320	452
Sanitation	533			2	2	4	...	....	...	..	6	319	19	885	257	1,142
Quartermaster's	909	.		242	371	455	28	2	...	..	630	801	19	3,457	285	3,742
Subsistence	643	.		1	2	4	.....	.....	...	..	....	......	25	675	48	723
Disbursements	7	.			...	.....	...	.....	...	.	....	......	....	7	17	24
Examination of Accounts ..	4	.		.	....	...	....	.....	...	.	....	.....	....	4	90	94
Total	6,265	8	9	710	1,624	3,731	1,552	316	72	321	5,072	3,288	†241	23,209	3,744	26,953
Month previous	5,691	9	10	628	1,692	3,846	2,233	481	149	302	5,300	3,991	261	24,592	3,695	28,287

I. C. C. force, 26,953, Panama railroad force, 3,723; Panama railroad commissary force, 1,472. Total, 32,148.
*All wages specified are in gold. †Includes 15 at five cents. ‡Includes 14 at five cents.

The force report of the Department of Construction and Enginering, including the employes of contractors, as of December 31, was, as follows:

Division.	SILVER EMPLOYES*													Total silver.	Total gold.	Grand total.
	Artisans.						European laborers.		West Indian laborers.							
	Monthly	44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents	7 cents			
First Division	154	..	..	147	435	1,098	37	27	10	49	1,016	195	26	3,194	512	3,706
Second Div....	767	..	..	27	134	494	228	112	...	...	671	301	29	2,763	501	3,264
Fourth Div....	162	..	..	9	11	39	541	27	40	247	166	766	36	2,044	191	2,235
Fifth Division..	103	.	..	5	57	134	411	35	22	...	158	18	4	947	69	1,016
Sixth Division.	1,810	..	..	22	47	79	12	9	...	23	133	20	3	2,158	303	2,461
Fortifications Division	164	..	..	59	137	251	14		...	...	336	188	1	1,150	94	1,244
Municipal Engineering	259			39	174	503	55	44	...	...	767	462	†54	2,357	109	2 466
Mechanical Div.	240	8	9	146	197	551	13	1	...	...	1,037	45	17	2,264	812	3,076
Atlantic Div...	378		..	11	57	119	213	59	...	2	152	173	8	1,172	136	1,308
U. S. Steel Products Co......	......	..	.	...	.....	.....	......	.....	..	.	.....	......	....	249	62	311
Chicago House Wrecking Co.	......	.	..	...	....	.....	......	......	...	...	.....	......	....	22	4	26
McClintic-Marshall Co......	......	.	..	.	....	.....	......	......	...	...	.....	......	....	63	15	78
Total......	4,037	8	9	465	1,249	3,268	1,524	314	72	321	4,436	2,168	†178	§18,049	§2,727	§20,776
Month previous	3,398	9	10	[illegible]	1,263	3,356	2,193	419	144	302	4,661	2,501	‡199	18,845	2,638	21,483

*All wages specified are in gold. †Includes two at five cents. ‡Includes three at five cents. §Forces of contractors not included in these totals.

QUARTERS.

A report of Commission and Panama railroad quarters occupied on December 31, follows:

Place.	Gold.			Europeans.			West Indians.		
	Men	*Women*	*Children*	*Men*	*Women*	*Children*	*Men*	*Women*	*Children*
Ancon[1]	616	325	254	6	....	....	984	6	5
Balboa	467	33	37	515	11	18	1,081	55	76
Bas Obispo[4]	3	2	1	4	4	5	44	37	42
Corozal[2]	720	236	192	538	....	....	574[3]	27	16
Cristobal[5]	925	.59	411	70	....	....	1,165[6]	200	396
Culebra	353	149	152	69	22	53	407	102	156
Empire	685	277	321	289	46	76	442	144	238
Gatun	492	200	155	621	20	16	905	24	34
Las Cascadas	8	2	2	5	5	12	135	129	170
Paraiso	286	82	87	122	4	12	252	110	161
Pedro Miguel	211	99	113	248	....	......	173	.....	.....
Porto Bello	63	28	22	67[7]	1	2	250	4	7
Toro Point	47	15	17	84	.....	......	288	......	.....
Total	4,876	1,807	1,764	2,638	113	194	6,700	838	1,301

(1) Includes Sabanas police station, Taboga Island, Culebra Island, Palo Seco, and Naos Island. (2) Includes Miraflores. (3) Includes 66 Panamanians. (4) Includes Gamboa. (5) Includes Colon Beach and Colon Hospital. (6) Includes 61 East Indians, 10 American citizens, and 65 Panamanians. (7) Includes 14 Asiatics. Gold force of contractors (included above): eight families, 134 bachelors.

UNION CHURCH WORK.

Permanent Organization Effected at Corozal on January 25, 1914.

A permanent organization for union church work was placed in effect at a general meeting held at the Commission clubhouse at Corozal on Sunday afternoon, January 25, when a constitution was adopted and officers elected for the year 1914–1915. The new organization will be known as the Union Church of the Canal Zone. Its object is to engage in church work along undenominational lines; its teachings will be evangelistic and the activities nonsectarian. A central governing body has been provided in the form of an executive council, which is composed of the officers of the organization and representatives from each community, chosen by members in their community, the number allowed being proportioned by the local membership.

Membership is of two classes, active and associate. Persons may enter into active membership by presentation of a church letter, by statement of present or former church connection, or by accepting the tenets of Christian living as laid down in the New Testament. The second requirement takes care of those applicants who are residing temporarily in the Canal Zone, and those who do not desire to sever their regular church connection in the United States. Persons who are in sympathy with the objects for which the organization is formed, and yet do not fill the requirements for active membership, may become honorary members upon application. Only active members are entitled to vote, or to hold office. The control of the organization will be central; it is expected, however, that members of local Christian leagues and church societies, the purposes of which are in accord with the Union Church of the Canal Zone, will transfer their membership to the central organization. This membership will in no way interfere with the local organization, which may be carried on as usual. The organization expects to call a minister as chaplain to the union church work of the Canal Zone. He will serve in the local communities, under the direction of the executive council.

The initiative for the movement for the reestablishment of union church work in the Canal Zone was taken by the council of the Union Church at Cristobal, when the Commission chaplains, formerly maintained by the sanitary department, were dispensed with. A call was issued by this body for a general meeting, when the needs for the continuance of such undenominational work among the Americans in the Canal Zone was discussed. Following that meeting, which was held at Corozal on December 21, the council of the Cristobal church, consisting of Mr. J. M. Weaver, Mr. Leander Larson, and Mr. W. H. Kromer, continued its work, taking active part in the preparations for the perfecting of the organization.

The officers of the new Union Church are, as follows: President, Mr. H. A. A. Smith, Empire; vice-president, Mr. J. F. Warner, Culebra; secretary, Mr. W. E. Hoffman, Empire.

The monthly meeting of the Woman's Altar Guild of St. Luke's Hospital Chapel will be held at the home of Mrs. Gorgas on Tuesday afternoon, February 3, at 4 o'clock. Lent begins this year on Wednesday, February 25, so it will be necessary to make plans for the meetings during the six weeks. A full attendance of the members is, therefore, urgently requested.

The Salvation Army announces the coming of its evangelistic preacher, Lieutenant-Colonel Roberts. He will arrive on the Isthmus on Sunday, February 1, and preach at the various stations in the Republic of Panama and the Canal Zone, until February 16.

Woman's Clubs.

The Ancon Study Club will have as the special feature at the third annual meeting on Thursday afternoon, January 29, a talk on woman's suffrage in California by Mrs. James Bowdry. The business meeting, with election of officers, will begin promptly at 2.30 o'clock; tea will be served at 3 o'clock, and the program will follow. The club calendar for February is, as follows:

February 5, study of English history and literature, Mrs. Morley, leader.

February 12, native woods, with an exhibition of specimens of woods and wood fibres.

February 19, English history and literature.

February 26, general meeting, with speaker.

The Cristobal Woman's Club has "Literature" as its subject for the February meetings. The speaker for the meeting on Wednesday afternoon, February 4, is Dr. E. G. Dexter, director of the Panama Institute; his subject will be modern literature for children. On February 18, the club will discuss recent books, with Mrs. C. M. Butters as leader. At the meeting on January 21, papers on the social problem were read by Mrs. C. A. Hearne, Mrs. Numa Nunn, and Mrs. L. Williamson. An open discussion of the subject followed.

PERSONAL.

Col. H. F. Hodges returned from his annual leave of absence on the *Panama*, which docked at Cristobal on Sunday, January 25.

Maj. Smedley D. Butler, commanding the United States Marine Corps formerly stationed at Camp Elliott, who left with his battalion for service in Mexican waters on Wednesday, January 21, has been assigned to duty on the staff of Rear Admiral Frank F. Fletcher, commanding the Third Division of the Atlantic Fleet. He will have charge, as divisional commander, of all the United States Marines ordered to Mexican waters. Major Butler received his commission as captain on July 23, 1900, and his present commission on May 13, 1908. He was detailed for duty on the Isthmus on December 2, 1909.

Mr. Harry O. Cole, resident engineer of the Fifth Division, has resigned, effective at the close of business on January 31, and, accompanied by his family, will sail for the United States on the *Cristobal*, on Friday, February 6. He received his appointment with the Isthmian Canal Commission on September 10, 1908, arriving on the Isthmus on September 18. From that date until September 1, 1909, he was engaged as assistant engineer in the office of the division engineer of the old Pacific Division, in charge of all office engineering and designing of plants and equipment for the division. On the latter date he was placed in charge of the Third (municipal engineering) District of the Pacific Division, a post he held until April 20, 1911, when he was made resident engineer, in charge of the Pacific locks and dams, and Canal excavation in the dry, south of Pedro Miguel, succeeding Mr. W. B. Corse. When the Pacific Division was abolished on December 12, 1912, he was placed in charge of the Fifth Division, newly created. Mr. Cole was graduated from West Virginia University in the class of '98, with the degree of bachelor of science in civil engineering, and in the same year entered the office of the Keystone Bridge Company as draftsman. In 1901, he was a draftsman for the National Steel Company, and in the following year for the Structural Steel Company. Later, he was with the American Bridge Company, and from 1903 to 1907, he was assistant engineer in the office of V. G. Bogue, a consulting engineer in New York City. In 1907, he became bridge engineer for the Oaxaca and Pacific Railway in Mexico, and subsequently served on the investigating committee of the Blackwell's Island bridge in New York City. He is a member of the American Society of Civil Engineers.

Mr. A. S. Zinn, formerly resident engineer in charge of the Fourth Division of the Chief Engineer's Office, has accepted a position, effective January 21, as consulting engineer with the Department of Public Works of the Republic of Panama. He will sail for New Orleans on Saturday, January 31, to spend a vacation of six weeks in the United States, returning afterward to Panama.

Mr. Zinn came to the Isthmus on October 21, 1906, as resident engineer of the Culebra Division, in charge of steamshovel excavation and railway construction. Under the reorganization of July 1, 1908, when the Central Division was created, with Lieut.-Col. D. D. Gaillard at its head, Mr. Zinn became resident engineer in the Central Division, remaining in charge of his former work. He held this position until October 10, 1913, when the Central Division was abolished. On that date he was made resident engineer in charge of the Fourth Division, which position he held until it was abolished on January 1, 1914.

Prior to coming to the Isthmus, Mr. Zinn had been engaged for 17 years in varied railway engineering and construction work. Shortly after graduation from Rose Polytechnic Institute, he became a draftsman in the office of the Illinois Central Railroad in Chicago, and the principal positions he occupied later were assistant engineer for three and one-half years in track elevation in Chicago; division engineer of the Oklahoma division of the Rock Island Railway; principal assistant engineer of the Rock Island system, and engineer of construction of the Michigan Central Railway in Canada, completing the second main track between Detroit and Buffalo. His coming to the Isthmus was on the invitation of Mr. John F. Stevens, former Chief Engineer, who was second vice-president of the Rock Island system when Mr. Zinn was its principal assistant engineer. He is a member of the American Society of Civil Engineers, the Western Society of Engineers, and the American Railway Engineering Association.

Mr. Charles L. Parker, accompanied by Mrs. Parker, returned from his annual leave of absence on the *Panama*, which docked at Cristobal on Sunday, January 25.

COMPLETION OF LOCK GATES.

End of Canal Work by McClintic-Marshall Construction Company.

The last of the equipment used by the McClintic-Marshall Construction Company in the erection of the lock gates and the spillway caissons was shipped to the United States on January 23. This shipment, on the *Ancon*, consisted principally of hand tools; previous shipments, consisting of locomotive cranes, truss bridges used in spanning the lock chambers, air compressors, motors, riveters, and miscellaneous field and shop machinery, amounted to several full vessel loads. The small remaining force at work at Miraflores Locks was withdrawn on January 22, and the entire force at work now for the contractor on the Isthmus is a gang of about nine laborers, clearing some concrete foundations for field buildings off the east backfill at Gatun Locks, and five office men. Most of these will leave within a short time; Mr. W. H. Sterrett, who has been in charge of the contractor's work on the Isthmus since September 1, 1912, will remain until everything has been cleaned up.

The following tabulation summarizes the progress of the miter gate erection at the three locks:

	Gatun.	Pedro Miguel.	Miraflores.
First girder laid.	5-27-11	8-7-11	9-10-12
Last work completed.......	1-19-14	1-3-14	1-17-14
No. of leaves...	40	24	28
*Tons of steel—2,000 lbs....	25,180	14,764	17,608
No. of field rivets..........	2,506,000	1,475,000	1,749,000

*Exclusive of fixed parts.

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Further Extension of Colon.

An extension of Colon to afford sites for buildings devoted to manufacturing and warehouse purposes is being effected by filling in parts of three blocks east of Broadway, between Thirteenth and Sixteenth streets. This area is just north of the site now occupied by the Consumers' Electric Light and Refrigerating Company, which has recently opened a laundry. The blocks contain seven lots each, measuring 40 feet wide by 150 feet deep. It is estimated that about 29,900 cubic yards of material will be required to bring the area up to grade. The spoil will be furnished by the Panama railroad, from its borrow pit near Mount Hope.

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Sales of Material and Equipment.

The following sales of equipment and material belonging to the Canal Commission were made by the Quartermaster's Department during the first six months of the fiscal year 1913-14:

Obsolete equipment....................	$45,765.30
Obsolete material......................	75,794.15
American scrap—screening, rope, rubber, etc..............................	21,052.18
French scrap (collected under French scrap contract)......................	8,395.48
Old French buildings..................	6,373.91
Stock material, including stationery.....	51,927.55
Total..............................	$209,308.57

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Results in Tennis Tournament.

The tennis tournament in singles was held at Empire on January 18, and the finals were played off on January 25. Results are summarized, as follows:

Preliminary round.—Tivoli (D. T. Edwards) defeated Pedro Miguel (H. Bartholomew), 6-2, 5-7, 10-8; Pacific (C. E. Nevius) defeated Gatun by default; Camp Otis (Lieut. Swartz) defeated Ancon Hospital (A. L. Fessler), 7-5, 6-3; Empire (R. M. Smith) defeated Culebra (J. B. Shropshire) 10-8, 6-4.

Semifinals.—Pacific defeated Tivoli, 6-2, 6-1; Empire defeated Camp Otis, 6-3, 6-3.

Finals.—Pacific defeated Empire 7-5, 6-2.

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For the Recovery of Lost Articles.

Articles lost on the trains or premises of the Panama railroad and found by employes of the company are turned in at the general offices at Colon. A record of their finding is made and if the article is not claimed within three months it is given to the finder. Many valuable articles, including a wallet containing over $1,300 in currency, have been restored to their owners by this system; on the other hand, so prevalent is the belief that a lost umbrella is irretrievable that some of the collectors in the passenger service have as many as a dozen of these articles which have been turned back to them after the allotted time.

It is proposed to extend the scope of the system as far as practicable, and to this end the management of the railroad invites all finders of lost articles, anywhere on the Isthmus, or on vessels coming into Isthmian ports, to send such articles to it under the same conditions; that is, the finder will be given a receipt, and, if the article is unclaimed within three months, he will receive the article himself. Letters and parcels may be addressed to F. R. Blunt, trainmaster, Panama railroad office, Cristobal, C. Z., or left at Mr Blunt's office, Colon.

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Ancon Crusher.

Following is a statement of rock crushed at Ancon quarry during the two weeks ending January 24:

DATE.	Hours worked.	Cubic yards.
Jan. 12...........................	8.15	1,934
Jan. 13...........................	8.25	2,722
Jan. 14...........................	7.05	2,103
Jan. 15...........................	8.15	2,299
Jan. 16...........................	8.25	2,148
Jan. 17...........................	8.15	1,807
Total...........................	48.40	13,013
Jan. 19...........................	8.25	2,232
Jan. 20...........................	7.10	2,157
Jan. 21...........................	8.30	2,652
Jan. 22...........................	6.30	1,404
Jan. 23...........................	7.15	1,598
Jan. 24...........................	8.00	1,995
Total...........................	45.50	12,038

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American Institute of Electrical Engineers.

The next regular meeting of the Panama section of the American Institute of Electrical Engineers will be held in the Panama railroad offices in Colon on Sunday, February 1, at 2.30 p. m. Mr. W. H. Fenley will present a paper on "Interlocking and automatic signals," and Mr. A. B. Kratz will present a paper on "How the telephone helped to build the Panama Canal."

W. R. McCann,
Secretary-Treasurer.

Culebra, C. Z., January 24, 1914.

Fire Bursts Oil Pipe Line.

A fire, originating in the dry grass around the the pipeline of the Union Oil Company at El Diablo hill, on Thursday, January 22, at 12.02 p. m., expanded the pipe and caused it to burst. The oil company was pumping through the line at the time, but as soon as possible after the alarm was given, the valves in either direction were closed and the flow stopped. With the bursting of the pipe, the oil ignited, but the fire was extinguished by shoveling dirt over it. Hose Company No. 6, and 10 volunteer firemen from Corozal, responded to the alarm. The damage is estimated at $120.

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Red Cross Finances.

The financial statement of the Canal Zone Chapter, American National Red Cross, for the month of December, 1913, follows:

RECEIPTS.		
December 1, On hand..................		$3,808.54
DISBURSEMENTS.		
December 6, Postage.........	$10.00	
16, Relief of destitute ex-employe, Ancon Hospital...	3.00	
16, Relief of destitute American sailor, Cristobal......	2.25	
22, Relief of destitute ex-employe, Ancon...........	2.00	
Total disbursements..		$ 17.25
December 31, Balance on hand.........		$3,791.29

John L. Phillips,
Treasurer.

Approved:
Edw. Schildhauer,
Chairman.

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Smoking in Hospital Wards Prohibited.

During the past few days two fires have occurred in the sick wards at Ancon Hospital, caused by burning cigar stumps coming into contact with inflammable material. It has been decided to post notices in each of the wards calling the attention of patients to the fact that smoking therein is positively forbidden, and that a second violation of the rule will be considered sufficient ground for the suspension in pay of the offending person, if an employe, for a period of from five to 10 days.

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The residence formerly occupied by Lieut.-Col. D. D. Gaillard at Culebra has been demolished for transfer to Balboa. In its reconstruction, several minor changes will be made in the interior arrangements and its supporting columns will be set in flaring cups of metal or concrete, well above the ground, which will be filled with some noninflammable oil to prevent the invasion of ants and rats. The new site of the building will be on the slope of Ancon Hill, southward of the new administration building.

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Tide Table.

The following table shows the time of high and low tides at Panama for the week ending February 7, 1914:

Date.	High	Low	High	Low	High
	A.M.	A.M.	A.M.	P.M.	P.M.
February 1.....	......	1.34	7 26	1.44	7.44
February 2.....	......	2.11	7.57	2 19	8.18
February 3.....	......	2.51	8 34	2.57	8 56
February 4.....	......	3.38	9 20	3 47	9 46
February 5.....	......	4.36	10 24	4 54	10.53
February 6.....	......	5.44	11.45	6.14	......
			P.M.		
February 7.....	12.10	6.53	1.04	7.21	......

75th meridian time.

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Movement of Vessels, Port of Balboa.

The following vessels arrived at, or departed from, the port of Balboa, during the week ending January 24, 1914:

Arrivals—January 19, *Huallaga*, from Callao; January 20, *Mexico*, from Callao; January 21, *Manavi* from Guayaquil; January 23, *Barracouta*, from Central America; January 24, *Pennsylvania*, and *San José* from San Francisco.

Departures—January 19, *Mantaro*, to Callao, *Aysen* to Valparaiso; January 20, *Peru* to Guayaquil; January 23, *Harlesden*, to south ports, *Cyprus* (yacht), to San Francisco.

CANAL WORK IN DECEMBER.

Monthly Report of the Chairman and Chief Engineer to the Secretary of War.

Culebra, C. Z., January 17, 1914.

The Honorable the Secretary of War,
Washington, D. C.

Sir: I have the honor to submit the following report of operations on the Isthmus for the month of December, 1913:

Department of Construction and Engineering.

The following table summarizes the principal items of work accomplished by the construction divisions during the month:

Item.	Unit.	Atlantic.	2d. Div.	4th Div.	5th Div.	6th Div.	Total.
Work excavation, dry	Cubic yds	2,168	112,626	161,000	30.420	...	306,214
Work excavation, wet	Cubic yds	...	...	...	141,000	1,107,027	1,248,027
Total work excavation	Cubic yds	2,168	112,626	161,000	171,420	1,107,027	1,554,241
Plant excavation, dry	Cubic yds	...	829	...	...	...	829
Plant excavation, wet	Cubic yds	...	...	...	...	26,656	26,656
Total	Cubic yds	...	829	...	...	26,656	27,485
Total Canal excavation	Cubic yds	2,168	113,455	161,000	171,420	1,133,683	1,581,726
Concrete placed, locks, dams, and spillways	Cubic yds	120	...	...	3,024	...	3,144
Fill placed in dams	Cubic yds.	20,485	...	...	10,635	...	31,120
Explosives used	Tons (Gross)	10.24	12.15	20.45	12.97	55	110.81
Rock drilled	Feet	9,995	42,569	70,882	22.427	35,603	181,476
Tracks removed	Miles	2.40	2.69	17.01	0.93	...	23.03
New tracks laid	Miles	1.68	2.95	4.31	...	...	8.94
Rock crushed	Cubic yds	...	...	...	37,355	...	37,355
Cement used	Barrels	433	7,144	...	...	...	7,577
New roads built	Miles	...	...	...	...	...	...
Water mains laid	Feet	1,000	...	...	...	...	1,000
Sewers laid	Feet	...	...	...	...	...	...
Open drains and ditches dug	Feet	...	4,960	...	...	...	4,960
Average daily force	...	1,595	2,509	2,184	1,079	2.298	9,665
Average rainfall	Inches	7.30	3.72	2.03	2.14	3.48	3.57

First Division—Office of the Chief Engineer.

LOCK GATES AND PROTECTIVE DEVICES.

The erection, reaming, and riveting of all the lock gates was complete at the end of the month, and only a small amount of painting and finishing remained. At Gatun, the gates are 99.7 per cent completed; Pedro Miguel, 100 per cent; Miraflores, 99.5 per cent.

A portion of the iron for the chains of the chain fenders was shipped to the Boston Navy Yard during the month, and six of the 24 chains are about 10 per cent completed. Out of the 46 operating valves, 21 right hand and 24 left hand valve bodies have been cast. Practically no progress was made on the 92 resistance valves, and it has been decided that stronger material must be used for the valve stems.

Approximately 50 per cent of the structural steel for the lock entrance caisson has been delivered to the contractor's plant in the United States, and approximately 90 per cent of the material ordered from the steel contractors has been passed for shipment.

TESTING.

Gatun Spillway.—The 14 spillway gates and machines were operated satisfactorily during the month with the lake at elevation approximately 84.5 feet above sealevel.

Gatun Locks.—Eleven lockages were made at Gatun Locks. During the month, 20 rising stem valves were tested on the east wall and 17 were accepted as complete for local control. All miter gates in the east chambers, 16 in number, were operated during the month and found to function satisfactorily. Ten cylindrical valves in the lower level were tested and nine accepted as complete. The remaining 20 cylindrical valves for this lock cannot be given final test until the last lock is watered.

Six control cables were tested to allow the permanent connection of sample layout of control board; these stood the test satisfactorily.

Pedro Miguel Lock.—Two lockages were made at Pedro Miguel. The three remaining transformer rooms at Pedro Miguel were tested and put in service. All rising stem valve, cylindrical valve, and auxiliary culvert valve machines in the west lock were operated from permanent local control. All miter gate moving machines in the west chamber were tested, and all gates not having water pressure against them were operated. The west chamber is ready for use.

Miraflores Locks.—Four lockages were made. Transformer room 771 was tested and put in service, and the feeders for operation of the west emergency dam at Miraflores from transformer room 774 were also tested and put in service.

OPERATING MACHINERY AND ELECTRICAL EQUIPMENT.

Mechanical work connected with the rising stem, cylindrical, and auxiliary culvert valve machines has been completed, and the installation of electrical apparatus for these machines is respectively 83 per cent, 95 per cent, and 90 per cent completed; and electrical installation 35 per cent.

Ninety-eight per cent of the mechanical, and 65 per cent of the electrical installation has been completed on the miter gate moving machines. Mechanical erection of miter gate forcing machines is 76 per cent completed, and electrical installation 57 per cent.

All track material for the towing system of the locks has been delivered, and 92 per cent of the track has been finished. Fifty-four per cent of single, and 83 per cent of double crossovers, have been placed.

All spillway gate machines have been received and mechanical erection is complete. Electrical installation is 95 per cent complete at Gatun, and 80 per cent at Miraflores.

Work on transformer room equipment is 87 per cent complete at Gatun, 85 per cent at Pedro Miguel, and 85 per cent at Miraflores.

About 96 per cent of the 2,508,296 feet of cable on order has been received, and 946,587 linear feet have been pulled into ducts.

The control house at Gatun is practically completed; that at Pedro Miguel 94 per cent, and that at Miraflores 75 per cent.

Erection of the main control board at Gatun Locks is about 35 per cent completed, and the erection of the Pedro Miguel board was begun during the month.

Track-span bridges for the transisthmian transmission line have been completed along 18 miles of the Panama railroad. Foundations for the substations at Gatun and Miraflores have been completed, and are ready for the steel contractor to begin his work.

EMERGENCY DAMS.

Riveting on both emergency dams at Miraflores was completed, and the final tests on the east dam were made on December 29. The dams at Gatun and Pedro Miguel have been completed.

AIDS TO NAVIGATION.

Construction of towers, making soundings for, and placing of gas buoys, surveys, and other routine work were carried on during December.

Second Division—Office of the Chief Engineer.

BALBOA TERMINALS.

Dry docks.—On dry dock No. 1 contractor's drawings for the granite work were completed and checked, contractor's plans for the pumping plant were made, plans for the reinforcement of the caisson seats were completed, and a detail plan of masonry for the stairs and slide was practically completed. Studies were made on the final design for the side walls and adjoining wharf structures of dry dock No. 2, and on a simpler filling system; and contractor's plans were prepared for the granite work. Excavation for the dry docks and entrance basin amounted to 80,350 cubic yards.

Permanent shops.—The work of preparing drawings, specifications, and requisitions for various features of the shops was continued. The contractor completed the erection of steel in the sand house, the machine shop, and erecting shop. With the exception of a small amount of finishing work, this contract is completed. The tile contractor has completed the manufacture of tile, and the placing of tile on the buildings was carried forward. Three 60-ton, two 25-ton, and two 20-ton overhead electric traveling cranes were placed on their runways, and assembling was begun. All of the machines, furnaces, and other equipment to be installed in the foundry have been completed, with the exception of the sandblast plant. Forty-nine machines, out of a total of 178 machines, have been installed in the machine shop; three out of a total of 37 in the boiler and shipfitter shop; four out of a total of 35 in the forge shop, one of which has been put into service; and 49 out of a total of 57 in the planing mill, of which 47 have been put in operation. Excavation for the shop tunnel amounted to 200 cubic yards, foundations 79 yards, and machine footings, floors, and tunnels, 1,469 yards. Concrete placed in machine footings amounted to 1,272 cubic yards, and in other parts of the shops to 739 cubic yards. One hundred and fifty-nine thousand four hundred and thirty pounds of reinforcing steel were placed. In the foundations for the turntable, 1,980 linear feet of concrete pile, and 1,908 linear feet of pipe were driven.

Pier No. 1.—Designs were made for anchorages of bumping post and columns of pier shed; and a bill of material was prepared for the anchorage for pier shed columns. Excavation amounted to 2,470 cubic yards; 469 cubic yards of concrete were placed in the substructure, 362,956 pounds of reinforcing steel were used, 130 caissons, out of a total of 201, have been sunk to rock, the penetration in December being 1,020 linear feet.

Quay wall g–h–i.—The substructure was completed and backfill placed. The superstructure was also completed, with the exception of the paving. Five hundred and ninety-four linear feet of track were placed and grouted in, and the track laying is practically completed. Paving was done between the track and the water edge of the dock. Effort has been made to have the brick pavement laid in such manner as to give a very smooth and solid surface. The sand cushion has been rolled and the brick have been rolled in place before grouting. Twenty-two thousand five hundred and sixty-five square feet of dock floor were paved during the month.

Quay wall e–f.—Six thousand six hundred and ten linear feet of piles were driven for construction trestle, and one steel caisson was put in place.

Bulkhead wall i–j–m–n.—Only 20 caissons were sunk into rock during the month, making for this section 57 caissons in rock to date, eight yet to be started, 46 filled to date with concrete, and there are 11 caissons still uncompleted.

Caisson manufacturing plant.—Six hundred and eighty-seven linear feet of caisson were manufactured during the month, and this is thought to be all that will be required for the present proposed piers. The plant was therefore shut down.

COALING PLANTS.

Cristobal.—Surveys were begun preparatory to making a working map for the layout of the coal dock. The design of the substructure was carried forward and partially checked. Excavation amounted to 50,256 cubic yards.

Balboa.—A final design for the supports for the berm cranes and a reinforced concrete retaining wall carrying girders for the conveying system was started. Studies were made of the seawall in front of the coal plant and designs were worked out to find the most economical arrangement of beams and girders. Studies for the support of the berm cranes through the Government pile were also made. Excavation in the coal pocket amounted to 27,094 cubic yards, coal pocket incline 728 cubic yards, coal pocket tracks 56 cubic yards.

RADIO STATION.

Surveys were continued at the site of the Darien radio station at Caimito; towers were located, topography was finished, and work was begun on laying out tower No. 1 for construction. Detail plans for the masonry footings were completed.

METEOROLOGY AND HYDROGRAPHY.

Rainfall.—Dry season weather prevailed during the greater part of the month, and rainfall was below station average at all stations except Ancon.

Gatun Lake.—During the month, Gatun Lake rose from 82.01 to 84.80 on the 30th, being 84.48 on the last of the month, or a storage increase of 11.24 billion cubic feet for the month. At 10 a. m., on the 27th, gate No. 7 of the spillway was opened and during the day each of the 14 gates was raised and lowered, one at a time. Water was also discharged on the 29th, 30th and 31st between 7 a. m. and 5 p. m. On the 30th, seven gates were open long enough (three hours) to enable the measurement of discharge in the concrete channel. Velocity was obtained by timing 26 floats, thrown from the east wall and the footbridge, over a 440-foot course. The maximum velocity was 44 feet per second, and the discharge 63,200 second-feet, or an average of 9,030 second-feet per gate. The lake was at elevation 84.66 while the elevation of the water at the spillway water gage was 14.6. Gagings taken at the cable station with two gates open showed a discharge of a little over 9,000 second-feet per gate for lake elevation around 84.5.

Fourth Division—Office of the Chief Engineer.

Culebra Cut.—Steamshovel excavation from slides, and on high levels as a preventive against slides, amounted to 161,000 cubic yards, and the daily average number of steamshovels at work was 7.9.

Sosa Hill quarry.—At Sosa Hill quarry, 59,100 cubic yards were excavated.

Naos Island trestle.—The total dumpage on Naos Island trestle at the end of the month was 1,707,516 cubic yards, of which 74,708 yards were dumped during December.

Fifth Division—Office of the Chief Engineer.

Excavation at all points amounted to 62,115 cubic yards; filling and embankment to 56,518 cubic yards.

Pedro Miguel.—The work of backfilling the northeast core wall was completed during the month and the permanent track laid across the same, joining the construction tracks on the east side of the Pedro Miguel Lock with the old Panama railroad main line just north of the Pedro Miguel station.

Miraflores.—Steamshovel excavation south of the spillway was continued by two shovels; borrow pit work was carried on by two shovels to supply material for completing the junction of the west dam with the locks and for furnishing backfill and resurfacing the west dam; and one shovel excavated rock near Corozal for the backfill between the north east wing wall and the core wall of the spillway dam at Miraflores. A steamshovel began excavating old dikes and high ground for the purpose of diverting the Rio Grande into the Canal three-quarters of a mile south of the locks.

Ancon crusher.—The rock crusher plant at Ancon quarry produced 37,355 cubic yards of crushed rock.

Gold Hill hydraulic and sluicing project.—The total excavation during the month was 141,000 cubic yards, of which 77,000 cubic yards were classified as earth, and 64,000 cubic yards as rock. The installation of the additional (or third) boiler unit was completed. Excavation in the middle and south flume districts was continued, and the cutting extended into the active slide area. The work of cutting through saddle No. 1 was continued. On account of encountering trap rock in the base of the cut, the sluicing was changed to a higher elevation and the work of unloading the softer material of the saddle was continued. Sluicing was started in saddle No. 2 during the latter part of the month and worked back into the edge of the middle back portion of the Cucaracha slide, after which work was temporarily suspended, in order to drill and blast a deeper sluiceway for the purpose of making available a greater volume of the active slide.

Sixth Division—Office of the Chief Engineer.

Miraflores Locks to the sea.—Three dredges removed 134,937 cubic yards of earth and 9,664 cubic yards of rock from the Canal prism; in addition. 8,075 cubic yards of earth were removed from berths at the Panama railroad wharf. There remain to be excavated in this section 2,090,388 cubic yards, of which 549,629 yards are rock. Two dredges removed 84,991 cubic yards from the inner harbor at Balboa.

Miraflores Lake.—A suction dredge removed 37,676 cubic yards, and 328,872 cubic yards remain to be excavated.

Culebra Cut.—Nine dredges removed 131,695 cubic yards of earth and 302,507 cubic yards of rock from the Canal prism, of which 321,193 yards were from Cucaracha slide. All material from the dredges was dumped north of Gamboa, with the exception of 56,665 cubic yards of earth and 53,193 cubic yards of rock, which were excavated during the period December 1 to 14 by the dredges *Corozal* and *Marmot*, and dumped in the Canal and drainage ditch near Station 1860. There remained to be excavated by dredges 4,263,528 cubic yards.

Atlantic Ocean to Gatun Locks.—The dredge *Caribbean* removed 221,474 cubic yards of earth from the prism, and there remained to be removed 461,973 cubic yards, all but 1,204 of which is earth.

At Cristobal coaling station site, 50,256 cubic yards of rock and sand were dredged. At Margarita Bay, 71,898 cubic yards of coral sand were removed; at Coco Solo Point 14,318 yards, and in the slip and approach to the coal dock 12,338 cubic yards of earth.

Gatun Lake.—Two dredges, working in the prism near Gamboa, removed 124,227 cubic yards of earth, and a ladder dredge removed 2,300 cubic yards of gravel from the Chagres River gravel beds.

Division of Municipal Engineering.

Northern District.—Construction of the new waterworks for Colon and Cristobal was practically completed during December. There remain only some finishing work and the installation of electric pumps, which are expected to arrive the latter part of January.

Southern District.—At the new townsite of Balboa, construction of the storm sewer was continued, and 1,011 linear feet were completed. At the new townsite of La Boca, the work was about 85 per cent completed. In the new townsite of Pedro Miguel, sanitary sewers were 67 per cent completed; storm sewers, 41 per cent; curb and gutter, 40 per cent; water system, 87 per cent; drainage system, 63 per cent; and placing of macadam, eight and a half per cent.

New Panama water works.—At Miraflores pump station No. 1, the setting of valves in the intake house was completed, and the walls of the main building were prepared for the roof trusses. At the filtration plant, excavation in the clear water basin, aeration basin, and head house was completed; and floor and walls of the wash water tank were completed and forms for the roof were erected ready for concrete. The high service reservoir was 50 per cent completed. Excavation for the Ancon pump station was started. Work was begun on the laying of the 30-inch main from Miraflores to Panama, and the 16-inch main from Ancon pump station to the high service reservoir.

Atlantic Division.

Gatun Locks.—Grading was continued, 34,613 square yards being finished to final grade on December 19, when all work on the backfill was stopped.

Gatun Dam.—The placing of fill in the dam was discontinued on December 19, when there had been placed 20,485 cubic yards for the month, and the total fill amounted to 22,073,151 cubic yards of which 10,124,082 yards are wet fill. The work of smoothing the slopes of the dam was extended by 44,845 square yards, making a total of 390,765 square yards of surfacing when the work was discontinued on December 19.

Transmission lines.—Two hundred and nineteen cubic yards of plain, and 74 of reinforced concrete were laid in the duct lines from the hydroelectric station to the substation, and at the locks, making the total 2,272 cubic yards. Excavation for the duct line amounted to 2,367 cubic yards for the month, backfill to 1,924 cubic yards; total, 3,211 yards.

Gatun–Mindi levee.—The levee was further raised by the addition of 20,451 cubic yards of borrow pit material.

Caño Saddle dam.—A channel 50 feet wide was cleared through the lake to the site of the Caño saddle dam, and material and equipment were transported to the site for the contractor.

West breakwater.—Porto Bello rock unloaded on the breakwater at Toro Point amounted to 18,595 cubic yards; total to December 31st 386,234 cubic yards. The total fill at the end of the month was 3,108,277 cubic yards.

East breakwater.—Preliminary work was continued on railroad track and docks; surveys and borings of the proposed quarry were made, and dredging at Coco Solo harbor was continued.

Quartermaster's Department.

Working force.—The force report of December 24 shows a decrease of 2,491 men from the previous month, 1,251 from the Commission, 613 from the Panama railroad, and 627 from contractors' forces. The total number at work on that day for the Commission was 20,516 of whom 2,706 were Americans, 1,979 European laborers, and 15,831 negro laborers. Contractors' employes numbered 496.

Quarters.—The Bas Obispo–Las Cascadas district was vacated at the end of the month. Quarters at Bas Obispo have been removed to Balboa and Ancon.

Material and supplies.—A new system of financial accounting to take the place of the physical accounting at the storehouses went into effect January 1, 1914. Material received in December was valued at $813,442.04.

Subsistence Department.

Subsistence operations during December were conducted with a net loss of $1,820.28, of which $1,795.20 was on the Hotel Tivoli. The total number of meals served at line hotels was 172,923; at laborers' messes, 245,037; at the Hotel Tivoli, 9,839; grand total, 427,799 meals. Fourteen employes' line hotels and two restaurants; 12 messes for laborers, and the Hotel Tivoli were conducted.

Department of Civil Administration.

Courts.—In the circuit courts 75 civil and 40 criminal cases were disposed of, and in the district courts 54 civil and 420 criminal cases.

Police and prisons.—Arrests numbered 427 of whom 41 were women. Three convicts were committed to the penitentiary, 34 were discharged, and on December 31 there were 94 in confinement. The cost of guarding and subsisting the prisoners was $2,869.09, and the value of their work was $1,842.40. Twenty-six criminal characters were deported from the Canal Zone.

Posts, customs, and revenues.—Money order sales amounted to $354,654.96. Postage receipts were $10,094.11. Postal savings deposits amounted to $118,689; withdrawals, $169,445. Revenue collections amounted to $23,297.31; court fines and fees, $2,227.94. Thirty estates were settled, and 57 remained in course of settlement at the end of the month.

Fire protection.—Three fires occurred during the month, one of them causing a loss of $50 to Government property.

Schools.—The net enrollment in the schools for white children was 1,147; colored children, 1,161.

Department of Sanitation.

The total number of deaths from all causes among employes was 29 divided, as follows: Disease 22, and violence seven, giving an annual average per thousand of 5.24 and 1.67, respectively. Among employes during the month, deaths from the principal diseases were, as follows: Lobar pneumonia, three; malaria fever E.A., two; tuberculosis, eight, leaving nine deaths from all other diseases, and seven deaths from external violence.

The case of smallpox reported last month recovered and has been discharged from the hospital. No case of yellow fever, smallpox, or plague originated on or was brought to the Isthmus during the month.

Respectfully,
Geo. W. Goethals,
Chairman and Chief Engineer.

CANAL ZONE BIRD SPECIES.

Estimated that they Number about 900—Many Kinds of Hummingbirds.

From various sources short lists of the bird species of the Isthmus of Panama have been recorded from time to time, but prior to the construction of the Panama railroad such lists were neither complete nor authentic. Any scientific handling of the subject was left to the years succeeding the opening of the railroad in 1855. Since that time collectors have made considerable progress in recording the ornithological history of the Isthmus.

As to the number of the species, it is estimated that a larger variety is to be found within the limits of the Canal Zone than in any one state in the United States—about 900. Lion Hill, one of the settlements on the old line of the Panama railroad, now a small island in Gatun Lake, is said to have furnished more type species of birds than any one locality in the Americas. Mr. E. A. Goldman of the Biological Survey at Washington, has made two short collecting trips to Panama within the last few years, and procured about 300 different species of birds in the Canal Zone. Mr. L. L. Jewel, a private collector, from whom the following list was obtained, has recorded about 250 different species found in the immediate vicinity of Gatun.

Up to the present time there has been no published work on the ornithology of the Isthmus, but Mr. Robert Ridgeway's work on the birds of North and Central America, now in the course of publication, will contain practically all the authentic records as far south as the line of the Panama railroad. This work is purely scientific. The economic and popular side of local bird life has not yet been treated in any published work.

The following list is not complete, but it contains practically all authentic record of bird species in the Canal Zone territory. The nomenclature is after Ridgeway. All species that are winter visitors from the United States and the north are marked with an asterisk.

Family Fringillidæ, or Sparrows.

1.	Astragalinus psaltria croceus	Central American goldfinch
2.	*Spiza americana	Dickcissel
3.	Arremonops c. conirostris	Lafresnaye's sparrow
4.	Arremon aurantiirostris	Orange-billed sparrow
5.	Volatinia jacarini splendens	Blue-black grassquit
6.	Tiaris olivacea pusilla	Mexican grassquit
7.	Sporophila grisea schistacea	Slate-colored seed-eater
	(Only one specimen known—taken at Lion Hill about 1862.)	
8.	Sporophila minuta minuta	Minute seed-eater
9.	Sporophila gutteralis	Yellow-bellied seed-eater
10.	Sporophila aurita	Hick's seed-eater
11.	Amaurospiza concolor	Cabanis's seed-eater
	(One record taken at Paraiso in 1867)	
12.	Cyanocompsa concreta cyanescens	Panama blue grosbeak
13.	Oryzoborus funercus	Lesser rice grosbeak
14.	*Zamelodia ludoviciana	Rose-breasted grosbeak
15.	Pitylus grossus	Slate-colored grosbeak
16.	Caryothraustes poliogaster scapularis	Lesser bishop grosbeak
17.	Saltator atriceps lacertosus	Panama black-headed saltator
18.	Saltator intermedius	Panama buff-throated saltator
19.	Saltator striatipectus isthmicus	Panama striped saltator

Family Tangaridæ or Tanagers.

20.	Euphonia fulvicrissa	Fulvous-vented euphonia
21.	Euphonia luteicapilla	Yellow-crowned euphonia
22.	Euphonia minuta humilis	White-vented euphonia
23.	Euphonia crassirostris	Thick-billed euphonia
24.	Tangara lavinia	Lavinia's tanager
25.	Tangara larvata fanny	Mrs. Wilson's tanager
26.	Tangara inornata	Plain tanager
27.	Thraupis cana cana	Blue tanager
28.	Thraupis palmarum melanoptera	Black-winged tanager
29.	*Piranga rubra rubra	Summer tanager
30.	*Piranga erythromelas	Scarlet tanager
31.	Heterospingus rubrifrons	Lawrence's tanager
32.	Ramphocelus icteronotus	Yellow-rumped tanager
33.	Ramphocelus luciana	Bonaparte's tanager
34.	Ramphocelus dimidiatus isthmicus	Crimson-backed tanager
35.	Tachyphonus rufus	Boddaert's tanager
36.	Tachyphonus luctuosus	White-shouldered tanager
37.	Tachyphonus delatrii	Tawny-crested tanager
38.	Eucometis cristata	Gray-crested tanager
39.	Phoenicothraupis f. fuscicauda	Dusky-tailed Ant. tanager
40.	Mitrospingus cassini	Cassin's tanager

Family Icteridæ, or Troupials (Blackbirds and Orioles.)

41.	Zarhynchus w. wagleri	Wagler's oropendola
42.	Gymnostinops montezuma	Montezuma oropendola
43.	Ostinops decumanus	Crested oropendola
44.	Cacicus vitellinus	Lawrence's cacique
45.	Cacicus microrhynchus	Small-billed cacique
46.	Amblycercus holosericeus	Prevost's cacique
47.	Cassidix oryzivora violea	Rice grackle
48.	Megaquiscalus major macrourus	Great-tailed grackle
49.	*Icterus spurius	Orchard oriole
50.	Icterus giraudii	Giraud's oriole
51.	Icterus mesomelas salvinii	Salvin's oriole
53.	*Icterus galbula	Baltimore oriole
53.	Leistes militaris	Red-breasted blackbird
54.	*Dolichonyx oryzivorus	Bobolink

Family Coerebidæ, or Honey-creepers.

55.	Chlorophanes spiza exsul	Northern green honey-creeper
56.	Cyanerpes cyaneus	Blue honey-creeper
57.	Cyanerpes lucidus isthmicus	Shining honey-creeper

58. Dacnis cayana ultramarina....Ultramarine honey creeper
59. Dacnis venusta........Scarlet-thighed honey-creeper
60. Coereba mexicana......Mexican banana-quit

Family Mniotiltidæ, or Wood Warblers.

61. *Mniotilta varia.......Black and white warbler
62. *Protonotaria citrea....Prothonotary warbler
63. *Helminthophila chrysoptera....Golden-winged warbler
64. *Helminthophila peregrina....Tennessee warbler
65. *Dendroica a. aestiva..Yellow warbler
66. Dendroica erithachorides Panama yellow warbler
67. *Dendroica maculosa...Magnolia warbler
68. *Dendroica coronata.....Myrtle warbler
69. *Dendroica virens......Black-throated green warbler
70. *Dendroica rara........Cerulean warbler
71. *Dendroica blackburniae Blackburnian warbler
72. *Dendroica pensylvanica Chestnut-sided warbler
73. *Dendroica castanea....Bay-breasted warbler
74. *Oporornis formosa....Kentucky warbler
75. *Oporornis philadelphia.Mourning warbler
76. *Oporornis tolmiei......Macgillivray's warbler
77. *Seiurus aurocapillus....Oven-bird
78. *Seiurus motacilla......Louisiana water-thrush
79. *Seiurus n. noveboracensis....Water-thrush
80. *Wilsonia mitrata......Hooded warbler
81. *Wilsonia canadensis...Canadian warbler
82. *Setophaga ruticilla....American redstart
83. Basileuterus rufifrons mesochrysus....Sclater's warbler
84. Basileuterus semicervinus veraguensis....Buff-rumped warbler
85. Rhodinocichla rosea eximia....Panama thrush-warbler

Family Motacillidæ, or Wagtails and Pipits.

86. Anthus parvus.........Panama pipit

Family Hirundinidæ, or Swallows.

87. Progne chalybea chalybea Grey-breasted martin
88. *Petrochelidon lunifrons tachina....Lesser cliff swallow
89. Stelgidopteryx ruficollis uropygialis....Panama rough-winged Swallow
90. Neochelidon tibialis....White-thighed swallow
91. Pygochelidon cyanoleuca Blue-and-white swallow
92. *Riparia riparia........Bank swallow
93. *Hirundo erythrogastra.Barn swallow
94. Iridoprocne albilinea...Mangrove swallow

Family Ampelidæ, or Waxwings.

95. *Ampelis cedrorum.....Cedar waxwing

Family Vireonidæ, or Vireos.

96. Vireosylva f. flavoviridis Yellow-green vireo
97. *Vireosylva olivacea....Red-eyed vireo
98. *Lanivireo flavifrons...Yellow-throated vireo
99. Pachysylvia decurtata..Gray-headed vireo
100. Pachysylvia a. aurantiifrons....Lawrence's vireo
101. Pachysylvia viridiflava..Yellow-green pachysylvia
102. Vireolanius pulchellus viridiceps....Panama shrike-vireo

Family Corvidæ, or Crows and Jays.

103. Cyanocorax affinis zeledoni....Talamanca jay

Family Troglodytidæ, or Wrens.

104. Heleodytes albobrunneus....White-headed cactus wren
105. Pheugopedius fasciataventris albigularis....Panama black-bellied wren
106. Pheugopedius hyperythrus....Tawny-bellied wren
107. Troglodytes musculus inquietus....Panama house wren
108. Henicorhina prostheleuca pittieri....Pittier's wood wren
109. Thryophilus c. castaneus....Bay wren
110. Thryophilus rufalbus castanonotus....Chestnut-backed wren
111. Thryophilus g. galbraithii....Galbraith's wren
111. Thryophilus modestus elutus....Panama wren
113. Microcerculus luscinia..Panama nightingale wren
114. Leucolepis lawrencii....Lawrence's musician wren

Family Sylviidæ, or Warblers.

115. Polioptila s. superciliaris.Lawrence's gnatcatcher

Family Turdidæ, or Thrushes.

116. *Hylocichla ustulata swainsonii..........Olive-backed thrush
117. *Hylocichla f. fuscescens.Wilson's thrush
118. Planesticus obsoletus...Lawrence's thrush
119. Planesticus grayi casius. Bonaparte's thrush

Family Mimidæ, or Mocking Birds.

120. *Galeoscoptes carolinensis................Cat-bird

Family Tyrannidæ, or Flycatchers.

121. Copurus leuconotis.....White-backed copurus
122. Onychorhynchus mexicanus fraterculus....Colombian royal fly-catcher
123. Oncostoma cinereigulare Bent-billed flycatcher
124. Oncostoma olivaceum...Lawrence's bent-billed flycatcher
125. Todirostrum cinereum finitimum...........Northern tody-flycatcher
126. Todirostrum nigriceps...Black-headed tody-fly-catcher
127. Todirostrum schistaceiceps....Slate-headed tody-fly-catcher
128. Atalotriccus p. pilaris...Pygmy fly-catcher
129. Placostomus superciliaris Lawrence's spade-bill
130. Craspedoprion æquinoctialis..............Equinoctial fly-catcher
131. Rhynchocyclus flavo-olivaceus............Yellow-olive fly-catcher
132. Rhynchocyclus marginatus....Yellow-margined fly-catcher
133. Rhynchocylus cinereiceps................Gray-headed fly-catcher
134. Myiopagis placens accola.............Panama placid fly-catcher
135. Tyranniscus vilissimus parvus.............Lesser paltry fly-catcher
136. Camptostoma pusillum flaviventre...........Yellow-bellied camptostoma
137. Sublegatus glaber......Smooth fly-catcher
138. Elaenia martinica subpagana.............Northern elaenia
139. Elaenia c. chiriquensis..Lawrence's fly-catcher
140. Legatus albicollis.......Striped fly-catcher
141. Myiozetetes c. cayanensis.................Cayenne fly-catcher
142. Myiozetetes texensis columbianus...........Colombian fly-catcher
143. Myiozetetes grandensis.Gray-capped fly-catcher
144. Pipromorpha oleaginea parca....Bang's pipromorpha
145. Mionectes o. olivaceus..Olivaceus mionectes
146. Leptopogon pileatus....Brown-capped leptopogon
147. Leptopogon flavovirens. Yellow-green leptopogon (One taken near Panama in 1862.)
148. Capsiempis flaveola....Yellow fly-catcher
149. Cnipodectes subbrunneus................Brown fly-catcher
150. Cnipodectes minor.....Little brown fly-catcher
151. Myiobius barbatus atricaudus....Black-tailed myiobius
152. Myiobius xanthopygus sulphureipygius.......Sulphur-rumped myiobius
153. Terenotriccus erythrurus fulvigularis..........Fulvous-throated fly-catcher
154. *Myiochanes virens....Wood pewee
155. *Myiochanes r. richardsonii....Western wood pewee
156. Myiochanes brachytarsus....Short-legged wood pewee
157. Myiophobus fasciatus furfurosus....Bran-colored fly-catcher
158. *Empidonax flaviventris Yellow-bellied fly-catcher
159. *Empidonax virescens..Acadian fly-catcher
160. *Empidonax t. traillii...Traill's fly-catcher
161. *Empidonax alnorum...Alder fly-catcher
162. *Empidonax minimus..Least fly-catcher
162. *Myiarchus crinitus....Crested fly-catcher
163. *Myiarchus ferox panamensis....Panama fly-catcher
164. Myiarchus nigriceps....Black-crested fly-catcher
165. Myiodynastes luteiventris....Sulphur-bellied fly-catcher
166. Myiodnastes maculatus nobilis Noble fly-catcher
167. Megarynchus pitangua mexicanus....Boat-billed fly-catcher
168. Coryphotriccus albovittatus....White-ringed fly-catcher
169. Pitangus lictor.........Lictor fly-catcher
170. *Tyrannus tyrannus...King-bird
171. Tyrannus melancholicus satrapa.............Lichtenstein's king-bird
172. Tyrannus d. dominicensis....Gray king-bird
173. Muscivora tyrannus....Swallow-tailed fly-catcher

Family Pipridæ, or Manikins.

174. Manacus vitellinus.....Gould's manikin
175. Chiroprion lanceolata..Sharp-tailed manikin
176. Pipra mentalis ignifera..Yellow-thighed manikin
177. Pipra velutina.........Velvety manikin
178. Scotothorus amazonus stenorhynchus........Russet manikin
179. Laniocera rufescens....Rufous manikin

Family Cotingidæ, or Cotingas.

180. Cotinga nattererii......Natterer's cotinga
181. Microtriccus brunneicapillus................Brown-capped tyrannulet
182. Tyrannulus elatus reguloides...............Riker's yellow-crowned tyrannulet
183. Elainopsis gaimardii macilvainii..............Macilvaine's cotinga
184. Attila c. citreopygus....Sclater's cotinga
185. Sirystes albogriseus.....Panama cotinga
186. Lipaugus h. holerythrus.Rufous cotinga
187. Lathria unirufa clara...Panama lathria
188. Pachyrhamphus polychropterus cinereiventris.Gray-bellied becard
189. Pachyrhamphus dorsalis Bogotá becard
190. Pachyrhamphus cinereus Cinereus becard
191. Pachyrhamphus cinnamomeus............Cinnamon becard
192. Platypsaris homochrous.One-colored becard
193. Erator albitorques......Fraser's erator
194. Tityra semifasciata costaricensis............Costa Rican tityra
195. Querula purpurata......Fruit crow

Family Formicariidæ, or Ant-birds.

196. Cymbilaimus lineatus fasciatus............Fasciated ant-shrike
197. Taraba t. transandeana..Holland's ant-shrike
198. Thamnophilus radiatus nigricristatus.........Black-crested ant-shrike
199. Erinotus punctatus atrinucha...............Slaty ant-shrike
200. Myrmotherula surinamensis...............Surinam ant-wren
201. Myrmotherula pygmaea.Pygmy ant-wren
202. Myrmopagis melaena...Black ant-wren
203. Myrmopagis fulviventris................Lawrence's ant-wren
204. Microrhopias boucardi virgata.............Panama ant-wren
205. Ramphocaenus r. rufiventris....Northern long-billed ant-wren
206. Microbates cinereiventris semitorquatus......Half-collared ant-wren
207. Cercomacra nigricans...Black tyrannine ant-bird
208. Cercomacra t. tyrannina Tyrannine ant-bird
209. Gymnocichla n. nudiceps Bare-crowned ant-bird
210. Myrmeciza boucardi panamensis...........White-bellied ant-bird
211. Myrmeciza exsul exsul.Sclater's ant-bird
212. Formicarius moniliger panamensis.........Panama ant-thrush
213. Hylophylax naevioides..Spotted ant-bird
214. Anoplops bicolor.......Bicolored thrush
215. Phaenostictus n. mcleannani................McLeannan's ant-thrush
216. Pittasoma m. michleri..Michler's ant-bird
217. Hylopezus p. perspicillatus..................Lawrence's ant-bird

Family Furnariidæ, or Oven Birds.

218. Sclerurus n. mexicanus.Mexican sclerurus
219. Sclerurus guatemalensis Guatemalan sclerurus
220. Xenops genibarbis mexicanus..............Mexican xenops
221. Synallaxis p. pudica....Slaty synallaxis
222. Automolus p. pallidigularis................Pale-throated automolus

Family Dendrocolaptidæ, or Wood-Hewers.

223. Dendrocolaptes s. sanctithomæ...........Barred wood-hewer
224. Xiphorhynchus l. lachrymosus..............Black-striped wood-hewer
225. Xiphorhynchus n. nanus Lawrence's wood-hewer
226. Xiphorhynchus p. punctigulus...........Spotted-throated wood-hewer
227. Picolaptes l. lineaticeps.Streaked-headed wood-hewer
228. Campylorhamphus venezuelensis...........Venezuelan sickle-bill
229. Deconychura typica....Cherrie's dendro
230. Dendrocincla lafresnayei ridgwayi............Brown dendro

Family Trochilidæ, or Humming-Birds.

231. Phoethornis longirostris cephalus............Nicaraguan hermit
232. Phoethornis adolphi saturatis.................Dusky hermit
233. Glaucis hirsuta affinis..Lesser hairy hermit
234. Threnetes ruckeri......Rucker's hermit
235. Anthoscenus l. longirostris................Long-billed star-throat
236. Phaeochroa c. cuvierii..Cuvier's humming-bird
237. Hylocharis eliciae......Elicia's golden-tail
238. Chalybura buffonii.....Buffon's plumeleteer
239. Amizilis t. tzacatl......Rieffer's humming-bird
240. Saucerottia niveoventer.Snowy-breasted humming-bird
241. Saucerottia edwardi....Wilson's humming-bird
242. Anthracothorax n. nigricollis...............Black-throated humming-bird
243. Damophila panamensis.Panama humming-bird
244. Polyerata amabilis......Lovely humming-bird
245. Thalurania c. colombica.Colombian wood-nymph
246. Lepidopyga cæruleogularis..................Duchassain's humming-bird
247. Chlorostilbon assimilis..Allied emerald
248. Heliothryx barroti......Barrot's fairy
249. Florisuga mellivora.....Jacobin humming-bird
250. Lophornis delattrei.....De Lattre's coquette
251. Popelairia conversii æquatorialis...........Salvin's thorn-tail

CHANGES IN ORGANIZATION.

Atlantic and Fifth Divisions Cease to Exist February 1—Brief Review of Their Activities.

Another important step in the consolidation of the remaining work on the Canal will be taken on February 1, when the Atlantic and Fifth Divisions will be abolished. The Atlantic Division is the last of the three great construction organizations, among which, on July 1, 1908, the Canal work was divided. The Pacific Division, which included all that territory south of the north end of Pedro Miguel Lock, passed out of existence on December 12, 1912, and the Central Division, with a territory extending from Pedro Miguel Lock to Gatun Dam, was abolished on October 10, 1913, the date of the blowing up of the Gamboa dike. When the Atlantic Division was first created, its limits comprehended everything north of Tabernilla, a village in the lake area abandoned with the rise of water. On December 12, 1908, this territory was reduced by the assignment to the Central Division of all territory between Pedro Miguel Lock and the south toe of Gatun Dam. This has been the only change in the boundaries of the three divisions since their creation.

Upon the organization of the Atlantic Division, which was the successor on the Atlantic side of the old Department of Locks and Dams, and Excavation and Dredging, Lieut.-Col. (then Major) William L. Sibert was appointed division engineer, and established his headquarters at Gatun. Maj. Chester Harding was made assistant division engineer, and later, Maj. George M. Hoffman was assigned to the building of Gatun Dam and Spillway, Maj. James P. Jervey to the masonry work of the locks, and Maj. Edgar Jadwin to the dredging operations in the Atlantic entrance, work on the west breakwater, and the sand and stone transportation service between Porto Bello and Nombre de Dios and Gatun Dock. This arrangement continued, with the exception of one or two changes in the working heads, until May 1, 1913, on which date all dredging was consolidated under the Sixth Division.

During the life of the Atlantic Division, and under Lieut.-Col. William L. Sibert, Gatun Locks, Dam, and Spillway were mostly built, although the early preparatory work was partly accomplished under the old Department of Locks and Dams, of which Lieut.-Col. (then Major) Sibert was the Head. The Gatun Dam, which stretches across the lower valley of the former Chagres River for a distance of one and one-half miles, and to a height of 105 feet above mean sealevel, was completed on December 19, 1913. The wet fill, amounting to 10,124,082 cubic yards, was completed in September, 1912; the dry fill amounts to 11,949,069 cubic yards, or a total for the entire dam of 22 073,151 cubic yards. The masonry work at the locks and spillway was practically completed in September, 1913, the remaining portion at the locks consisting principally of small lots here and there, which are placed as the work of the machinery installation is advanced. On October 15, 1913, the remaining concrete work at the locks and spillway was taken over by forces of the First Division, and since that time the activities of the Atlantic Division have been chiefly confined to completing the backfill at the locks, cleaning up around the locks, surfacing the Dam, completing the Gatun-Mindi levee, continuing the work of armoring the west breakwater, and preparatory work on the proposed east breakwater. Within the past few months the Atlantic Division force has been materially reduced; on January 14, 1914, there were 125 gold employes and 1,012 silver employes on its pay roll, as compared with 282 gold employes and 3,000 silver employes as shown by the force report of June 25, 1913.

As announced in the official circular of the Chairman and Chief Engineer of January 20, the breakwater construction and the operation of the Porto Bello quarry in the production of armor rock for the west breakwater, will be continued as a part of Second Division operations, while the remaining work at Gatun Dam, and the dike at Caño saddle, will be under the supervision of the Chairman and Chief Engineer. The west breakwater should be completed about April 15, 1914.

The Fifth Division, which will also be abolished on February 1, was created when the Pacific Division went out of existence on December 12, 1912. The work of the old Pacific Division was divided, the Assistant to the Chief Engineer, Mr. H. H. Rousseau, in charge of the Second Division, assuming the direction of the work at the Pacific terminals, including dry dock, shops, docks, and coaling station. At the same time, Mr. W. G. Comber, resident engineer of the Sixth Division, was charged with dredging operations in the Pacific channel, the operation of the shipways at Balboa, and the Punta Chame sand service. This left Mr. H. O. Cole, resident engineer, who was appointed resident engineer in charge of the newly created division, with the task of completing the construction of Pedro Miguel and Miraflores Locks, the construction of Miraflores Spillway, dry excavation south of Pedro Miguel Lock, the operation of Ancon quarry, the municipal work within the limits of the old Pacific Division, the electrical department, the transportation department, and the division office. When the sluicing plant at Gold Hill was established, its management was also turned over to the Fifth Division. The municipal work of the Fifth Division, and all other divisions, was transferred to the new Division of Municipal Engineering, under Mr. George M. Wells, as resident engineer, on July 16, 1913.

Under the new arrangement, the Gold Hill sluicing plant, and the operation of Ancon quarry, will be directly under the Chairman and Chief Engineer. The present offices of the division at Corozal will probably be abandoned, and the present office force will be transferred as far as possible to other divisions.

Death of Ricardo M. Arango.

Ricardo Manuel Arango, consulting engineer for the Republic of Panama, died at his home in Panama City on Saturday, January 24, after a prolonged illness. He was the son of José Augustin Arango, one of the members of the original junta of separation, who died May 10, 1909, and was graduated as civil engineer from the Rensselaer Polytechnic Institute at Troy, N. Y., in 1887. He then returned to Panama and shortly afterward received an appointment as assistant engineer with the Panama Railroad Company. On September 1, 1904, soon after the Americans took up the work of municipal improvement in the cities of Panama and Colon, he was appointed consulting engineer in the service of the Canal Commission, and on March 1, 1905, he was made assistant engineer. He was promoted to division engineer on June 2, 1905, and upon the organization of the old Bureau (afterward Division) of Meteorology and River Hydraulics on June 14, 1905, he was placed in charge of this department of the work, remaining there until the division was abolished on October 12, 1908. His service with the Canal Commission terminated on November 29, 1908, and within a short time afterward he was appointed Minister Plenipotentiary and Envoy Extraordinary, for the Republic of Panama, to the Court of St. James, a post he was compelled to relinquish about a year later on account of poor health. On his return to Panama, he was appointed consulting engineer for the Panama Government, a position he filled up to the time of his death. He was a member of the American Society of Civil Engineers, the Instituto de Ingenieras de Chile, the Seismological Society of America, and the National Geographical Society. He is survived by his wife, who was Miss Maria Lewis, and five children.

Immigrant Inspector Examination.

An examination is scheduled to be held at Empire, probably on February 22, for immigrant inspector. The supply of announcements received was limited and has been distributed to the clubhouses at Cristobal, Gatun, Empire, Pedro Miguel, Corozal, and Balboa, and the post-offices at Culebra, Paraiso, Miraflores, Ancon, and Balboa; full information may be obtained from the announcement.

Applications should be secured from and filed with this office. Applications will not be received after February 14; this date may be changed if necessary.

The optional subject of stenography and typewriting will be given probably on February 23.

A copy of the immigration and Chinese exclusion laws will be sent to each person whose application is approved.

ISTHMIAN CIVIL SERVICE BOARD.
CULEBRA, C. Z., January 27, 1914.

Meeting of Canal Builders.

A meeting of the Association of the Panama Canal Builders will be held in the Corozal Y. M. C. A., on Friday evening, January 30, 1914, beginning at 8 o'clock sharp.

At this time the question of longevity pay will be discussed, with the view of ascertaining the attitude of as many individuals as possible. After the meeting, a representative committee will be appointed to furnish information and to advise the association in its endeavor to secure back longevity pay for all gold employes.

The question of changing the style of the certificate will be taken up also.

All gold employes, whether members of the association, or not, are requested to be present at this meeting, if they are interested and desire to attend.

FRANK T. HAMLIN,
Secretary-Treasurer.
COROZAL, C. Z., January 28, 1914.

Will the lady who took a mandarin coat by mistake, from the ladies' dressing room, at the Tivoli dance, on the evening of January 24, please communicate with E. S. Van Brunt, Culebra, C. Z.

GATUN CABLEWAYS.

Two Remaining Strands Being Removed to Prevent Obstruction to Vessels.

After the practical completion of Gatun Locks, three of the four duplex cableways extending over the locks, which had been used for handling most of the concrete and other material placed in the lock walls and floors, were taken down. The fourth, which was the upper set, was left intact for the transportation of material to the west side of the locks after the removal of rail connections on September 2. There being no further need of the cableways, and as they would interfere with the passage through the locks of vessels having masts extending more than 71 feet above the water level, the two remaining strands are now being removed. The work of taking them down began on January 26. No instructions have been given to dismantle the 85-foot operating and tail towers, situated on the backfills, between which the strands were supported. The one single and two duplex cableways used for unloading material west of the locks, are left in place; there is no present occasion for their removal, though they have about finished the reclamation of surplus rock and sand from the lock storage piles for use at the spillway mixing plant.

The cableways of Gatun, over the locks and on the west side, were furnished by the Lidgerwood Manufacturing Company of New York for $309,000, under a contract let in August, 1908. The first of the strands over the locks was placed in service in April, 1909. Each strand was 2½ inches in diameter, extended a distance of 800 feet between towers, with an operating length of 670 feet, with greatest vertical lift of 170 feet, and capacity of handling not less than six tons at a time in at least 20 trips an hour over the full operating length.

◆

Panama Pinball.

A new game has been originated by H. Darnell Brittin, physical director of the Cristobal Y. M. C. A., which has been given the name of "Panama Pinball." The game is suitable for the playground or the gymnasium; and requires two teams, each team composed of eight players. It has been introduced in the boys' gymnasium class of the Cristobal clubhouse, and is played in the public schools at Winnetka, Ill. The rules of the game, with accompanying diagram, are, as follows:

Each team consists of two pin forwards, one pin guard, one center, two forwards, and two guards. (See diagram for positions of players).

Object—To knock over opponent's ten pin or Indian club with basketball.

Rules—A. A. U. basketball rules will govern, with the following added:

Pin forwards and pin guards are not allowed to step over the lines of their respective boxes. The pin guard is not allowed to step inside the pin circle. The forwards and center are not allowed to step over the 8-foot mark. Stepping over a line by any player constitutes a foul.

The pin forwards are the only players eligible to knock over the opponent's pin or Indian club. A try for a pin goal by another player constitutes a foul.

A pin or Indian club knocked over by a pin guard (either with ball or person) counts two points for the opposing team. Play is resumed at center by the referee after this offence.

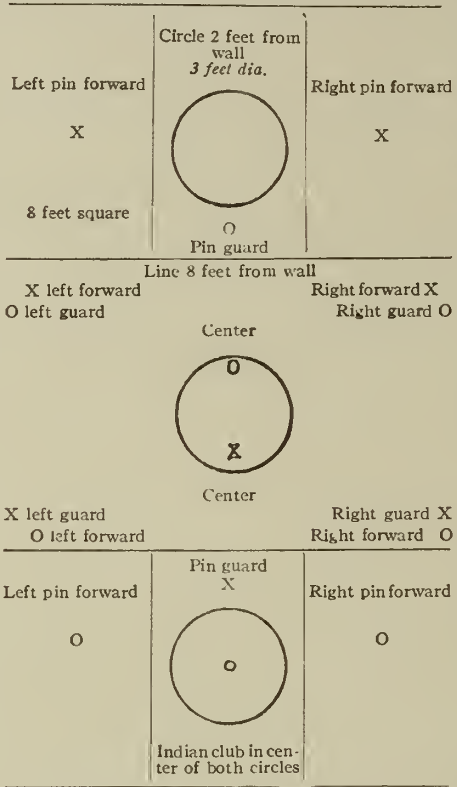
The pin forward is allowed to hold the ball but three seconds. (The referee can count three slowly). He can try for a pin goal, can pass the ball to the other pin forward, or pass the ball to one of his team mates in the playing field.

But three consecutive passes are allowed between the pin forwards (example, R. P. F. to L. P. F.—1—L. P. F. to R. P. F.—2—R. P. F. to L. P. F.—3). The pin forward must then make a try for a pin goal, or pass the ball to one of his team mates in the playing field. Any infringement of the above constitutes a foul.

A goal can be made by "Back-boarding" *i. e.*, hitting the wall with the ball so that it rebounds against the pin or Indian club.

A goal counts two points.

When a foul is committed, a try is made from center, by rolling the ball in an endeavor to knock the pin or Indian club over. If successful, one point is scored, if a miss, play goes on as usual. The ball must not be interfered with when trying for a foul. If the pin or Indian club is knocked down by the ball rebounding from the wall it does not count and play is resumed at center by the referee.



Time of halves, 10 or 15 minutes.

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Obituary.

George Edward Arthur, the son of Mr. Allan Arthur, died at his home at Paraiso on January 18, 1914. He was six years of age, and had been on the Isthmus since his birth.

Mrs. Clinton McPherson, the wife of Clinton McPherson, living at Pedro Miguel, died in Ancon Hospital on January 23, 1914. She was 43 years of age, and had been on the Isthmus six years.

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Miscellaneous Notes.

House No. 74 at Ancon, situated near the fire station, has been entirely turned over to the bachelor women employes. Formerly, the upper floor only was thus occupied, a family having the lower part. An increase in the number of bachelor women employes at the Pacific end has made this arrangement necessary. House No. 105 had been used recently to accommodate those who could not be housed at No. 74.

Mr. H. S. Whiting has been employed by the Canal Commission as illuminating engineer, and will have charge of the designs for all interior and exterior illuminating in the permanent buildings, as well as public lighting arrangements at the permanent townsites.

The tug *La Boca*, which had been in dry dock at Cristobal for a few days, was locked up again into the lake on Sunday, January 25. The tug *Gatun*, used in the Culebra Cut dredging service, was locked down on the same day, and has been placed in dry dock for minor repairs.

Lieut.-Col. Chas. F. Mason, Mr. H. A. A. Smith, and Mr. C. A. McIlvaine, have been appointed members of the Corozal Farm Board, with Lieutenant-Colonel Mason as chairman. The board will have charge of all matters relative to the operation of the farm.

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Improved Order of Red Men.

All Red Men are cordially invited to be present at Ancon Hall on the thirty-first sleep of cold moon. Corn and venison.

R. H. HULL, *Chief of Records.*

PARAISO, C. Z., January 23, 1914.

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I. B. of S. S. and D. M.

The regular meeting of Local No. 19, International Brotherhood of Steamshovel and Dredge Men, will be held in Ancon lodge hall on Sunday, February 1, at 1.30 p. m. All members are requested to attend.

◆

Order of Isthmian Conductors.

There will be a regular meeting of the Order of Isthmian Conductors at Ancon lodge hall on Sunday, February 1, at 9.30 a. m. All members are urgently requested to be present as matters of importance will be brought before the meeting. GEO. B. ALLEN, *Secretary.*

COROZAL, C. Z., January 24, 1914.

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Monitors Cutting into Cucaracha Slide.

The two hydraulic monitors which have been excavating earth and rock from the southeast slope of Gold Hill, in rear of Cucaracha slide, have advanced to the edge of the slide and will soon be sluicing material, now involved in the slide, back into the valley toward which Gold Hill slopes on the east. The men at the monitor nearest Gold Hill are working directly beside the sheer drop which marks the present outer edge of the break, and when they have cut through a narrow section will be in the slide and able to wash away to the rear a considerable portion of it. In order to go in as low as possible, the monitors began their advance at elevation 425 feet above sealevel, which is about 160 feet below the rims of the saddles through which they are cutting. They uncovered on the way heavy masses of rock, which will have to be broken up partly by blasting, in order to make channels for the flumes. Drilling for this purpose is now in progress. The rock masses are so large and of such firm material that it is believed they mark a definite outer limit to the breaking back of the slide, at the points where they occur.

Two other monitors operated by the Gold Hill sluicing plant are removing material from the top of the east Culebra slide, and loose earth on the northeast slope of Gold Hill, which has lately become involved in the slide. The plant began operations on June 17, 1913, and, therefore, has been in use for over seven months. Up to January 1, it excavated 732,074 cubic yards of material, and since that time has removed about 100,000 cubic yards more, making an aggregate of about 832,074 cubic yards, of which approximately 40 per cent has been rock.

OFFICIAL CIRCULARS.

Acting Chairman, Board of Local Inspectors.

CULEBRA, C. Z., January 23, 1914.

CIRCULAR No. 522:

Capt Hugh Rodman, U. S. N., will act as chairman of the Board of Local Inspectors during the absence, on leave, of Lieut.-Col. Wm. V. Judson, U. S. A., effective this date.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Observance of Regulations Regarding Timekeeping and Requests for Coupon Books.

CULEBRA, C. Z., January 22, 1914.

CIRCULAR No. 521:

Some of our foremen, part of whose duty it is to keep time for the men under their orders and to see that the men are supplied with coupon books in accordance with the regulations, do not appear to have a proper sense of responsibility regarding these duties.

Each man who enters time in a time book must make it his personal concern to see that the time book is in his hands early in the morning and that it is forwarded to the time office promptly at the close of business. If he does not receive his time book promptly in the morning, he must take immediate steps to find out where it is and get it.

Foremen will also make it their business to see that the men under their charge comply with the regulations regarding requests for coupon books, which are pasted in each time book. Requests must be forwarded as promptly as the regulations permit.

Hereafter, a written reprimand will be placed on the record of any employe who neglects his duty in the above respects, and these reprimands will constitute sufficient reason for selecting the employe for discharge when the force is reduced or reorganized.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Surveys for Retired Equipment.

CULEBRA, C. Z., January 24, 1914.

TO ACCOUNTABLE OFFICERS:

The question of retiring locomotives from service has caused considerable confusion recently on account of the failure of accountable officers to put through the necessary survey papers.

Traveling Engineer Craig has been instructed to give this matter attention, and I have authorized him to instruct accountable officers to submit surveys for such equipment as in his opinion should be retired from service. Please be governed accordingly.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Invoicing of Charges for Locomotive Service.

CULEBRA, C. Z., January 23, 1914.

CIRCULAR No. 169–Q:

Effective January 1, 1914, locomotive service furnished by the transportation division of the Chief Engineer's office will be invoiced against various departments and divisions of the Commission, including the Government of the Canal Zone, at the actual cost of the service for the month as ascertained by the cost sheets.

No change will be made in the rates for engine service furnished the Panama railroad and individuals and companies, nor in the rates for engine service furnished by the Atlantic Division.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

List of Nonexpendable Property.

CULEBRA, C. Z., January 21, 1914.

ALL ACCOUNTABLE OFFICERS:

It is contemplated that a standard list of nonexpendable property will be published in the near future, and, in order to compile such a list it is respectfully requested that you have your property clerks go over their property returns and prepare a list of what should be classed as nonexpendable property, you to forward this list to this office with such comments and recommendations as you may desire to make.

This list should be prepared in alphabetical order, on paper 8½ by 10½ inches, in double space typewriting, two columns to a sheet. It is further requested that lists be submitted to this office on or before January 31, 1914.

By direction of the Chairman.

C. A. MCILVAINE,
Chief Clerk.

Derail at Cucaracha Spur.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
Colon, R. P., January 13, 1914.

G. S. BULLETIN No. 37:

All concerned.—A derail pipe connected to the switch stand will be installed at Cucaracha spur, or what is sometimes called the Chicago House Wrecking Company's spur, about one mile north of Bridge 57½, and put in service at 5 p. m., Wednesday, January 14, 1914.

F. MEARS,
General Superintendent.

Installation of Derails, P. R. R.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT.
COLON, R. P., January 26, 1914.

G. S. BULLETIN No. 42:

All concerned—Two derails, both of which are pipe-connected to the switch stand will be installed and placed in service 12 o'clock noon Wednesday, January 28, 1914, on the incline track leading to the settling plant at North Cabin. The main line switch stand must be thrown for the turnout, in order that a train may enter the main track from either of these two tracks.

F. MEARS,
General Superintendent.

Notice to Water Users, Colon and Cristobal.

GATUN, C. Z., January 27, 1914.

Water will be shut off from Colon and Cristobal on Sunday, February 1, from 7 a. m., until 2 p. m., on account of change in installation of Venturi meter.

GEO. M. WELLS, *Resident Engineer,*
In charge of Division of Municipal Engineering.

Supplies for the Canal.

The following steamers with supplies for the Isthmian Canal Commission and Panama Railroad Company arrived at the ports of Colon and Cristobal during the week ending January 24:

Advance, January 19, from New York, with 474 crates roofing tile, 90 crates roofing tile, 38 cases woodwork, 18 cases window glass, for Administration Building, Balboa; 192 pieces sewer pipe, for Division of Municipal Engineering; 157 bundles reinforcing steel, four cases electrical machinery, 31 reels cable for First Division; 39 packages structural material, for fortifications; 10 spring frogs, for Panama railroad; 10 boxes malleable iron, seven reels cable, for Mechanical Division 45 kegs horseshoes, 12 cases rubber packing, 47 barrels coal tar, 20 cases putty, 20 barrels soda ash, 20 cases stationery, 14 barrels salt, 17 packages air brake material, 721 steel plates, for stock, and a miscellaneous cargo, the whole consisting of 2,190 packages, weighing 368 tons.

Emil Boas, January 19, from New York, with 32 kegs bolts and nuts, for First Division; 352 steel rods and turnbuckles, for Second Division; seven reels cable, for Panama railroad; one case electrical material, for Mechanical Division; 200 cases soap polish, 22 kegs machine bolts, for stock.

Almirante, January 21, from New York, with 16 cases castings, 37 cases electrical machinery, 33 reels cable, 42 boxes structural material, 98 packages structural material, for First Division; two reels cable, for Mechanical Division; 20 pieces steel plates, for Sixth Division; 20 cases varnish, nine packages plumbing material, 62 steel angles, for stock.

Abangarez, January 22, from New Orleans, with 32 pieces plumbing fittings, for Division of Municipal Engineering; 182 pieces oak lumber, for Atlantic Division; 63 pieces oak lumber, for stock.

Cartago, January 23, from New Orleans, with one box brass valves, 84 bales cotton waste, for stock.

Calamarez, January 24, from New York, with 39 cases electrical machinery, three reels cable, for First Division; three reels cable, five reels cable, 17 packages electrical material, for Mechanical Division; 24 packages structural material, for fortifications; 99 bundles shovels, for stock.

Rainfall, Jan. 1 to Jan. 24, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	.22	2	.32
Balboa	.20	2	.30
*Miraflores	.05	18	.05
Pedro Miguel	.11	10	.19
Rio Grande	.16	18	.23
Central Section—			
Culebra	.18	18	.25
*Camacho	.30	18	.46
Empire	.22	18	.34
Gamboa	.21	18	.54
*Juan Mina	.10	16	.43
Alhajuela	.03	14	.09
*El Vigia	.10	18	.28
Frijoles	.41	16	.69
*Monte Lirio	2.10	16	2.63
Atlantic Section—			
Gatun	.33	16	1 04
*Brazos Brook	.18	16	.85
Colon	.42	16	1.17
†Porto Bello	.41	18	1.86

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight.

†To 5 p. m., January 23.

Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun and Miraflores Lakes for the week ending midnight, Saturday, January 24, 1914. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.					
	Vigia.	Alhajuela	Gamboa	Frijoles	Gatun Lake*	Miraflores Lake
Sun., Jan. 18	126.4	92.9	84.6	84 6	84 6	50.9
Mon., Jan. 19	126.2	92.8	84.6	84.6	84.7	50.9
Tues., Jan. 20	125.8	92.4	84.7	84.7	84.7	51.1
Wed., Jan. 21	125.8	92.3	84.7	84.7	84.7	51.1
Thurs., Jan. 22	125.7	92.2	84.7	84.7	84.7	51.1
Fri., Jan. 23	125 6	92 1	84.7	84.7	84.7	51 1
Sat., Jan. 24	125.6	92 0	84.7	84.8	84.8	50.8
Height of low water, nearest ft.	125 0	91.0				

*Sluice gates in spillway at Gatun were closed on June 27, 1913, with surface of lake at elevation 48.25 feet above sealevel.

LOST—Gold hunting case watch, monogram R. E. W. Reward, if returned to Capt. R. E. Wood, Culebra.

LOST—Part of a watch fob with charm bearing the initials "M. J," in Panama, on January 17. A reward is offered for its return to Mr. M. P. Jasmer, Balboa.

CLASSIFIED EXPENDITURES—ISTHMIAN CANAL COMMISSION.

A statement of classified expenditures of the Isthmian Canal Commission to November 30, 1913, follows:

PERIODS.	Department of Civil Administration.	Department of Law.	Department of Sanitation.	Department of Construction and Engineering	General Items.	Fortifications.	Total.
Total to June 30, 1909	3,427,090.29	....	9,673,539.28	69,622,561.42	78,022,606.10	....	160,745,797 09
Total—Fiscal year, 1910	709,351.37	....	1,803,040.95	26,300,167.05	2,863,088.83	....	31,675,648.20
Total—Fiscal year, 1911	755,079.44	....	1,717,792.62	27,477,776.19	3,097,959.72	....	33,048,607 97
Total—Fiscal year, 1912	820,398.57	24,729.16	1,620,391.12	28,897,738.10	2,819,926.53	1,212,881.66	35,396,065.14
Total—Fiscal year, 1913	681,389.06	20,253.11	1,435,400.96	33,017,852.99	1,063,322.52	1,901,475.86	38,119,694.50
July, 1913	61,472.81	1,597.91	121,487.47	2,138,540.39	237,534.13	131,333.71	2,691,966.42
August, 1913	57,950.95	1,469.10	112,802.29	2,299,554.75	244,860.32	150,364.19	2,867,001.60
September, 1913	63,469.40	1,835.57	106,731.16	2,276,467.78	242,779.94	149,735.89	2,841,019.74
October, 1913	66,063.85	1,502.47	107,280.12	2,154,953.40	413,883.08	147,589.32	2,891,272.24
November, 1913	58,728.48	1,387.60	85,696.96	1,774,974.81	160,575.73	113,307.35	2,194,670.93
Grand total	6,700,994 22	52,774.92	16,784,162.93	195,960,586.88	89,166,536.90	3,806,687.98	312,471,743.83

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The moving picture schedule for the week February 2 to 7 is, as follows; Monday, Empire; Tuesday, Corozal and Balboa; Wednesday, Gatun; Thurdsay, Culebra; Friday, Pedro Miguel; Saturday, Cristobal.

COROZAL.

High scores in bowling for the past week were, as follows: Ruggles, 101; Ragan, 107, 100; Beall, 101, 100; Parkis, 108, 119, 100, 115; Taylor, 104; Sims, 109, 100; Smith, 115; Safferstein, 100; Davis, 105.

About 300 hundred people were present to see the moving pictures on Saturday, January 24, when a 2-reel feature "The millionaire cowboy" was shown. Miss Lindley, accompanied by Miss Otis, sang two solos.

Moving picture dates have been exchanged with Pedro Miguel for this week—Corozal, Wednesday; Pedro Miguel, Friday.

CULEBRA.

One hundred and fifty men attended the "Smoker" on Friday night, January 23. The following program was given: Selection by Davis' orchestra; moving pictures, "How Fatty made good;" black face and comedy act by Emery and Shubert; selections by the Culebra tropical instrumental tribulation trio, composed of Messrs. Ramsey, Sullivan, and De La Mater; "Every little bit added" sung in concert; moving picture, "The skull;" solo by Mr. Cantor; fancy dancing by Mr. Brittin; song "Peg 'my heart," sung in concert; singing act by Mr. Schaeffer; fencing exhibition by Messrs. Brittin and Cantor; song "When it's apple blossom time in Normandy," sung in concert; moving picture "The landlord and his family;" popular songs by Shubert; "The trail of the lonesome pine," sung in concert. The pianist for the evening was Mr. C. C. Pearsall. Ham and cheese sandwiches, home made cake, coffee, and cigars were served.

The following scores were bowled during the week: Perkins, 103; Schmeck, 105, 102, 103, 104; Case, 101, 103; Hansli, 101, 100; Chadbourne, 101; Davis, 112, 103, 123; Koperski, 102; Jefferies, 110; Kiernan, 115, 107.

A set of Baltimore rubber band duckpins and balls have been added to the bowling alley equipment. A local tournament will be begun, and all are invited to get into practice.

EMPIRE.

Mr. Smith of Empire, who is representing the Empire clubhouse in the Isthmian chess tournament, has won five games and lost but one; he has now two more games to play. On Wednesday, January 21, he played Mr. DuBois of Cristobal and won both games, and on Saturday, January 24, he played Mr. DuBois of the Culebra club, and won both games. Mr. Smith will play Mr. Logan of Gatun on Saturday, January 31, at Empire.

All those having games to bowl in the "Ragtime" tournament are requested to do so as soon as possible, as it is desired to finish the tournament this month. The five high average men are: Sims, 94-6; Potter, 93-19; Gustaveson, 92-15; Barrett, 92; King, 91-18.

GATUN.

The regular men's gymnasium classes were held on Monday and Friday evenings.

The band from the *U. S. S. Minnesota* gave a concert at the clubhouse on Tuesday evening, January 20. After the regular concert, an informal program was given by the band, and several local artists, in the reading room.

A boys' informal Salamagundi pool tournament was held on Saturday, January 24. The tournament was won by Franklin Sisson, with Paul Hansen second, and Essex Griffith, third.

Mr. C. C. Pearsall accompanied the glee club at its rehearsal on Thurdsay evening.

A gymnasium class for schoolgirls over 13 years of age will be formed during the coming week. The class will meet on Tuesday afternoons from 3.30 to 4.45.

In the chess tournament, C. R. Logan of Gatun took two games from Mr. Fields of Corozal on Saturday evening, January 24.

A first aid class for boys was organized last week, with 14 members. Permission has been requested from the American Red Cross for holding examinations for first aid certificates.

CRISTOBAL.

The simultaneous checker match between Mr. F. L. Bernsee and all comers on Saturday night, January 24, proved interesting. Twenty-two men participated in the match, which resulted in Mr. Bernsee winning 66 games; he lost two and had four draws. Messrs. Herrington and Hodgson each won a game, and Messrs. Rattiner, Carter, Hersher, and Larson furnished the draws.

A picked team from the battleship *Minnesota* played the Cristobal team at basketball on Monday night, January 19. By a strong rally in the second half, the sailor boys defeated Cristobal 28 to 22.

A new gymnasium class to reach the men 25 years of age, and over, will be started on Friday night, January 30. The middle aged men are especially urged to join this class.

Poles have been erected in the lot adjoining the association building and volleyball games after working hours until dusk will be in order during the pleasant evenings of the dry season. The members of the boys' department have been playing indoor baseball out of doors for a number of weeks. A league is planned.

Captain John C. McArthur of the Tenth Infantry at Camp Otis will address the discussion club on Thursday, February 5; subject, "Our standing Army."

COMMISSARY DEPARTMENT.

The commissary stores are open during the following hours:

Cristobal, 8 a. m. to 12.30 p. m., and 2 to 7 p. m.
Balboa, 8 a. m. to 12.30 p. m., and 2.30 to 7. p. m.
Ancon, 8 a. m. to 1 p. m., and 3 to 6 p. m,
All others, 8 a. m. to 1 p. m., and 3 to 7 p. m.

Commissary Cold Storage.

No changes are reported in the list of cold storage supplies sold at the commissaries published in THE CANAL RECORD of January 21.

Misdirected Letters.

OFFICE OF THE DIRECTOR OF POSTS,
ANCON, C. Z., January 28, 1914.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressees:

Aspign, William
Balling, G. A.
Bartow, Rev. Howard Key
Barzey, Thos. H.
Baxter, Bernard, (2 pkgs.)
Boyd, Dr. Jorge E.
Bradshaw, Patrick J.
Cahallero, Don Celso
Cameron, Frank F., (pkg.)
Campbell, J. R.
Clark, Samuel C. E.
Conlon, Charles
Cottington, Harry
Dabney, Frank, (special)
Davis, Samuel
Dobson, Gilhert C.
Donnell, Murray C.
Dougherty, Bruce T.
Dyer, Miss A.
Eamus, C. S.
Embree, Mr. and Mrs. C. J.
Fay, A. E.
Feltman, R.
Fisher, Mr. and Mrs. A. W.
Hartsvough, G. H.
Hawkins, Lear M.
Hicocks, Mrs. Maud A.
Hull, Miss Corina
Hurst, Mrs. J. W.
Jack, Thomas H.
Jones, Wm. H.
King, Ben
Klamens,. Mrs. Wm. F., (2)
Krugel, J. H.
Kummess, Adolph P.
Lee, Jonas
Lyons, Sam
McHone, Charles L.
Nelson, Henry, (2)
O'Leary, Joseph
Rawson, Mr. and Mrs. Frank
Riley, Jos.
Ryan, Mrs. Mary
Slovels, Daniel
Sylvester, J. L.
Thomas, G. H.
Van Ness, Albert
Williams, J. A.
Willshire, Alva
Wood, Allison (parcel)
Woods, Moses
Yale, Mr. and Mrs. Arthur
Zimmer, Catherine (parcel)

LETTERS UNCALLED FOR JANUARY 20, 1914.

Foot, Leonard (parcel)
Hansen, Niels Ch.
Hinzman, Dr. Woodford (parcel)
Hutchinson, Miss Lena
Krushy, Paul
Moore, Mrs. Frank (pkg.)
Perry, W. S., (parcel)
Pinnock, A.
Reeves, J. W.
Reinhold, E. M., (package)
Reiter, Joseph
Weber, R. T.
Wood, C. E.
Panama American Corp.

Sale of Doors, Sash, Blinds, Etc.

OFFICE OF DEPOT QUARTERMASTER,
MOUNT HOPE, C. Z., January 19, 1914.

Sealed proposals will be received at the office of the Depot Quartermaster, Mount Hope, until 2 p. m. February 7, 1914, when they will be opened in the presence of attending bidders, for the purchase of all doors, blinds, sash, screens, window casings, frames, banisters, etc., which are now stored at the Cristobal shop stores.

Detailed list and full information relative thereto can be procured upon application to this office.

Proposals must be accompanied by a guarantee for 25 per cent of amount bid. The right is reserved to reject any or all bids. Bids must be plainly marked "Proposals for the purchase of doors, sash, blinds, etc., to be opened February 7, 1914", and addressed to

C. H. MANN,
Depot Quartermaster.

LOST—On Wednesday morning, January 21, between Ancon and Panama, a silver lorgnette, monogrammed, "J. M. B.," on long silver chain. Reward for return to Miss Beattie, office of THE CANAL RECORD.

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

		Sails.	*Arrives*
NEW YORK TO CRISTOBAL.			
*Allianca	P. R. R.	Jan. 24	Jan. 30
*Colon	P. R. R.	Jan. 30	Feb. 5
*Advance	P. R. R.	Feb. 5	Feb. 12
*Panama	P. R. R.	Feb. 11	Feb. 17
*Allianca	P. R. R.	Feb. 18	Feb. 24
*Colon	P. R. R.	Feb. 24	Mar. 2
*Advance	P. R. R.	Mar. 2	Mar. 9
*Panama	P. R. R.	Mar. 9	Mar. 15
CRISTOBAL TO NEW YORK.			
†Panama	P. R. R.	Jan. 30	Feb. 5
†Allianca	P. R. R.	Feb. 5	Feb. 11
†Colon	P. R. R.	Feb. 11	Feb. 17
†Advance	P. R. R.	Feb. 17	Feb. 24
†Panama	P. R. R.	Feb. 24	Mar. 2
†Allianca	P. R. R.	Mar. 2	Mar. 8
†Colon	P. R. R.	Mar. 8	Mar. 14
†Advance	P. R. R.	Mar. 14	Mar. 21
NEW YORK TO COLON.			
*Santa Marta	U. F. C.	Jan. 21	Jan. 28
*Carl Schurz	H.-A.	Jan. 24	Feb. 2
*Pastores	U. F. C.	Jan. 24	Jan. 31
*Metapan	U. F. C.	Jan. 28	Feb. 4
*Prinz Aug. Wilhelm	H.-A.	Jan. 31	Feb. 9
*Tenadores	U. F. C.	Jan. 31	Feb. 7
*Oruba	R. M.	Jan. 31	Feb. 9
*Zacapa	U. F. C.	Feb. 4	Feb. 11
*Emil L. Boas	H.-A.	Feb. 7	Feb. 16
*Calamares	U. F. C.	Feb. 7	Feb. 14
Almirante	U. F. C.	Feb. 11	Feb. 18
*Pastores	U. F. C.	Feb. 14	Feb. 21
*Trent	R. M.	Feb. 14	Feb. 23
*Prinz Joachim	H.-A.	Feb. 14	Feb. 23
Santa Marta	U. F. C.	Feb. 18	Feb. 25
*Tenadores	U. F. C.	Feb. 21	Feb. 28
COLON TO NEW YORK.			
Almirante	U. F. C.	Jan. 29	Feb. 5
Pastores	U. F. C.	Feb. 1	Feb. 11
Trent	R. M.	Feb. 3	Feb. 11
Prinz Joachim	H.-A.	Feb. 3	Feb. 11
Santa Marta	U. F. C.	Feb. 5	Feb. 12
Tenadores	U. F. C.	Feb. 8	Feb. 18
Carl Schurz	H.-A.	Feb. 10	Feb. 17
Metapan	U. F. C.	Feb. 12	Feb. 19
Calamares	U. F. C.	Feb. 15	Feb. 25
Orotava	R. M.	Feb. 17	Feb. 25
Prinz Aug. Wilhelm	H.-A.	Feb. 17	Feb. 25
Zacapa	U. F. C.	Feb. 19	Feb. 26
Pastores	U. F. C.	Feb. 22	Mar. 4
Emil L. Boas	H.-A.	Feb. 24	Mar. 3
Almirante	U. F. C.	Feb. 26	Mar. 5
Tenadores	U. F. C.	Mar. 1	Mar. 11
Prince Joachim	H.-A.	Mar. 3	Mar. 11
Danube	R. M.	Mar. 3	Mar. 11
NEW ORLEANS TO COLON.			
*Atenas	U. F. C.	Jan. 24	Jan. 29
*Turrialba	U. F. C.	Jan. 31	Feb. 5
*Cartago	U. F. C.	Feb. 4	Feb. 9
Abangarez	U. F. C.	Feb. 7	Feb. 16
COLON TO NEW ORLEANS.			
†Abangarez	U. F. C.	Jan. 29	Feb. 3
‡Heredia	U. F. C.	Jan. 31	Feb. 5
‡Atenas	U. F. C.	Feb. 5	Feb. 10
‡Cartago	U. F. C.	Feb. 7	Feb. 13
BOSTON TO COLON.			
Tivives	U. F. C.	Jan. 22	Jan. 30
Sixaola	U F. C.	Jan. 26	Feb. 6
COLON TO BOSTON.			
Tivives	U. F. C.	Feb. 1	Feb. 9
Sixaola	U. F. C.	Feb. 8	Feb. 16

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 2 p. m.; for Southampton, on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays and Saturdays at 3 p. m.: ships for New York via Kingston, on Thursdays at 2 p. m.; for New York, via Limon and Havana, on Sundays at 5 p. m.; for Limon and Bocas del Toro, on Tuesdays at 3 p. m.; for Bocas del Toro direct, on Mondays at 5 p. m; and for Boston, on Sundays at 3 p. m.

Hamburg-American steamers saill for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays; the *Prinz August Wilhelm* and *Prinz Joachim* at 10 a. m.; the *Carl Schurz* and the *Emil L. Boas* at 2 p. m.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, FEBRUARY 4, 1914. No. 24.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Gatun Lake Attains Elevation 85 Feet—Spillway Gates Opened.

The surface of Gatun Lake reached an elevation of 85 feet above sealevel, at Gatun, at 9 a. m., on Tuesday, February 3, and at 9.30 a. m. of that day the opening of seven gates at the spillway was begun. Seven, or one-half the total number of gates, were opened for test of the remote control system, operated from a switchboard at the south end of the hydroelectric station. Two gates will be left open during working hours each day until the surface of the lake is lowered to approximately 84.3 feet above sealevel. It is estimated that the gates will be opened during three or four successive days.

Eighty-five feet is the maximum elevation attained to date by the lake surface, the highest prior mark having been made at elevation 84.76 feet, on December 27, 1913. The gates were opened on that date, to lower the surface to about 84 feet above sealevel.

Completing the Voyage Around South America.

The tug *Reliance* was passed through Gatun Locks to the Atlantic entrance on Sunday, February 1, for repairs at the Cristobal dry dock. The *Reliance* sailed from Colon for Balboa, via the Strait of Magellan, on February 11, 1912, and completed the 10,500-mile journey in 126 days, arriving in Panama Bay on June 17, 1912. It was transferred from the Pacific entrance to Culebra Cut on December 2, 1913, and passed Cucaracha slide on December 14. Captain R. C. Thompson has been in command of the *Reliance* prior to and since its departure from Colon, and is thus the first commanding officer to sail a vessel around the continent of South America via the Canal. His chief engineer, Mr. L. Lamont, is the only other member of the present ship's company who has been with the *Reliance* throughout the voyage.

The tug *Cocoli*, which had been undergoing repairs at the dry dock, was raised to Gatun Lake on Sunday. This vessel was formerly engaged in the Pacific entrance; was raised to Culebra Cut with the *Reliance*, and was transferred to the Atlantic entrance, for repairs, on January 29. Its chief engineer, Mr. William Stone, was on the *Reliance* during its voyage from Colon to Balboa, via the Strait of Magellan, and is thus the first man to have completed the journey around the continent by water.

The *Cocoli* had in tow, on its passage to Gatun Lake on Sunday, two new 1,000-cubic yard steel dump barges, which arrived at Colon on January 30, in tow of the Merritt and Chapman Derrick and Wrecking Company's tug *Rescue*. These barges are part of an order for six from the Maryland Steel Company. Two others had previously arrived, and two are yet to come.

Employes to be Allowed to Spend Leave at Taboga.

When the permanent conditions of employment go into force, it has been planned to permit the taking of leave on the Isthmus and in periods of any length of time convenient to the employe and his superior. This will permit employes to spend whatever time they can get off, at Taboga, if they so desire.

The Chairman has stated that there is no objection now to employes taking a week or two off if they can be spared, without pay, to go to Taboga. With the rules in effect at present relative to accumulated leave, the time off spent at Taboga will not deprive employes of any pay for accumulated leave which would be granted them on termination of service, except that no additional leave is earned while on leave without pay.

No Further Assignments to Gold Married Quarters at Empire and Culebra.

Instructions were issued to the district quartermasters at Empire and Culebra from the office of the Chief Quartermaster, on Tuesday, January 27, to discontinue making further assignments to gold married quarters in those villages as of that date. The number of applications on file in the offices of the district quartermasters at Empire and Culebra on January 27 were, as follows: Empire, No. 1 list, one; No. 2 list, 72; total, 73. Culebra, No. 1 list, one; No. 2 list, 42; total, 43.

Following the receipt of the above instructions by the district quartermasters, notices were sent out to the various applicants advising them of the decision, and requesting information as to the disposition they wished made of their applications. At the present time assignments to gold married quarters are made only at Ancon, Balboa, Corozal, Pedro Miguel, Paraiso, Gatun, Cristobal, Porto Bello, and Toro Point. It is probable that the quarry at Porto Bello will be closed down with the completion of the armoring of the west breakwater, in which case the American settlement there will likely be abandoned.

The work of dismantling family quarters at Empire and Culebra has begun, and will be prosecuted steadily, as it is now expected to abandon these two villages by July 1, or as soon thereafter as possible. One Type-4 two-family house at Culebra was torn down last week, and two other Type-4 houses in the same row are to be removed. At Empire, the carpenters of the Quartermaster's Department are taking down a Type-10 one-family house, and will shortly begin the dismantling of the quarters formerly occupied by Mr. A. S. Zinn. All of the above buildings will be reerected at Balboa.

Nomination of Colonel Goethals Sent to the Senate.

President Wilson sent the nomination of Col. Geo. W. Goethals, as first governor of the Panama Canal, to the Senate, on Thursday, January 29.

Rent of Silver Married Quarters.

The silver married quarters at Camp Bierd, Folks River, Gatun, Paraiso, and Cucaracha, which represents about all of them on the east side of the Canal, will be placed on a rental basis as soon as the repairs to make the houses properly habitable have been made. The cost of these repairs is estimated at $7,500, divided among the several camps mentioned above. A detailed inspection of the above quarters made by Mr. C. C. McColley of the Quartermaster's Department, in January, showed that at Camp Bierd 25 houses were occupied, 22 single room cottages, and three 4-room cottages, containing a total of 33 apartments, as now arranged. At Folks River, there are 16 houses, consisting of nine 6-room buildings, and seven 10-room buildings, with a total of 177 rooms, as now arranged. It is planned to leave all the 6-room buildings at Folks River as they are now, making only the repairs necessary to place them in suitable condition, and to convert all of the 10-room buildings into 6-room quarters. The rent for these quarters will probably be on a uniform basis, and employes will be permitted to rent two rooms at the single room rate, where the size of the family warrants. At Camp Bierd, no alterations will be made to the present silver married quarters, but they will be thoroughly repaired. It is proposed to convert laborers' barracks Nos. 189, 190, and 191 at this point into silver married quarters, thereby furnishing accommodations for 12 additional families. The rate to be charged at this camp will vary according to the amount of space occupied. Making the changes as above proposed will give accommodations for 28 additional families in the Camp Bierd-Folks River district.

At Gatun, there are five buildings used as silver married quarters, each containing 10 rooms, the total of 50 rooms providing accommodations for 47 families. It is proposed to amplify these accommodations by allowing each family two rooms, with a front and back porch, instead of a single room, with only one porch, as at present.

At the Paraiso and Cucaracha labor camps, there are 15 old French houses used for silver married quarters, and one 10-room building of American construction, making a total of 83 rooms available. The rental charge at these points will vary slightly.

The renting of silver married quarters in the old Las Cascadas-Bas Obispo district, on the west side of the Canal, has also been decided on. The new permanent silver camp at La Boca was the first to be placed on the monthly rental basis, the rates having been fixed at $5 and $9 per apartment per month.

Revised List of Tourist Steamers.

A number of changes have been made in the list of tourist steamers scheduled to visit the Isthmus during the present season, which was published in THE CANAL RECORD of November 12, 1913. A list of such vessels, showing their arriving and departing dates, revised to January 29, has been made up by the Panama Railroad Company, as follows:

Steamship.	*Line.*	*Arrive.*	*Depart.*
Pastores	U. F. C.	Jan. 31	Feb. 1
Tenadores	U. F. C.	Feb. 7	Feb. 8
Laurentic	W. S.	Feb. 11	Feb. 12
Calamares	U. F. C.	Feb. 14	Feb. 15
Evangeline	C. A. & P.	Feb. 18	Feb. 19
Victoria Louise	H.-A.	Feb. 21	Feb 21
Pastores	U. F. C.	Feb. 21	Feb. 22
Grosser Kurfürst	N. G. L.	Feb. 24	Feb. 24
Tenadores	U. F. C.	Feb. 28	Mar. 1
Calamares	U. F. C.	Mar. 7	Mar. 8
Evangeline	C. A. & P.	Mar. 9	Mar. 19
Pastores	U. F. C.	Mar. 14	Mar. 15
Laurentic	W. S.	Mar. 16	Mar. 17
Tenadores	U. F. C.	Mar. 21	Mar. 22
Victoria Louise	H.-A.	Mar. 25	Mar. 25
Evangeline	C. A. & P.	Mar. 26	Mar. 27
Grosser Kurfürst	N. G. L.	Mar. 28	Mar. 29
Calamares	U. F. C.	Mar. 28	Mar. 29
Pastores	U. F. C.	Apr. 4	Apr. 5
Laurentic	W. S.	Apr. 11	Apr. 12
Tenadores	U. F. C.	Apr. 11	Apr. 12
Evangeline	C. A. & P.	Apr. 13	Apr. 14
Calamares	U. F. C.	Apr. 18	Apr. 19
Victoria Louise	H.-A.	Apr. 19	Apr. 20
Pastores	U. F. C.	Apr. 25	Apr. 26
Evangeline	C. A. & P.	May 1	May 2
Tenadores	U. F. C.	May 2	May 3

KEY.—*U. F. C.*—United Fruit Company. *W. S.*—White Star Line. *C. A. and P.*—Canada, Atlantic, and Plant Steamship Company. *H. A.*—Hamburg-American Line. *N. G. L.*—North German Lloyd.

The *Victoria Louise* of the Hamburg-American Line, which docked at Cristobal on Monday, January 26, was the first of the special steamers to arrive this season. It brought 298 tourists. The Canada, Atlantic, and Plant Line cancelled the sailing of the *Evangeline*, which was scheduled to arrive on Saturday, January 31.

Changes in Sightseeing Schedule.

Effective February 5, 1914, on Tuesdays, Thursdays, and Saturdays, special sightseeing trains, made up of observation coaches, will leave the Colon passenger station at 8.30 a. m., for a trip to Gatun, taking in the Gatun Locks, where view may be had of the Gatun Dam and Spillway, and the Atlantic sealevel section of the Canal. This train will return at Colon about 11.45 a. m. Fare for this trip, $1.50, United States currency. Tourists from Panama desiring to make this trip, will take regular train No. 4 from the Panama passenger station at 7.30 a. m., transferring to the special sightseeing train at Gatun.

On Mondays, Wednesdays, and Fridays, special sightseeing trains, made up of observation coaches, will leave the Panama passenger station at 8.45 a. m., for the observation platform on Contractor's Hill, overlooking Culebra Cut and Cucaracha slide, returning over the construction tracks of the Pacific sealevel section, taking in Pedro Miguel and Miraflores Locks, and Balboa, arriving at Panama about noon. A short lecture on the lock models will be given at the model room near Hotel Tivoli on arrival of train. Fare for this trip is $1.50, United States currency. Tourists from Colon desiring to make this trip, will take regular train No. 3 from the Colon passenger station at 7.30 a. m., transferring to the special sightseeing train at Pedro Miguel.

Competent guides accompany all special sightseeing trains.

Special Excursion Through Gatun Lake by Sightseeing Barge.

The new Panama railroad sightseeing barge, which can accommodate 300 people, will leave Gamboa at 8.40 a. m., Sunday, February 8, for an excursion trip through the lake. The barge will arrive at the concrete dock, Gatun, at about 12 o'clock, noon. Train No. 3, the early passenger train out of Colon, and train No. 4, the early passenger train out of Panama, will both deliver passengers at Gamboa in time for this trip.

There will be an afternoon excursion, with the sightseeing barge leaving the concrete dock, Gatun, at 2 p. m., going through the lake to Gamboa, arriving at 5 15 p. m. At Gamboa, passengers can connect with trains Nos. 7 and 8, leaving for Panama and Colon, respectively.

Passengers from Panama desiring to make the afternoon trip through the lake, Gatun to Gamboa, can take passenger train No. 6, which leaves Panama at 11 a. m., and arrives at Gatun at 12.34 p. m., giving time for lunch.

Passengers from Colon who desire to make the afternoon trip, can take train No. 5, which leaves Colon at 11 a. m., and arrives at Gatun at 11.16 a. m., giving time for lunch.

The fare for this trip will be $1.50 U. S. currency, one way.

Civil Service Examinations.

A supply of the Manual of Examinations for the spring of 1914 has been received.

Examinations for the following-named positions are scheduled to be held, probably on March 15: Assistant, Philippine Service; assistant engineer, Reclamation Service; assistant geologist, geologic aid, Geological Survey; assistant inspector of boilers, assistant inspector of hulls, local inspector of boilers, local inspector of hulls, Steamboat-Inspection Service (not for appointment in Canal Zone); civil engineer and superintendent of construction, Quartermaster Corps; clerk, Isthmian Canal Service; copyist topographic draftsman, topographic draftsman, nonapportioned Departmental Service; junior engineer draftsman, Engineer Department; forest assistant, Forest Service; industrial teacher, Philippine Service; junior chemist, nonapportioned Departmental Service; junior engineer, Reclamation Service; land law clerk, matron, Indian Service; pharmacist, Public Health Service; physician, all services; teacher, Philippine Service; telegraph operator, nonapportioned Departmental Service; veterinarian.

Announcement will be made later of the examinations to be held in April. Applications should be secured from and filed with this office. In requesting information, the kind of examination desired should be stated.

The examination will be held probably in Empire, in the Commission clubhouse, but the place and date of examination should be omitted in application forms. A card of admission will be sent to those found eligible to be admitted, just before the examination.

In answer to questions as to residence, applicants must show residence in a State or Territory of the United States, and county thereof, up to the time of filing application.

ISTHMIAN CIVIL SERVICE BOARD.

CULEBRA, C. Z., January 31, 1914.

Lockages to be Made on Sundays.

In order to advance the finishing of all the lock work, it has been decided that until March 1, lockages shall be made only on Sundays. The last official operation of the locks on a week day was at Gatun on Thursday, January 29, when the tug *Gatun* and a motor dory for the use of Lieut. R. N. Crenshaw, U. S. N., in connection with the radio station work at Caimito, were raised to Gatun Lake from the Atlantic entrance, and the tug *Cocoli* was transferred down, for repairs at the Mount Hope dry dock.

Obituary.

A cable message was received on January 27 announcing the death of Elhanan Zook, formerly superintendent of construction for the Panama Railroad Company, which occurred at Philadelphia, on Monday, January 26. He was born in Chester County, Pennsylvania, and was graduated from the Pennsylvania Polytechnic College on June 25, 1875. He entered the employ of the Chicago, Burlington, and Quincy Railroad as a civil engineer, with headquarters at Nebraska City, Neb., and was later successively roadmaster and trainmaster for the same company at Denver, and other points. He entered the service of the Isthmian Canal Commission in March, 1905, as assistant engineer, and continued in that capacity under Mr. W. E. Dauchey, then division engineer in charge of the old Culebra Division, until October, 1906. On December 17, 1906, he entered the employ of the Panama Railroad Company as supervisor; was promoted to roadmaster in June, 1907, and to engineer of maintenance on December 1, 1909, a position he held until June 15, 1913, when it was abolished and he was made superintendent of construction. He sailed for the United States on vacation leave early in October, 1913, and on December 15, forwarded his resignation, which became effective January 4, 1914. His home was at No. 1728 North Nineteenth street, Philadelphia. He is survived by his wife, and two daughters, the Misses Leah and Ruth Zook.

Etta Pollard, the 10-year old daughter of Mr. W. H. Pollard, living at Corozal, died at 11 p. m., on Saturday, January 31. She was born in Los Angeles, Cal., and had been on the Isthmus two years.

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As a result of the practice of many people living in Panama of making short cuts through the yards of the Panama railroad in order to catch passenger and labor trains, rendering themselves liable to injury, the management of the road has caused trespass signs to be placed at the track gates, and Panama policemen are detailed to prevent the passage of unauthorized persons.

SOCIAL LIFE OF THE ZONE.

Empire Young People's Society of Christian Endeavor.

The Empire Young People's Society of Christian Endeavor held its semiannual election of officers on Friday evening, January 30. As this evening was the regularly scheduled monthly business meeting and social of the society, the usual program of voting in new members and reading of committees' reports was first attended to. The following officers were elected for the ensuing six months: President, Mr. V. Koontz of Empire; vice-president, Mr. H. A. Jackson of Empire; secretary, Mr. J. Sack of Culebra; treasurer, Mr. D. L. Johnson of Empire; pianist, Miss Kathryn Moore of Empire. Immediately after the election, refreshments were served, followed by a number of impromptu speeches and humorous recitations.

The Empire Christian Endeavor Society is the third one in the Canal Zone. It is similar to the Cristobal Young People's Society and the former Gorgona Christian Endeavor Society, admitting as it does, professing Christians, as active members, and others interested in the work, as associate or honorary members. It was organized in July, 1913, with a membership of 14 The first meeting was held in the I. C. C. chapel at Empire on the morning of July 20, and every Sunday morning since then a meeting has been conducted just after the Sunday school session. Combined business meetings and socials are held monthly, or oftener, to which all friends are invited. The first six months saw an increase of 150 per cent in the membership, which is now 38. The people of Empire and neighboring towns are invited to attend the meetings.

Visit of Bishop Knight.

The Right Reverend Albion W. Knight, D. D., bishop of the Episcopal Church, will make his usual visit to the Panama mission, arriving from Kingston, February 21. The following schedule for the episcopal visitations to the various churches of the mission has been arranged by the clergy: Sunday, February 22, St. Luke's Hospital chapel, at 10 a. m.; St. Paul's, Panama, at 7.30 p. m.; Tuesday evening, St. Augustine's, Paraiso; Wednesday evening, St. Mark's, Culebra; Thursday evening, St. James', Empire; Friday evening, St. Stephen's, New Gatun; Sunday morning, Christ Church, Colon. On Saturday morning, there will be a convocation at Christ Church, Colon. The bishop will leave the Isthmus on Sunday afternoon, March 1.

Call for Christian Endeavor Society at Corozal.

There will be a meeting of those interested in the organization of a Christian Endeavor Society on Sunday morning, February 8, at 11 o'clock, in the hall of the Corozal clubhouse. Young people are especially invited to attend.

Changes in Roman Catholic Church Work.

A number of changes have taken place in the administration of the Roman Catholic churches in the Canal Zone. The churches at Balboa and Cristobal have passed over to the administration of the priests of the congregation of missions, the Reverend Father McDonald, C. M., being in charge of both missions. Father DeGraaf, C. M., of Paris, and Father Hafner, C. M., of Germantown, Pa., are detailed to work in the various missions along the line. Father Collins of Culebra has gone to the interior for a short time, his post being supplied in the interim by the new priests. A church building, which was removed from Rio Grande, has been erected in Corozal and will be dedicated early in February by Father McDonald, who will have charge of the parish. The priests of the congregation of missions are in residence in the parish house, St. Ferdinand's Church, Empire.

PERSONAL.

Naval Constructor Daniel C. Nutting, Jr., has been appointed superintendent of the Mechanical Division of the Isthmian Canal Commission, effective January 26. He was born August 17, 1869; appointed to the United States Naval Academy at Annapolis in May, 1889; was graduated first in the engineering division of his class of six members, or third by multiple in the entire class; took two years' post graduate course in naval architecture at the University of Glasgow, Scotland; was in the construction department of the Norfolk Navy Yard for three years and three months; was superintending constructor for the Fore River Shipbuilding Company, and the George Lawley and Sons Corporation, for three years; was senior assistant to the naval constructor at the New York Navy Yard for four years and 10 months; and was with the Bureau of Construction and Repair, in charge of the repair desk, for four years and 11 months, having been one of the senior assistants to the chief constructor. Since July, 1911, he has been construction officer at the Puget Sound Navy Yard. Mr. Nutting arrived on the Isthmus on January 26. His headquarters will be at Culebra until February 25, when the office of the superintendent of the Mechanical Division will be moved to Balboa.

Surgeon J. C. Perry has been granted special leave of absence for a few days to accompany President Porras of Panama on a trip into the interior of the republic for the purpose of inspecting a prospective site for a tuberculosis sanitarium.

Capt. Charles W. Barber, accompanied by Mrs. Barber, returned from his annual leave of absence on the *Cristobal*, which docked on Tuesday, January 27.

Mr. W. K. Jackson returned from his vacation on the *Panama*, which arrived on Sunday, January 25.

Mr. Edward J. Williams, formerly Disbursing Officer of the Isthmian Canal Commission, has accepted the position of treasurer of the firm of McCord and Company of Chicago and New York.

Red Cross Election.

Please send ballot, electing officers of the Americal National Red Cross Association for the year 1914, to Mr. E. E. Lee, Culebra, C. Z. Dues of $1 for each member should accompany ballot. ERNEST E. LEE,

Chairman, Nominating Committee.

CULEBRA, C. Z., February 2, 1914.

Changes in Culebra School for White Children.

The teaching force in the school for white children at Culebra will be reduced by one teacher on account of the small number of pupils enrolled at that point, namely, 29 at the close of the month. The third grade will be transferred to Miss Dunn, and, in addition, she will teach the first and second grades, about 17 pupils in all. The fourth grade, with three pupils, and the fifth grade, with five pupils, will be transferred to Empire, going to and from school in the Commission brake. Miss Davis, the teacher relieved from duty at Culebra, will be placed in charge of the fifth and sixth grades at the Cristobal school.

Knights of Columbus.

The date of exemplifying the third and fourth degrees, Knights of Columbus, has been changed to Sunday, March 22. The ceremonies of the first and second degrees will take place in Panama, on February 22. Regular meetings of both councils will be held on February 8.

Pacific Lodge, No. 4, I. O. O. F.

The regular meetings of Pacific Lodge, No. 4, Independent Order of Odd Fellows, are held at Ancon Hall, on Thursday nights. The officers of the lodge extend an invitation to all visiting brothers to be present.

Immigrant Inspector Examination.

In a letter received to-day the Civil Service Commission states that the immigration laws are undergoing revision and the immigrant inspector examination, announced to be held February 22, has, therefore, been postponed indefinitely; it is probable the examination will be held in May. No more applications will be issued until the examination is reannounced, a notice of which will appear in THE CANAL RECORD. Requests for applications already received in this office will be kept on hand until the examination is reannounced, but request for application should not be made until that time.

Applications already received in this office will be kept on file and will be good for the examination if announced to be held within six months from the date of the applications.

ISTHMIAN CIVIL SERVICE BOARD.

CULEBRA, C. Z., January 31, 1914.

Change in Office Hours, P. R. R.

Effective February 2, 1914, the present office hours at the general office building of the Panama railroad at Colon, and the receiving and forwarding agency, Colon, are abolished, and the following hours will be observed: Morning hours, 8 to 12 noon; afternoon hours, 1.30 to 5.

The roadmaster's office, 'phone 107, Colon, and the office of superintendent bridges and buildings, 'phone 104, Colon, will be open from 7.30 a. m. to 11 a. m., and from 1 p. m. to 5 p. m.

All offices will be closed at 4 p. m. on Saturday afternoons. F. MEARS,

General Superintendent.

COLON, R. P., January 28, 1914.

Sale of Munitions.

A sale of munitions belonging to the Government of Panama, used at the time a standing army was maintained, was held at the office of the Treasurer-General in Panama on December 27. The bid of Pinel Brothers for 1,141,000 rapid fire gun and rifle shells at $2,396.10, and that of Mr. Pedro Illueca for 246 projectiles for cannon, were accepted. The 1,000 Gras rifles, for which bids were asked, were not sold.

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Informal dances at the Strangers Club will be held on alternating Thursdays until further notice. Dances in February occur on the 5th and 19th.

EXECUTIVE ORDER

Providing Conditions of Employment for the Permanent Force for the Panama Canal.

Cable advice has been received that the President has signed the following Order, to become effective April 1, 1914:

By virtue of authority vested in me by law, it is hereby ordered that the general conditions of employment governing employes on the Isthmus of Panama, necessary for the completion, care, management, maintenance, sanitation, government, and operation of the Panama Canal, the Canal Zone, the Panama railroad, and other adjuncts, shall be, as follows:

APPOINTMENTS AND COMPENSATION.

1. The salaries or compensation of employes shall in no instance exceed by more than twenty-five per centum the salaries or compensations paid for the same or similar services to persons employed by the Government in the continental United States, as determined by the Governor of the Panama Canal.

2. Service must be satisfactory to the head of the department in which employed, and employes are subject to the regulations of the Governor.

3. Compensations and conditions of employment of persons employed in the United States will be specified in provisional appointments. The compensations of such persons will begin upon date of embarkation at the port of departure from the United States, and they will be granted free transportation from the port of departure, including meals on the steamer, but no compensation or expenses for the journey to the port; but former employes from the United States whose next preceding service with the Panama Canal was less than one year shall be paid only from the date of entry into service on the Isthmus, and will be allowed only such reduced rates of transportation to the Isthmus as may be available for Government employes. Employes appointed at an hourly rate will be paid for the period of transit to the Isthmus on the basis of an 8-hour day, exclusive of Sundays. Except in case of discharge or other separation from the service beyond the employe's control, payment of salary from date of embarkation to date of arrival on the Isthmus will not be made unless service on the Isthmus continues for 30 days.

4. All officers and employes in the service of the Panama Canal, except those who are to perform duties of clerk, bookkeeper, stenographer, typewriter, surgeon, physician, trained nurse, or draftsman, shall be exempt from examination under civil service rules, and appointments to clerical positions on the Isthmus of Panama paying $75 per month, or less, may also be made without examination. Officers and employes now in the service of the Panama Railroad Company on the Isthmus may be transferred to and retained in the service of the Panama Canal without examination, whenever any work now performed independently by the Panama railroad is consolidated with similar work performed by the Panama Canal.

5. When employes in the present organization are transferred to the permanent organization, they shall retain their seniority as regards questions of civil service, quarters, and other privileges or considerations, provided, however, that the seniority granted to employes by this Order shall not be operative in any case, so as to form any claim involving the payment of funds of the United States.

6. All employes who receive over $75 per month, or over 40 cents per hour, must be citizens of the United States, or the Republic of Panama, and such citizens will be given preference for employment in all grades. Aliens may not be employed in such grades unless

(a) they have occupied similar positions during the construction of the Canal for two years or more, or

(b) in case of emergency, in which latter case they must be replaced by citizens of the United States, or Republic of Panama, as early as practicable.

7. The Governor shall prescribe regulations, when not otherwise fixed in this Order, setting forth the qualifications necessary for appointment of the various classes of employes, including physical fitness for work on the Isthmus. The age limit shall in all cases be under 45 years, but the Governor may waive this limit, when, in his judgment, such action is for the good of the service.

8. All appointments shall be made by the Governor of the Panama Canal, or by his authority, except the district judge, district attorney, marshal, clerk of district court, and his assistant.

9. Assignment to duty is vested in the respective heads of the departments, and employes will be expected to perform such duties as may properly be assigned to them. The Governor may discharge an employe at any time for cause, and terminate a provisional appointment when the exigencies of the service require.

10. The Government reserves the right to pay in any money the value or parity of which is guaranteed by the United States.

11. Employes whose salaries are fixed on a monthly or annual basis will receive no pay for overtime work.

12. Employes above the grade of laborer, appointed with rates of pay per hour, or per day, will not be employed over eight hours in any one calendar day, except in case of emergency. The time such employes work over eight hours in one calendar day, and time worked on Sundays and regularly authorized holidays, including January 1, February 22, May 30, July 4, Labor Day, Thanksgiving Day, and December 25, shall be considered overtime for which time and one-half will be allowed. Such employes who work on the days prior and subsequent to the holidays specifically named above will be allowed their regular pay for eight hours for such days, in addition to pay for any work performed.

13. An employe whose compensation while on duty carries with it subsistence will not be entitled to same or commutation thereof while on leave of absence, and no commutation of quarters shall be paid.

TRANSPORTATION.

14. Employes and dependent members of their families will be granted the regular Government rate upon commercial steamship lines with which arrangements for such rates can be made. While the United States operates a steamship line, either directly or through the Panama Railroad Company, employes and the dependent members of their families will be granted transportation at the same rates and under the same conditions as are at present in effect. The rates and conditions are subject to change at any time in the discretion of the Governor.

15. After three years service, employes who are citizens of the United States will be entitled to free transportation for themselves only, on termination of service, to any port of the United States, except that when such transportation costs the Government more than $40 the employe must pay the excess.

16. Employes on the gold roll will be granted one complimentary round trip pass on the Panama railroad each calendar month. Mileage books for use of such employes and dependent members of their families, or relatives temporarily residing with them, will be furnished at one-half regular tariff rates.

QUARTERS.

17. Where practicable, such bachelor quarters on the Isthmus as may be available from time to time will be assigned all employes desiring them. Family quarters, when available, will be assigned under such rules as may be prescribed by the Governor. A charge will be made for rent, fuel, and electric current at such time and in accordance with such regulations as the President may hereafter establish.

MEDICAL CARE.

18. Employes injured will be compensated in accordance with such regulations as are prescribed by law.

19. All employes in case of illness and injury will receive free medical care and attendance in the hospitals, except in cases of alcoholism or venereal disease. If medical attendance is furnished in quarters, a charge may be made under regulations to be prescribed by the Governor. Employes will be charged for medical care and attendance furnished members of their families at the hospitals and at their quarters at such rates and under such regulations as may be prescribed by the Governor.

LEAVE REGULATIONS.

20. All employes who are citizens of the United States, and aliens whose compensation is more than $75 per month, or 40 cents per hour, shall be entitled to leave privileges.

21. Leave will be divided into three classes, viz: (1) annual leave, (2) cumulative leave, and (3) travel leave.

ANNUAL LEAVE.

22. Twenty-four days annual leave will be allowed each employe for each year after entry into service, and, if not granted prior to the close of the year, is forfeited and may not be accumulated, except that any annual leave remaining to an employe's credit in a year in which he is granted cumulative leave may be added to the cumulative leave if taken within two months after the close of his service year.

23. The service year shall date from the day on which an employe's pay in the permanent organization begins.

24. Absences of one-half day or more, when regularly authorized, will be charged against annual leave; also, absences on account of illness or injury, upon the certificate of an authorized physician in the service of the Panama Canal, except that in the following classes of cases no payment shall be made for time lost, but the time shall be charged against the annual leave:

(a) Illness due to the fault of the employe, as venereal disease and alcoholism.

(b) Injury due to the employe's wilfull intention to bring about the injury or death of himself or another.

(c) Elective surgical operations to relieve conditions existing prior to service on the Isthmus.

25. In the case of hourly or per diem employes, annual leave on account of sickness or injury shall be based upon a day of eight hours.

26. Not more than 14 days annual leave may be taken during the first six months of a service year. In case of illness or injury in the first six months, to cover which no annual leave remains to the employe's credit, the time lost will be charged against the annual leave remaining for the year, and payment will be made after completing 10 months of the service year. After the entire 24 days annual leave has been used, additional leave in that service year on account of illness or injury will be deducted from the cumulative leave for that year, and when the cumulative leave becomes due the employe will be paid.

27. After exhausting both annual and cumulative leave for the year, additional absence on account of illness or injury will be without pay, except such compensation as may be prescribed by law for employes receiving personal injuries.

CUMULATIVE LEAVE.

28. Thirty days cumulative leave will be allowed each employe paid on a monthly or annual basis for each year of his service, and 20 days to each employe paid on an hourly basis. This leave will be due after completing 10 months' service each year and may be taken when the employe's service can be spared. It may be taken annually or left to accumulate to the credit of the employe, provided, however, that leave may not be accumulated, for more than three years. If it is not desired to take the entire leave accumulated, the leave earned for the first year, or the first and second years, may be taken, provided that no employe, except at termination of service, may be granted more than 90 days leave with pay at one time. Employes will be paid for cumulative leave at the rate earned when the leave becomes due at the end of the tenth month of each respective year.

29. In case an employe serves part of a year on the monthly or annual basis and part on the hourly basis, he will be allowed 20 days cumulative leave, except that if he has served eight months or more on the monthly or annual basis during the year he will be granted 30 days cumulative leave.

TRAVEL LEAVE.

30. Employes who travel to points outside the tropics, when on cumulative leave, will be allowed seven days additional leave (or travel leave) with full pay. Travel leave may be allowed approximately once a year and is not cumulative.

31. Employes will be compensated for travel leave and annual leave taken in conjunction with cumulative leave at the rate earned when cumulative leave last became due.

32. After accumulating leave for three years, an employe ceases to earn additional cumulative leave until he is granted all or part of the cumulative leave already earned, unless he shall enter on cumulative leave within two months after completing the third year, or be ordered by the Governor to defer taking leave for official reasons.

33. When an employe's services are terminated on account of misconduct or unsatisfactory service, any annual leave due and travel leave will be forfeited, and cumulative leave will also be forfeited unless written notification has been given that the employe has accumulated the leave, or the four months period within which the employe may enter on leave has passed. Such written notice must be given by employes as soon as possible after cumulative leave becomes due.

34. When an employe's service is terminated, a cash payment in commutation of leave will be made to him for the number of days' cumulative leave due, plus the annual leave due. In the event of his death his estate will be paid the sum due.

35. Employes must enter on cumulative leave within four months after the date when it becomes due, except when accumulated or unless otherwise authorized by the Governor.

36. Employes must report from leave within one week after the authorized leave expires, or forfeit pay for the leave. In case of unavoidable delay, the Governor will decide whether the circumstances warrant an exception to this rule.

37. No restrictions are placed on the localities where leave may be spent.

38. Any employe transferred from the present force to the permanent operating force will be paid at the time of transfer, in addition to his regular compensation, the amount he would have received in payment for leave had he been separated from the service at the time of transfer.

39. Leave may be taken only at the convenience of heads of departments, who may direct an employe to accumulate his leave if necessary for the conduct of the work.

40. Leave without pay may be granted by the Governor to all employes, including laborers, for such period as may be prescribed by him.

OFFICE HOURS AND HOURS OF LABOR.

41. Office hours and hours of labor will be fixed by the Governor within the limits prescribed by law.

Woodrow Wilson.

EXECUTIVE ORDER

To Prevent the Corrupt Influencing of Agents, Employes, or Servants.

By virtue of the authority vested in me, I hereby establish the following Executive Order for the Canal Zone:

Section 1. It shall be unlawful for any person to give, offer, or promise to an agent, employe, or servant, any gift or gratuity whatever without the knowledge and consent of the principal, employer, or master of such agent, employe, or servant with intent to influence his action in relation to the business of his principal, employer, or master; or for any agent, employe, or servant, without the knowledge and consent of his principal, employer, or master, to request or accept a gift, or gratuity, or the promise of any gift or gratuity whatever beneficial to himself, under an agreement or with an understanding that he shall act in any particular manner in respect to the business of his principal, employer, or master; or for any agent, employe, or servant authorized to procure materials, supplies, or other articles, either by purchase or contract, for his principal, employer, or master, or to employ servants or labor for his principal, employer, or master, to request or accept or agree to accept, for himself or another, directly or indirectly, a commission, discount, or bonus from the person who makes the sale or contract, or furnishes such materials, supplies, or articles, or from the person who renders such service or labor; or for any person to give or offer to such agent, employe, or servant such commission, discount, or bonus.

A violation of any of the provisions of this Order shall be punished by a fine of not less than ten dollars nor more than five hundred dollars, or by imprisonment in jail for not more than one year, or both such fine and imprisonment in the discretion of the Court.

Section 2. This Order shall take effect thirty days from and after its publication in The Canal Record.

Woodrow Wilson.

The White House,
January 21, 1914.

[No. 1880.]

EXECUTIVE ORDER

Naming Total Compensation for Prof. Emory R. Johnson.

By direction of the President, it is ordered that the total compensation of Prof. Emory R. Johnson, who was appointed a Special Commissioner by Executive Order, dated September 1, 1911, is hereby fixed at twenty-five thousand, three hundred dollars ($25,300), from which shall be deducted any payments on account of actual expenses and per diem heretofore made to him under the provisions of the Executive Order of September 1, 1911, such compensation covering the period from September 1, 1911, to October 4, 1913, inclusive.

The Isthmian Canal Commission is directed to provide the funds needed in the execution of this Order.

Lindley M. Garrison,
War Department, *Secretary of War.*
Washington, D. C.,
January 20, 1914.

Relieving Congestion on Central Avenue, Panama.

Forces of the Division of Municipal Engineering have recently paved the portion of Avenue B, Panama, between Thirteenth and Fourteenth streets, with concrete, and are now engaged in similarly covering the surface of Seventeenth street, from Central avenue to Avenue B. From the Panama railroad passenger station to Thirteenth street, Avenue B is covered with macadam in good condition, and the supplementary paving noted is for the purpose of diverting to it some of the traffic with which Central avenue is ordinarily congested.

Twenty-third street, from Central avenue to Avenue B, which it crosses opposite the exit for carriages from the first-class part of the Panama railroad passenger station, has been widened 10 feet, by moving the east pavement back into the plaza on which the station fronts. This section is to be paved with brick. The exit for carriages is on a continuation of Twenty-third street, built at the expense of the railroad as part of the station grounds.

Ancon Crusher.

DATE.	Hours worked.	Cubic yards.
Jan. 26	8.35	2,515
Jan. 27	7.15	1,420
Jan. 28	8.00	2,150
Jan. 29	7.00	1,955
Jan. 30	8.30	2,050
Jan. 31	7.50	2,356
Total	47.10	12,446

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The moving picture schedule for the week February 9 to 16 is, as follows: Monday, Corozal; Tuesday, Gatun and Balboa; Wednesday, Culebra; Thursday, Pedro Miguel; Saturday, Cristobal. The pictures to be shown during the coming week are, as follows: "The price of gold;" "The sheriff's baby;" "He answered the ad.;" "The Mississippi tragedy;" "The Hardup family's bluff;" "In the grip of a charlatan;" "The Duke's dilemma."

For the week February 9 to 14, the following pictures will be shown: "War time sorrow; the spy's defeat," in two reels; "Let 'em quarrel;" "The stolen bride;" "A lucky mistake;" "His widow;" "Collecting the bill."

A vaudeville company has been organized among the talent on the Isthmus, and the first show will be given at the Empire clubhouse on Friday evening, February 6. It is proposed to give a similar entertainment in each of the clubhouses in the Zone, providing there is sufficient interest. Among those who will take part in this exhibition will be several newcomers, who have not appeared at the clubhouses heretofore.

An all-Isthmian duckpin league was organized at a meeting held at Empire on January 25. H. E. King of Empire was selected president, and Frank Dougherty of Pedro Miguel, secretary and official scorer. It was decided to play one series of games at home and one series of games abroad, the schedule to begin on Saturday, February 7, when Culebra will play at Corozal, Cristobal at Gatun, and Empire at Pedro Miguel. Gold medals will be given, as follows: Six medals to members of winning team; six medals, one for high average on each team; one medal for highest average of the tournament; one medal for second high average of the tournament; one medal for third high average of the tournament; one medal for three high games rolled in one night, one medal for highest single game rolled in the tournament.

BALBOA.

Mr. Johnson is the leader in the local pool tournament, with Messrs. Ruck, Potter, and Gugendord, second, third, and fourth, respectively.

Motion pictures were held in the clubhouse on Tuesday evening, February 3. Piano music was furnished by Mr. C. C. Pearsall.

The new clubhouse safe arrived last week.

Request has been made for a pressing club, and it is likely that there will be one in the near future.

Word has been received that a collection of library books has been shipped from the United States.

PEDRO MIGUEL.

The Pedro Miguel clubhouse was formally opened on Tuesday evening, January 27, with an appropriate program. Over 400 people from Pedro Miguel and Paraiso, as well as from many other towns in the Zone, attended. The numbers, were, as follows: Invocation by the Rev. H. R. Carson; piano solo, "Rigoletto fantasie," by Miss Irene Kuhn; welcome to guests, by Mr. Frank Dougherty; soprano solo, "Smile of spring," by Miss Hazel Neff; greetings from neighbors, by Mr. H. O. Cole of the Corozal Y. M. C. A.; Mr. E. E. Lee of the Culebra Y. M. C. A.; Mr. T. L. Clear of the Empire Y. M. C. A.; violin solo, from "Mignon," by Miss Verna Page; address, by the Hon. H. A. Gudger, Chief Justice of the Canal Zone Supreme Court; bass solo, "The bandolero," by Mr. Ernest Gamble; announcements, by Mr. C. B. Russell, secretary. Following the program, there was a reception in the social room on the first floor, during which light refreshments were served.

At the end of the month, 84 members had been secured; many more look forward to joining during the present month.

The bowling alley was opened Wednesday evening, with an "Open house." It is expected that the three pool tables and billiard table will soon be recovered and in readiness for the use of all those interested in either game.

The barber shop will soon be ready for business; it will be opened every other day during the week.

Pedro Miguel people enjoyed the first moving picture on Tuesday evening; over 200 were in attendance. The regular show this week will be on Friday evening, February 6.

Mr. Wm. Dubois of Culebra, the expert chess player, met a number of men for several games of simultaneous chess, on Saturday evening, January 31. All those interested in the game are requested to see Mr. Shropshire to arrange for the formation of a chess club.

The representatives of the Zone clubhouses were tendered a reception on the local alleys on Saturday evening, January 31. The scores made during the evening were, as follows:

Culebra.			
Case	83	104	105—292
DeCora	89	95	121—305—597
Gatun.			
Claherty	96	94	94—284
Dumville	103	102	86—291—575
Pedro Miguel.			
Whiston	87	83	85—255
Dougherty	95	80	105—280—535
Empire.			
Gustavson	104	91	83—278
Boesen	85	81	88—254—532
Corozal.			
Parkis	79	101	85—265
Smith	91	83	82—256—521

The work of renumbering and recataloging the books will be completed within a few days and the library opened to the public. The privileges are granted to the members and their families, a deposit of $1.50 being required for each card issued.

A sunset song service will be conducted each Sunday evening at 7.30 o'clock, beginning next Sunday, February 8. An invitation is extended to every one to attend.

CULEBRA.

High scores for the week in Baltimore duckpins are, as follows: Rudolph, 138; Schmeck, 138; DeCora, 132; Case, 128, 142; Kronmiller, 126; Kiernan, 125; Chadbourne, 135.

On Thursday, January 29, Mr. H. H. Richardson of Jacksonville, Florida, exhibited pictures and gave a talk describing the South and Florida in particular.

On Sunday night, February 1, Mr. S. P. Verner of Cristobal exhibited slides of scenes in Central Africa, and described his experiences there some 15 years ago. A larger collection of pictures and a more extended lecture will be given in the near future.

A local duckpin tournament will start as soon as a sufficient number have signified their desire of entering same. All those who wish to enter are requested to sign the poster in the bowling alleys.

At the moving picture show on Saturday night, Miss Iza Lee Lindley sang several solos. Miss Curtis furnished piano music during the evening.

EMPIRE.

Three hundred attended the "Smoker" held on Wednesday evening, January 28, for the men of Empire. Mr. A. S. Zinn, who has been a member of the local association council since 1907, was the guest of the evening. The following program was carried out: Moving picture, "How Patty made good"; solo, by Mr. Case; juggling act, by Mr. Brennan; moving picture; tumbling act, by Mr. Brittin; piano solo, by Mr. Pearsall; contortion feats, by Mr. Kelly; remarks, by Mr. T. L. Clear, and Mr. Zinn; wrestling exhibition, by Messrs. Huber and Willoughby. Refreshments were served, and music was furnished by Gray's orchestra.

Mr. Smith, who represented the Empire association in the individual championship chess tournament of the Isthmus, defeating Mr. Logan of Gatun on Saturday, January 31, has won the tournament. He played eight games, winning six and one-half, and losing one and one-half.

The first game of the Isthmian duckpin league will be rolled on Saturday evening, February 7, on the Empire alleys, between the local team and Pedro Miguel.

GATUN.

Mr. H. H. Richardson of the Florida department of the Southern settlement and development organization gave an address on "The opportunities of the State of Florida." Colored slides were shown, illustrating the physical attractions of the State.

D. Roswell Homer played piano selections for the motion pictures on Thursday, January 29.

A 7-man handicap pool tournament is in progress. The present standing of the contestants is, as follows:

Name.	*Handicap.*	*Won.*	*Lost.*
Baxter	100	0	0
Kerruish	100	2	0
Hamill	80	0	1
Texter	80	1	1
Ludlum	80	3	0
McCathern	75	0	2
Reiszner	75	0	2

The results of the January "Ragtime" duckpin tournament are:

Doubles—Holtz and Humphrey, 218; Hodges and Sherrard, 204; Davidson and Sherrard, 198.

Singles—Humphrey, 115; Hodges, 115; Claherty, 110. Gold and silver medals will be given as prizes.

The children who participated in the entertainment given before the motion picture show last week were:

Boys' drill, (American flag)—Ferdinand Buckholdt, Charles Walsh, Steve Westbrook, Harold Hansen, Fraley Weidner, Alpha Morgan, Robert Gough, George Carkeet.

Girls' drill, (Japanese parasol)—Barbara Gayer, Loretta Koleby, Bonita Black, Lois DeForce, Marjorie Walsh, Mildred Morgan, Elizabeth Twitchell, Catherine Parmeter, Kathryne Mellon. Mrs. Witt played for the girls' drill, and Miss Winnie Mae Stevenson for the boys' drill.

The present rating of the boys' group athletic contest is, as follows:

Name.	*Points*	*Name.*	*Points*
Loulan, Francis	342½	Cucuel, Alfred	271
Claherty, Charles	341¾	Twitchell, James	257½
Griffith, Essex	327	Grant, Douglass	210
Christian, William	323½	Stevenson, Branson	194½
Hansen, Paul	312	Sisson, Franklin	158
Pentz, David	307½	Viberg, Herman	153
Kuller, John	302½	Carkeet, John	123
Neville, David	295	Witt, Morris	119¾

Interest in the gymnasium work has been increased by the adoption of piano music for the calisthenic drills. Mrs. Dow Walker has been engaged for the work.

The boys of the first aid class gave a practical demonstration of their class work recently, when a member o the association who sprained his ankle was attended to by some of the older boys.

Mr. Titus Stauffer, who has been employed at the Y. M. C. A., as office assistant, since June, 1913, tendered his resignation, effective February 1, 1914. As an appreciation of his services, the council and members of the association passed a set of resolutions in his favor. Mr. Harry A. Comley has been appointed to fill the vacancy.

Nine members of the clubhouse are taking piano and violin lessons under the supervision of the Y. M. C. A. Mrs. E. T. Gilbert, Mrs. Dow Walker, and Prof. Sello Bartoccini are the teachers. Students may start at any time. The charges are reasonable.

CRISTOBAL.

The Canal Zone high school basketball team defeated the Cristobal juniors on Saturday evening, January 31, in a close game, by the score of 10 to 9.

A 2-man handball team tournament, with eight teams entered, was started on Saturday afternoon, January 31. Hughes and Farrell won two out of three games from Nash and A. Fraser; scores, 15-21, 21-12 21-11.

An aquatic meet will be held on February 23, celebrating Washington's Birthday. The first event will be at 2 o'clock sharp. Following is the program: Twenty-five-yard dash; fancy diving (12-foot board); 50-yard dash; 100-yard dash; one mile swim; obstacle swimming race, 25-yard back swim, relay race (200 yards, four men); 50-yard swim for boys (95 pounds and under, weigh in with swimming suit); tub race; under water swim for distance. Entries close on Tuesday, February 17, at 10 p. m. Entrance fee for each event is 50 cents; no entry blanks will be considered without entrance fee. Fancy diving contest, three optionals with one required dive, (front jack dive.) The meet is open for all gold employes and to members of the Army and Navy. Gold, silver, and bronze medals will be offered as prizes, gold medals to members of winning relay team. If four, or more, relay teams are entered, two prizes will be given.

The capacity of the social hall was tested at the debate on "Socialism" on Thursday, January 29. Messrs. Swanson and Morrison of Empire spoke in favor of socialism; Messrs. Verner and Wempe against.

A preliminary meeting to organize a checker club was held on Saturday night, January 31. Messrs. Rattner, Ermus, and Hodgson were appointed a committee to draft rules for the club.

The Cristobal team plays at Gatun in the first game of the all-Isthmian duckpin tournament on Saturday, February 7.

The single folks bowling tournament held on January 27, resulted, as follows:

W. F. Scheid and Miss G. Butler	504
Mr. Daniel Russell and Miss M. Stevens	499
Mr. D. Raymond and Miss Southerland	477
Mr. G. R. Farr and Miss C. Mathews	454
Mr. E. H. Nash and Miss Farrell	426
Mr. W. F. Robertson and Miss E. Mathews	419
Mr. Ernest Cotton and Miss Ida May Glawson	417
Mr. Joseph Gill and Miss Hollowell	413
Mr. Joseph Raymond and Miss Vaill	376
Mr. F. A. Dickinson and Miss Vickery	373

◆

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending February 14, 1914:

DATE.	Low	High	Low	High	Low
	A.M.	A.M.	A.M.	P.M.	P.M.
February 8	......	1.20	7.52	2.04	8.18
February 9	...	2.20	8.44	2.51	9.08
February 10	......	3.10	9.32	3.40	9.54
February 11	......	3.57	10.17	4.24	10.40
February 12	......	4.41	11.00	5.06	11.23
February 13	......	5.24	11.42	5.47	......
February 14	12.06	6.07	P.M. 12.24	6.30	......

75th meridian time.

OFFICIAL CIRCULARS.

Appointment of Superintendent of the Mechanical Division.

CULEBRA, C. Z., January 26, 1914.

CIRCULAR No. 523:

Mr. D. C. Nutting, Naval Constructor, U. S. Navy, is appointed superintendent of the Mechanical Division, effective this date.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Transportation of Labor Gangs.

CULEBRA, C. Z., January 30, 1914.

HEADS OF DEPARTMENTS AND DIVISIONS:

Frequent instances have been brought to the attention of this office in which passes covering the transportation of labor gangs from one point to another have been improperly filled out, resulting in the passes being taken up and the laborers compelled to pay full fare or get off the train. It is also noted that in a great many cases foremen in charge of labor gangs neither accompany the gangs when traveling, in accordance with circular letter from this office, dated January 18, 1908, nor make any effort to see that the gangs are given proper instructions with reference to the use of transportation.

While it may not always be convenient for the foreman in charge of a gang to accompany the gang when traveling, he must do so whenever possible, and at least see that the men are provided with proper transportation which should be handed to the collector as they get on the train. Please issue positive instructions to all foremen regarding this matter.

GEO. W. GOETHALS,
Chairman.

Prompt Handling of Equipment to be Retired.

CULEBRA, C. Z., February 2, 1914.

ALL ACCOUNTABLE OFFICERS:

Owing to the moving of the shops from Empire to Balboa, it is necessary that all equipment which needs to pass through shops for retirement be handled as soon as possible.

You are therefore instructed to submit survey papers on all equipment that is to be retired, so that same can be given attention at once.

GEO. W. GOETHALS,
Chairman.

Property Accountability at Balboa Store.

CULEBRA, C. Z., January 28, 1914.

ALL ACCOUNTABLE OFFICERS:

Effective February 1, 1914, Mr. Charles L. Parker will take over the property accountability at Balboa store, in place of Mr. X. D. Holt, who will cease to be an accountable officer of the Commission on final audit of his accounts.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Recovery of Scrap.

CULEBRA, C. Z., February 2, 1914.

All concerned.—The following instructions will govern in the recovery of scrap:

1. Inspections will be made under the direction of the Chief Quartermaster to see that all scrap is recovered around shops, power houses, engine houses, field repair shops, and localities where construction work is, or has been carried on.

2. The construction departments will be expected to make a thorough clean-up of all scrap during the present dry season. After the clean-up has been made, whenever practicable, Lidgerwood cars should be set out in localities where scrap is produced. Around small shops, and in places where only a small quantity of scrap is produced, dump buckets and skips will be used for collecting scrap. Supply of dump buckets and skips may be obtained from Mount Hope. When a sufficient quantity of skips and buckets has been accumulated to justify shipment, shipment should be made to Mount Hope Depot.

3. The construction and shop forces are primarily responsible for keeping premises clean and seeing that all scrap or usable material is picked up and turned over to the Quartermaster's Department.

4. The district quartermasters, storekeepers, and material foremen of the Quartermaster's Department will call the attention of responsible officials of the construction and shop forces to any scrap or material that is not being picked up or properly handled, and if no action is taken within a reasonable time they will report the matter to the Chief Quartermaster.

5. No tracks are to be taken up, leaving scrap in an isolated locality, where it will be expensive to recover. In loading scrap in the field, a reasonable amount of care should be taken, so as to save expense in unloading. For instance, rail and track fittings should not be loaded together on the same car unless in cases where only one carload of material is picked up.

6. All serviceable material, so far as practicable, should be kept separate from scrap and turned into the nearest Quartermaster's storehouse.

7. In handling scrap around shops, care should be taken, as far as practicable, to keep brass, babbitt, and iron and steel borings and chips separate. By mixing babbitt with brass borings, the price of the borings is reduced at least one cent a pound. By mixing iron and steel chips with brass borings, the price of the borings is reduced two or three cents a pound. Cast iron scrap should be kept separate from other iron scrap and should be shipped to the storekeeper at Balboa for use in the foundry.

8. All electric light, telephone, and power lines should be taken down as soon as no longer required.

9. All brass and copper should be kept in a secure place to prevent theft or loss.

10. In cleaning up around work, care should be taken to see that copper wire and small pieces of brass and copper scrap are not picked up with dirt and thrown on the dump. The same remark applies to rope, hose, and scrap rubber.

11. Track gangs should pick up all scrap, such as tie plates, bolts, rail, etc., collect same at some central point, and make shipments to Mount Hope at least once a month, or oftener, if necessary. The track gangs on dumps should see that all scrap rail, car aprons, and scrap of all kinds, are picked up.

12. Scrap receptacles should be placed at all section houses on the main line of the Panama railroad and section gangs of this company should turn in all scrap recovered on, or in the immediate vicinity of, the right-of-way.

13. The powder foreman will see that all fuse used in excavation work is picked up.

14. The heads of the departments will see that their men are informed as to the value of scrap and that they understand the importance of taking care of it and keeping it picked up. The following is the value of the various classes of scrap:

Copper	pound..	10c to 15c.
Brass	pound..	10c to 12c.
Lead	pound..	5c.
Rope	pound..	2c.
Hose and rubber	pound..	2c.
Serviceable rail	ton..	$20
Cast iron	ton..	$12 to $14
Steel and iron scrap	ton..	$4 to $10

15. In addition to scrap recovered, there is always a certain portion of serviceable material which finds its way into the scrap pile. By keeping the scrap cleaned up, this material will be recovered and put back in service while it is still in usable condition.

16. Scrap cable, scrap galvanized iron pipe, and scrap galvanized iron roofing have no scrap value, and no money should be spent in recovering this material.

GEO. W. GOETHALS,
Chairman.

Unserviceable Level Rods.

CULEBRA, C. Z., February 2, 1914.

ALL ACCOUNTABLE OFFICERS:

It is requested that all unserviceable level rods be turned over to the district quartermaster at Culebra as soon as possible, for use of the supervisor, Second Division. Survey papers should be submitted at the same time that level rods are shipped.

GEO. W. GOETHALS,
Chairman.

Shipments of Household Goods via Pacific Mail Steamship Company.

CULEBRA, C. Z., January 28, 1914.

HEADS OF DEPARTMENTS AND DIVISIONS:

The local agent of the Pacific Mail Steamship Company advises that his line will accept shipments of household goods and personal effects of persons in the employ of the Commission on the basis of a 25 per cent reduction from the regular tariff freight rate at $10 a ton of 40 cubic feet, or 2,000 pounds, ship's option.

By direction of the Chairman.

C. A. MCILVAINE,
Chief Clerk.

Examination by Board of Local Inspectors.

BOARD OF LOCAL INSPECTORS,
ANCON, C. Z., January 29, 1914.

The Board of Local Inspectors will conduct examinations at the Administration building, Ancon, on Wednesday, February 11, 1914, beginning promptly at 2 p. m., for persons desiring the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for licenses must procure from the Executive Office, Ancon, forms of application and information respecting the filling out of the same, not later than the day previous to the examination. In addition, all persons desiring chauffeurs' licenses must provide themselves with automobiles with which to demonstrate their ability to properly operate the same.

NOTE.—The demonstration test for applicants for chauffeurs' licenses will be given on Tuesday, the day preceding the regular examination, at 2 p. m., at the Administration Building, Ancon; on Wednesday, the day of the regular examination, for out-of-town applicants, at 2 p. m., at the Administration Building, Ancon. No demonstration tests will be given at Cristobal, except by appointment.

HUGH RODMAN,
Chairman, Board of Local Inspectors.

Amendment to Circular No. 96-B.

CRISTOBAL, C. Z., February 2, 1914.

CIRCULAR No. 96-D:

Circular No. 96-B is hereby amended by omitting paragraph—

> "Special rates will be made for room and meals for women employes for whom no quarters are provided at Ancon."

EUGENE T. WILSON,
Subsistence Officer.

Changes in Panama-Bas Obispo Shuttle Train Service.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., January 28, 1914.

G. S. BULLETIN No. 43:

All concerned.—Effective 12.01 a. m., February 1, the following changes in passenger train schedule, time table No. 17, will be made:

Las Cascadas will be the north terminal station for trains Nos. 42, 43, 46, 47, 50, and 51, Bas Obispo-Panama shuttle service.

All other trains in this shuttle service will operate through to Bas Obispo station as at present.

F. MEARS,
General Superintendent.

Rainfall, Jan. 1 to Jan. 31, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	.22	2	.32
Balboa	.20	2	.30
*Miraflores	.52	29	.57
Pedro Miguel	1.08	29	1.27
Rio Grande	.80	29	1.08
Central Section—			
Culebra	.18	18	.38
*Camacho	.30	18	.46
Empire	.22	18	.34
Gamboa	.21	18	.64
*Juan Mina	.10	16	.44
Alhajuela	.03	14	.09
*El Vigia	.10	18	.28
Frijoles	.41	16	.81
Trinidad	.35	18	1.57
*Monte Lirio	.35	1	.83
Atlantic Section—			
Gatun	.54	27	1.63
*Brazos Brook	.18	16	.90
Colon	.42	16	1.35
Porto Bello	......	......	......

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight.

Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun and Miraflores Lakes for the week ending midnight, Saturday, January 31, 1914. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.					
	Vigia.	Alhajuela	Gamboa	Frijoles	Gatun Lake	Miraflores Lake
Sun., Jan. 25	125.5	92.0	84.8	84.8	84.8	50.8
Mon., Jan. 26	125.5	92.0	84.8	84.8	84.8	50.8
Tues., Jan. 27	125.5	92.0	84.8	84.8	84.8	50.8
Wed., Jan. 28	125.4	91.9	84.8	84.9	84.9	50.8
Thurs., Jan. 29	125.4	91.9	84.8	84.9	84.9	51.0
Fri., Jan. 30	125.4	91.8	84.9	84.9	84.9	51.0
Sat., Jan. 31	125.4	91.8	84.9	84.9	84.9	51.0
Height of low water, nearest ft.	125.0	91.0				

Missing Man.

Any one having knowledge of the present whereabouts of Merle Browne, last heard of in Memphis, Tenn., and supposed then to be on his way to the Isthmus, is requested to communicate with the Office of the Chairman, Culebra.

COMMISSARY DEPARTMENT.

The commissary stores are open during the following hours:

Cristobal, 8 a. m. to 12.30 p. m., and 2 to 7 p. m.

Balboa, 8 a. m. to 12.30 p. m., and 2.30 to 7. p. m.

Ancon, 8 a. m. to 1 p. m., and 3 to 6 p. m,

All others, 8 a. m. to 1 p. m., and 3 to 7 p. m.

Retail prices of cold storage provisions for the week beginning February 1, 1914:

FRESH MEATS.

	Price.
Mutton—Stewing, per pound	7
Shoulder, neck trimmed off (4 pounds and over), per pound	9
Entire forequarter (not trimmed, 10 pounds and over), per pound	8
Legs (8 to 10 pounds), per pound	17
Cutlets, per pound	18
Short cut chops, per pound	20
Lamb—Stewing, per pound	8
Entire forequarter, neck trimmed off, per pound	10
Legs (5 to 8 pounds), per pound	20
Chops, per pound	24
Cutlets, per pound	24
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	17
Chops, per pound	26
Loin, for roasting, per pound	26
Cutlets, per pound	30
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	8
Plate, per pound	9
Corned, No. 1, per pound	14
Corned, No. 2, per pound	12
Chuck roast, 3 lbs., and over, per pound.	12
Rib roast, second cut (not under 3½ pounds), per pound	16
Rib roast, first cut (not under 3 pounds), per pound	18
Pot roast, per pound	19
Rump roast, per pound	19
Porterhouse roast, per pound	20
Steak, chuck, per pound	12½
Round, per pound	13
Rib, per pound	18
Sirloin, per pound	19
Rump, per pound	19
Porterhouse (not less than 1½ pounds), per pound	20
Tenderloin (Western), per pound.	30
Pork—Hams, fresh, per pound	§20
Loin chops or roast, per pound	19
Shoulders, fresh, per pound	§17
Spare ribs, per pound	15
Backbones, per pound	15
Pigs' feet, each	7
Pigs' heads, whole	60
Pigs' heads, ½-head	30
Sausage, home made, per pound	20

MISCELLANEOUS.

Livers—Beef, per pound	11
Calf, each	60
Half, each	30
Steak, Hamburger, package	13
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Devonshire Farm, per pound	20
Sweetbread, beef, per pound	27
Eggs, fresh, per dozen	40
per ½-dozen	20
Bluefish, per pound	11
Halibut, fresh, per pound	12
Salmon, per pound	12
Roe shad, each	75
Shad roes, per pair	40
Oysters, per quart	28

POULTRY AND GAME.

Chickens—Fancy roasting, milk fed, large, each.	1.40
Fancy roasting, milk fed, med., each.	1.10
Fancy roasting, corn fed, about 5½ pounds, each	1.25
Fancy roasting, corn fed, about 4½ pounds, each	1.00
Fowls, each ††60, 70, 80, 90, and	1.00
Ducks, Western (about 4½ pounds), each	1.25
Capons, about 8½ pounds, each	3.00
Broilers, milk fed, each	70
Broilers, corn fed, each	60
Turkeys, per pound	25
Squabs, each	50
Ducks, Mallard, each	65
Teal, each	40
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30

CURED AND PICKLED MEATS.

	Price.
Ham—Real York and Cumberland, per pound.	37
Genuine Westphalia, per pound	40
Sugar cured, per pound	20
Sliced, per pound	22
Half, (for boiling), per pound	21
Boiled, per pound	28
Hocks, per pound	‡8
Beef, salt, family, per pound	12
Bacon, breakfast, whole piece, per pound	14
Sliced, per pound	26
Ham, lunch, per pound	32
Pork, salt, family, per pound	14
Ox tongues, each	1.00
Pigs' feet, per pound	7
Tongues, per pound	18

DAIRY PRODUCTS.

Butter—Creamery special, per pound	†42
Sheffield Farms, extra fancy, per lb.	46
Cheese—Philadelphia cream, cake	10
Roquefort, per pound	35
Young America, per pound	22
Swiss, per pound	28
Edam, each	75
Edam, tin	25
Parmesan, per pound	35
Gouda, per pound	30
Snappy, per cake	10
Milk (certified), per bottle	**20
Fer-mil-lac, per bottle	**20
Ice cream, quart	‡25
½-gallon	‡50
Cream (certified), per pint bottle	45

VEGETABLES AND FRUITS.

Brussels sprouts, per quart	15
Beets, per pound	3
Celery, per head	7
Cabbage, per pound	3½
Cucumbers, per pound	10
Carrots, per pound	3
Cauliflower, per pound	8
Lettuce, per pound	8
Onions, per pound	3
Potatoes, white, per pound	3
sweet, per pound	2
sweet, Jersey, per pound	4
Parsley, per bunch	5
Parsnips, per pound	4
Peppers, per pound	16
Radishes, per pound	8
Squash, per pound	3½
Turnips, per pound	3
Tomatoes, per pound	10
Apples, per pound	6
Grapes, Malaga and Tokay, per pound	17
Cranberries, per pound	9
Grape fruit, American, each	7
Tropical, each	4
Lemons, per dozen	*15
Limes, per hundred	80
Oranges, Jamaican, per dozen	12
Tangerines, each	2

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*Indicates reduction from last list.

**Indicates five cents allowed for return of bottle.

†Indicates advance on last list.

††Fowls weigh each, about, as follows: 3, 3½, 4, 4½, and 5 pounds. Prices are based accordingly; when size ordered is not in stock, next lightest weight is supplied and refund note sent for difference.

‡Sold only from commissaries; no orders taken for delivery.

§Not less than half of a fresh ham or shoulder will be sold.

Misdirected Letters.

Ancon, C. Z., February 4, 1914.

The following insufficiently addressed letters originating in the United States and its possessions, have been received in the office of the Director of Posts, and and may be secured upon request of the addressees:

Atkins, John	Mardon, Mrs. E.
Banks, Benj. Hairson	Mardon, William C.
Berry, Miss Lurine	Mardon, Wm. Campbell
Campbell, Edward	Marquand, Philip
Crosby, David	Morgan, J. S.
DeGroff, Henry C.	Mosely, Charles Lewis
Edwards, William	Nunn, Mrs. Faith B.
Freeman, Geo. A.	Pratt, Alexander
Graham, J.	Rasmus, Miss Caroline
Henderson, Paul (2)	Reis, W. F.
Holston, Harry S.	Rowan, J. R. (3)
Horgan, M. W. (pkg.)	Scott, Harlan Wuichet
Hylton, Jacob	Stromgurg, Mrs. Le
Johnson, Robert	Wallace, G. A.
Kennedy, Arthur	Weer, Jas. E.
McIntire, Miss Y. B. (pkg)	Webber, R. T.
McLellan, Jack	Wilson, Miss Marie
McNeill, J. D.	Wilson, Mrs. F.

Movement of Vessels, Port of Balboa.

The following steamers arrived at, or departed from the port of Balboa, during the week ending January 31, 1914:

Arrivals.—January 25, *Rupanco*, from intermediate ports; January 26, *Pachitea*, from Callao: January 27, *Colusa*, from San Francisco, *Ecuador*, from Guayaquil; January 28, *Limari*, from Valparaiso

Departures.—January 26, *Mexico*, to Callao and south ports; January 27, *Manavi*, to intermediate ports; January 31, *San José*, to Central America and south ports, *Rupanco*, to Guayaquil.

◆

Lost—On Wednesday, January 28, on the shuttle train between Panama and Bas Obispo, a Masonic button, square, and compass. Finder please leave at the Panama railroad ticket office, Panama.

Lost—A bunch of keys and metal check No. 114844, either at Balboa terminals, or Gold Hill. Reward, if returned to O. Cook, engineer, Room 24, house No 159, Balboa.

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.

		Sails.	Arrives.
*Colon	P. R. R.	Jan. 30	Feb. 5
*Advance	P. R. R.	Feb. 5	Feb. 12
*Panama	P. R. R.	Feb. 11	Feb. 17
*Allianca	P. R. R.	Feb. 18	Feb. 24
*Colon	P. R. R.	Feb. 24	Mar. 2
*Advance	P. R. R.	Mar. 2	Mar. 9
*Panama	P. R. R.	Mar. 9	Mar. 15
*Allianca	P. R. R.	Mar. 14	Mar. 20
*Colon	P. R. R.	Mar. 20	Mar. 26

CRISTOBAL TO NEW YORK.

†Allianca	P. R. R.	Feb. 5	Feb. 11
†Colon	P. R. R.	Feb. 11	Feb. 17
†Advance	P. R. R.	Feb. 17	Feb. 24
†Panama	P. R. R.	Feb. 24	Mar. 2
†Allianca	P. R. R.	Mar. 2	Mar. 8
†Colon	P. R. R.	Mar. 8	Mar. 14
†Advance	P. R. R.	Mar. 14	Mar. 21
†Panama	P. R. R.	Mar. 21	Mar. 27
†Allianca	P. R. R.	Mar. 26	April 1

NEW YORK TO COLON.

*Metapan	U. F. C.	Jan. 28	Feb. 4
*Prinz Aug. Wilhelm	H.-A.	Jan. 31	Feb. 9
*Tenadores	U. F. C.	Jan. 31	Feb. 7
*Oruba	R. M.	Jan. 31	Feb. 9
*Zacapa	U. F. C.	Feb. 4	Feb. 11
*Emil L. Boas	H.-A.	Feb. 7	Feb. 16
*Calamares	U. F. C.	Feb. 7	Feb. 14
Almirante	U. F. C.	Feb. 11	Feb. 18
*Pastores	U. F. C.	Feb. 14	Feb. 21
*Trent	R. M.	Feb. 14	Feb. 23
*Prinz Joachim	H.-A.	Feb. 14	Feb. 23
Santa Marta	U. F. C.	Feb. 18	Feb. 25
*Tenadores	U. F. C.	Feb. 21	Feb. 28
*Metapan	U. F. C.	Feb. 25	Mar. 4
*Orotava	R. M.	Feb. 28	Mar. 9
*Calamares	U. F. C.	Feb. 28	Mar. 7

COLON TO NEW YORK.

Santa Marta	U. F. C.	Feb. 5	Feb. 12
Tenadores	U. F. C.	Feb. 8	Feb. 18
Carl Schurz	H.-A.	Feb. 10	Feb. 17
Metapan	U. F. C.	Feb. 12	Feb. 19
Calamares	U. F. C.	Feb. 15	Feb. 25
Orotava	R. M.	Feb. 17	Feb. 25
Prinz Aug. Wilhelm	H.-A.	Feb. 17	Feb. 25
Zacapa	U. F. C.	Feb. 19	Feb. 26
Pastores	U. F. C.	Feb. 22	Mar. 4
Emil L. Boas	H.-A.	Feb. 24	Mar. 3
Almirante	U. F. C.	Feb. 26	Mar. 5
Tenadores	U. F. C.	Mar. 1	Mar. 11
Prince Joachim	H.-A.	Mar. 3	Mar. 11
Danube	R. M.	Mar. 3	Mar. 11
Santa Marta	U. F. C.	Mar. 5	Mar. 12
Calamares	U. F. C.	Mar. 8	Mar. 18
Metapan	U. F. C.	Mar. 12	Mar. 19

NEW ORLEANS TO COLON.

*Turrialba	U. F. C.	Jan. 31	Feb. 5
*Cartago	U. F. C.	Feb. 4	Feb. 9
Abangarez	U. F. C.	Feb. 7	Feb. 16
*Heredia	U. F. C.	Feb. 11	Feb. 16

COLON TO NEW ORLEANS.

‡Atenas	U. F. C.	Feb. 5	Feb. 10
‡Cartago	U. F. C.	Feb. 7	Feb. 13
‡Turrialba	U. F. C.	Feb. 12	Feb. 17
‡Cartago	U. F. C.	Feb. 14	Feb. 19

BOSTON TO COLON.

Sixaola	U F. C.	Jan. 29	Feb. 6
Carrillo	U. F. C.	Feb. 5	Feb. 13

COLON TO BOSTON.

Sixaola	U. F. C.	Feb. 8	Feb. 16
Carrillo	U. F. C.	Feb. 15	Feb. 23

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 2 p. m.; for Southampton, on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays and Saturdays at 3 p. m.; ships for New York via Kingston, on Thursdays at 2 p. m.; for New York, via Limon and Havana, on Sundays at 5 p. m.; for Limon and Bocas del Toro, on Tuesdays at 3 p. m.; for Bocas del Toro direct, on Mondays at 5 p. m.; and for Boston, on Sundays at 3 p. m.

Hamburg-American steamers sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays; the *Prinz August Wilhelm* and *Prinz Joachim* at 10 a. m.; the *Carl Schurz* and the *Emil L. Boas* at 2 p. m.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, FEBRUARY 11, 1914. No. 25.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

The New Organization.

The following general statement relative to the reorganization is issued for the information of employes, as these matters are of personal and direct interest to them:

The Panama Canal Act, and the Executive Orders outlining this organization and the permanent conditions of employment, have been published. The Panama Canal Act provides a certain maximum for wages. There is, therefore, no authority outside of Congress to pay wages in excess of that maximum. Some decreases in compensation will be necessary, while in other positions no changes will be made. A revised scale of wages has been made up, and in each case where a decrease has been necessary, the classes affected have been given the benefit of the 25 per cent allowed by law. In addition, provision has been made for leave with pay, free hospital treatment, railroad transportation privileges, quarters, etc.

The question of making a charge to cover rent for quarters, fuel, and light will be taken up at a later date, but it is not anticipated that any change will be made prior to April 1, 1915; and when one is made the terms will be reasonable.

Those employes who have earned free transportation under the old organization will be allowed same at any time in the future that their services are terminated.

There are to be no wholesale reductions in force on April 1. The work will go on as usual, the construction forces completing their tasks, and reductions of force only taking place as the work closes up. At the same time the forces necessary to operate the Canal will be selected, as far as possible, from the men on the Isthmus.

As will be noted from the Executive Order, a Department of Organization and Maintenance is provided. This will simply consolidate under one head all the present work designated for that department, and the work itself will go on, and will be worked down gradually to the permanent basis by dropping out from time to time those whose services may no longer be needed, and retaining, so far as possible, the most efficient men.

The work consolidated under the Examiner of Accounts will be handled in the same general way, using present forces to carry on the work and pruning out the poorer material from time to time as conditions gradually settle down to the permanent basis.

The Supply Department will be simply a consolidation of the Quartermaster's Department and the Commissary-Subsistence Department.

The Health Department will replace the Department of Sanitation, and the Executive Secretary will, under my direction, take charge of the Department of Civil Administration, and the other duties named in the Executive Order.

It will thus be seen that the permanent organization will be a *development*, an adaptation of the present organization to permanent needs, by gradual changes as they are practicable and advisable.

Nearly all the changes made for some time past have been a preparation for the permanent organization, as, for instance, the consolidation of the dredging under one head, the consolidation of municipal engineering, timekeeping, files, etc. This development will continue until a permanent basis is reached.

There will be some delay in paying off accrued leave due on April 1. The office force will be heavily taxed to prepare new forms, new appointments to cover the new conditions of employment, etc., and it will probably take two or three months to calculate the accrued leave due the nearly four thousand gold employes, and to execute the necessary papers and vouchers to make the payments. It will not be practicable to start this work until about April 1, and it is expected to get out this special roll not later than July 1, but in the meantime, payments will be made to employes whose services may be terminated. Arrangements will be made also to allow employes who have had no leave for 10 months, or more, to take a leave of six weeks, or so, without pay, pending the time they will have earned a leave under the new organization. Such a leave without pay will not prejudice their leave rights in the new organization. In such cases, they will be paid their accrued leave before going away, if the leave is taken prior to the time the special roll is ready.

Other necessary rules and regulations will be published after my return to the Isthmus.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

CULEBRA, C. Z., February 11, 1914.

Dredge "No. 84" Makes Record Change of Pumps.

The crew of the 20-inch pipeline dredge *No. 84*, working at Margarita Point, established a new record for time in changing main pumps, by removing the old pump and installing a new pump in 21 hours. The work was begun at 6 p. m., on Saturday, January 24, the regular stopping time for the dredge, and the new pump was completely installed and ready for work at 3 p. m., on Sunday, January 25, no dredging time having been lost.

This is shorter, by three hours, than any previously recorded time.

Appointment of Colonel Goethals as First Governor of the Canal.

The nomination of Col. Geo. W. Goethals as first Governor of the Panama Canal, forwarded to the Senate by President Wilson on January 29, was confirmed by the Senate on February 4.

Foot and Wagon Bridge Across Chagres River.

The erection of bracket extensions on the east side of the piers of the Gamboa bridge of the Panama railroad, to support the proposed foot and wagon bridge for crossing the Chagres River, and one side of the track-span bridges of the transmission line, has been begun. Part of the material for the bridge proper has arrived on the Isthmus, and enough to allow the erection to begin is expected to arrive within this week. The bridge is to be 10 feet wide, and at about the elevation of the rails of the track, the tops of which are 91 feet above sealevel. The use of the old footbridge on the west, or lower, side of the structure has been destroyed by the rise of Gatun Lake, which has inundated the approaches, formerly on dry land.

Diablo Demolished.

All of the buildings at Diablo, except two owned by the Isthmian Canal Commission, and remodeled by employes at their expense, are being demolished and transferred to La Boca. They will be erected there and rented to silver employes. The families of white Americans formerly living at Diablo have been quartered in Corozal. Diablo originated as a camp for silver employes, the Commission buildings having been placed there in 1907 as bachelors' barracks. The houses were made into gold family quarters in 1909, and Diablo has since been a part of the Corozal district. The immediate reason for removing the houses is on account of the steamshovel excavation on the east side of the hill on which they were situated. The edge of the cut has broken back to the site of the house foundations.

Recurrence of Seismic Disturbances.

From 5.57 p. m., on Saturday, February 7, to 8 a. m., on Monday, February 9, ten distinct earthquake shocks were registered at the Ancon and Gatun seismograph stations. Only two of these shocks, however, were pronounced. The first was the severest and continued until

6.25 p. m. The record at Ancon showed a maximum amplitude of 57 millimeters (Magnification 10.) Measured by the Rossi-Forel scale, this shock was of Intensity II or III. The movement was felt by a number of persons in this section of the Isthmus. The second pronounced shock occurred at 12.08 a. m., on Sunday, February 8, the record showing an amplitude of 11 millimeters; it was classified as Intensity II. The other disturbances were slight, measuring about Intensity I. The instruments indicated that the epicenter, in all but two of the movements, was about 115 miles to the southwest of Ancon. Two slight shocks, one at 2.08 p. m., and the other at 2.33 p. m., on Sunday, February 8, indicated an epicenter 300 miles distant from Ancon, direction unknown. All but the two last mentioned of the recent disturbances apparently originated in the same locality, in or near Los Santos province, as those of October and November, 1913.

PERSONAL.

Col. Geo. W. Goethals will sail for New York on the United Fruit Company's steamship *Metapan*, on Thursday, February 12.

Lieut.-Col. Eugene T. Wilson will sail for the United States on Thursday, February 12, on special leave of absence of three weeks.

Obituary.

A cable message has been received announcing the death, on Saturday, February 7, of Dr. Jean Pierre Lacroisade, at his home at La Croisade, near Angouleme, Department of Charente, France. He was a surgeon in the service of the French canal companies from September 17, 1887, the date he first arrived on the Isthmus, until 1891, when he was promoted to the post of chief surgeon, a position he retained up to the transfer of the Canal property to the United States Government on May 4, 1904. He was offered and accepted a position as physician in the medical corps of the Canal Commission, entering its service on September 13, 1904. He was first connected with the Ancon Hospital staff, was later transferred to Santo Tomas Hospital in Panama, and subsequently became a physician in the health department, resigning on October 24, 1906, shortly after which he returned to France. He was 74 years of age, and is survived by his wife and five children, four sons, and one daughter. One of the sons, Mr. Elie Lacroisade, resides in Panama.

Clarence E. Whalen, a member of the Tenth Infantry, was struck and killed by a train at Las Cascadas on February 1. He was single, and had been on the Isthmus two and one-half months. He is survived by his mother, living at Chambersburg, Pa.

Charles C. Grover, formerly a private in the Tenth Infantry, U. S. A., stationed at Las Cascadas, died at Ancon Hospital on February 1. He was a native of the State of Maine, and had been on the Isthmus 18 months.

Meeting of Y. P. S. C. E. at Corozal Postponed.

The meeting for the purpose of organizing a Christian Endeavor society at Corozal, scheduled for last Sunday morning at the Y. M. C. A. clubhouse, was postponed to Sunday, February 15, at 11 o'clock.

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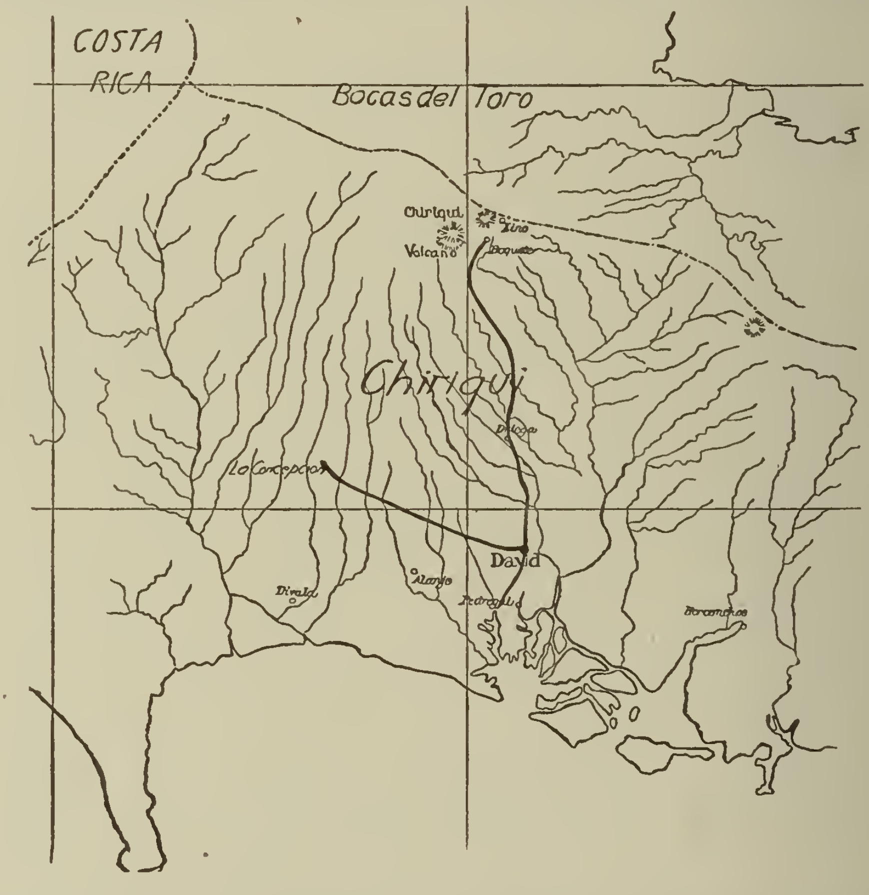
The semiweekly informal dance of the Strangers Club will occur on February 19.

CHIRIQUI RAILROAD.

Government of Panama Contracts for Construction of 52-Mile Line.

The Secretary of Public Works of the Republic of Panama let a contract on February 4 to R. W. Hebard and Company, Inc., for the construction and equipment of a 3-foot gage steam railway in the province of Chiriqui. The road is to extend from Pedregal to Davíd, thence to Boquete, and a branch line is to run from Davíd to La Concepción. The total length of the road, including the 20-mile branch to La Concepción, is to be about 52 miles, extending from seaboard to a point about 4,000 feet above sealevel. The details of construction, as specified in the contract, are essentially those recommended by a committee, consisting of Capt. R. E. Wood, Capt. W. H. Rose, and Mr. A. S. Zinn, appointed by the Chairman and Chief Engineer, on request of President Porras, to consider the plans previously drawn up by the contractor.



SECTION OF CHIRIQUI PROVINCE SHOWING PROPOSED LINE OF RAILROAD.

Construction work is to be begun within 60 days after date of contract, and completed by May 1, 1916. The maximum force to be employed is estimated at about 2,000 men. Efforts will made to engage the services of European laborers relinquished by the Canal Commission as the Canal construction draws to a close, and the Government of Panama will attempt to colonize these men in the district through which the railway is to run. It is anticipated also, that a great part of the necessary equipment and material will be purchased from the retired and surplus supplies of the Isthmian Canal Commission, and the availability of this relatively cheap material at this time was one of the deciding factors for the present undertaking of the work.

The cost of the project is estimated at approximately $1,600,000. The contract provides that the contractor is to be paid in bonds of the Government of Panama, and he will receive five per cent of the cost up to $1,600,000, with a bonus of 50 per cent of all the saving on this estimate, and a penalty of paying 50 per cent of all cost above the estimate. The contractor is to advance the money for the work, submitting each month a report of expenses for the 30 days preceding; this amount, on approval, will be refunded to the contractor, in bonds, with the stipulated bonus of five per cent.

Analysis of Limestone Deposit.

An analysis has been made of a deposit of limestone occurring near mile post No. 24 on the Panama railroad main line, a little north of Radio Station, which shows it to contain a silicious residue of .70 per cent; iron and alumina, .90 per cent; calcium carbonate, 97.03 per cent, and magnesium, 1.06 per cent. The large proportion of calcium carbonate has shown this deposit to be well suited for mixing with limeless soils. Arrangements will be made to use it in the preparation of the ground for the growing of citrus fruits on the Subsistence Department's farm near Frijoles.

Order of Isthmian Conductors.

The next regular meeting of the Order of Isthmian Conductors will be held in Ancon lodge hall on Sunday, February 15, at 9.30 a. m. GEORGE B. ALLEN, *Secretary*.

COROZAL, C. Z., February 9, 1914.

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A letter addressed to Mr. Tobin, care of THE CANAL RECORD, may be procured on application of the addressee at the office of the Secretary, Ancon.

ZONE WOMEN AT WORLD'S FAIR

Women's Board of San Francisco Exposition Invites their Cooperation.

The Woman's Board of the Panama-Pacific International Exposition has extended an invitation to the American women in the Canal Zone to organize an auxiliary to the board, having the same status as county auxiliaries in the State of California. The invitation to such participation in the work and privileges of the woman's board is limited to the 58 counties of the State of California, and to the Canal Zone; the latter organization will be called the Panama auxiliary. The invitation was tendered by a representative of the woman's board, Mrs. S. M. B. Healey, who visited the Isthmus last week for that purpose.

The woman's board is an executive body formed for the purpose of furthering the preparatory work for the exposition. Its central office is in the Panama Building in San Francisco. For the purpose of securing the cooperation of women throughout the State, the board has formed auxiliaries in the counties, which, in turn, have their suborganizations and are a part of the working force in San Francisco. The county auxiliaries have an organization which calls for a chairman, subchairman, secretary, and treasurer. The names of the women chosen for chairman are forwarded to the central board, which ratifies the election; the chairman and her subchairman are members *ex officio* of the woman's board, with all its rights and privileges, except those of voting.

There will be no "Woman's building" at the Panama-Pacific exposition in the sense that the exhibits of women will be shown in such a building. The participation of women in the exposition administration is to be entirely upon the basis of equality and cooperation. The woman's board has undertaken to furnish, operate, and control the entertainment section of the California Host Building. The development of this responsibility is expected to attract the interest of the women of California. County auxiliaries will be asked, in turn, to act as hostesses in the reception and entertainment of the visitors, the date of such invitation being dependent upon the convenience of the board. The installation of day nurseries and playgrounds will be undertaken by the woman's board, and special work is the financing and furthering of plans for the protection of women and girls.

Another effort of the woman's board is the raising of a fund for the erection of a statue to "Motherhood." This monument, the model of which is being executed, will be a permanent bronze statue. It has been promised a place beneath the dome of the Fine Arts building, and, at the close of the exposition, will be presented to the city of San Francisco.

Membership in the Panama auxiliary costs $2. The seal of the woman's board has been made into a membership badge, and is sold at $1. This pin is not purchasable by any but certified members of the board, or one of its auxiliaries. The design, which is executed in colors with a groundwork of gold, shows a woman's figure standing between two parted gates. Within is revealed a ship in full sail, with the setting sun for a background, the whole typifying the opening of the Panama Canal as a new avenue to the commerce of the world.

Moneys raised by the woman's board through contributions, auxiliary membership, and the sale of pins will be expended for office administration, for the furnishing and maintenance of the California building, and for participation in the general welfare work to be organized.

Members of auxiliaries will be entitled to the privileges of the rest and tea room in the California building. Membership tickets will be sent out shortly before the opening of the exposition. The central organization, which is composed of both men and women, consist of a limited number of stockholders who bear all the legal responsibilities.

Cristobal Woman's Club.

At the meeting of the Cristobal Woman's Club on Wednesday afternoon, February 4., Maj. Charles Gerhardt, Tenth Infantry, U. S. A., was the speaker in the place of Dr. Dexter as previously announced, the latter having been called away on official business. Major Gerhardt spoke on popular military education, giving an outline of the students' military camps, which were established last summer under the direction of regular officers of the United States Army at Monterey, California, and Gettysburg. The Cecelian trio of the Cristobal club sang three numbers. The members of the trio are Mrs. Williamson, Mrs. Diers, and Mrs. Mears; Mrs. Ulrich is the director and pianist. Book reviews will be the subject of the meeting on February 18.

New Woman's Club at Pedro Miguel.

A movement has been started to form a woman's club at Pedro Miguel, and a mass meeting will be held in the Commission clubhouse, for the purpose of considering the form that such an organization shall take, on Friday afternoon, February 20, at 2 o'clock. It is intended to invite experienced club women of the Canal Zone to assist in the forming of this organization, and women residing in Pedro Miguel and Paraiso are invited to attend the meeting.

The first woman's club at Pedro Miguel was organized on October 2, 1907. It continued activities, planning for and carrying out many community entertainments, especially Christmas celebrations, until 1912, when, owing to the changes in the villages and the removal of many of the members, it was disbanded. The club was federated in the Canal Zone Federation of Woman's Clubs, and, in connection with the Paraiso Woman's Club, entertained the federation at the January convention in 1911. The new club will have more scope for general activities than the original club had, and the cooperation of the clubhouse secretary, the privileges of the clubhouse, and the more permanent character of the village, provide a more encouraging outlook.

Bishop Knight's Visit Postponed.

The annual visit of the Rt. Rev. Albion W. Knight, D. D., bishop of the Episcopal church, which was to have taken place February 21 to March 1, has been postponed one week. Bishop Knight will arrive, according to cable advice, on Saturday, February 28. The dates of the local visitations will be announced in The Canal Record later.

◆

The regular dance of the Cristobal Dancing Club will be held on Saturday evening, February 14, at the Commission clubhouse.

EXECUTIVE ORDER

To Establish a Permanent Organization for the Panama Canal.

By virtue of the authority vested in me, I hereby enact the following Order, creating a permanent organization for the Panama Canal under the Act of Congress "To provide for the opening, maintenance, protection, and operation of the Panama Canal, and the sanitation and government of the Canal Zone," approved August 24, 1912.

Section I.

The organization for the completion, maintenance, operation, government, and sanitation of the Panama Canal and its adjuncts, and the government of the Canal Zone, shall consist of the following departments, offices, and agencies, and such others as may be established by the Governor of the Panama Canal on the Isthmus or elsewhere with the approval of the President, all to be under the direction of the Governor, subject to the supervision of the Secretary of War.

DEPARTMENT OF OPERATION AND MAINTENANCE.

There shall be a Department of Operation and Maintenance under the immediate supervision and direction of the Governor of the Panama Canal. This department shall be charged with the construction of the Canal and with its operation and maintenance when completed, including all matters relating to traffic of the Canal and its adjuncts, and the operation and maintenance of beacons, lights, and lighthouses; the supervision of ports and waterways, including pilotage; the admeasuring and inspecting of vessels, including hulls and boilers; the operation and maintenance of the Panama railroad upon the Isthmus, including telephone and telegraph systems; the operation of locks, coaling plants, shops, dry docks, and wharves; office engineering, including meteorology and hydrography; the construction of buildings and sanitary and municipal engineering, including the construction and maintenance of drainage ditches, streets, roads, and bridges.

PURCHASING DEPARTMENT.

There shall be a Purchasing Department under the supervision and direction of the Governor. This department shall be charged with the purchase of all supplies, machinery, or necessary plant.

SUPPLY DEPARTMENT.

There shall be a Supply Department, under the supervision and direction of the Chief Quartermaster. This department shall store and distribute all material and supplies for use of the Panama Canal and of its employes; and for other departments of the Government on the Isthmus and their employes; and for vessels of the United States and for other vessels, when required. The Supply Department shall operate commissaries, hotels, and messes; shall be in charge of the maintenance of buildings, the assignment of quarters, and the care of grounds; shall recruit and distribute unskilled labor; and shall have charge of the necessary animal transportation.

ACCOUNTING DEPARTMENT.

There shall be an Accounting Department under the supervision and direction of the Auditor, with an assistant in the United States. The duties of the department shall include all general bookkeeping, auditing, and accounting, both for money and property, costkeeping, the examination of pay rolls and vouchers, the inspection of time books and of money and property accounts, the preparation of statistical data, and the administrative examination of such accounts as are required to be submitted to the United States Treasury Department; and the collection, custody, and disbursement of funds for the Panama Canal and the Canal Zone. These same duties shall be performed for the Panama Railroad Company on the Isthmus when not inconsistent with the charter and by-laws of that company. The department shall be charged with the handling of claims for compensation on account of personal injuries and of claims for damages to vessels. Within the limits fixed by law, the duties and financial responsibilites of the officers and employes charged with the receipt, custody, disbursement, auditing, and accounting for funds and property shall be prescribed in regulations issued by the Governor, with the approval of the President. The Auditor shall maintain such a system of bookkeeping as will enable him to furnish at any time full, complete, and correct information in regard to the status of appropriations made by Congress, the status of all other funds, and the amounts of net profits on all operations, which are to be covered into the Treasury as required by the Panama Canal Act.

HEALTH DEPARTMENT.

There shall be a Health Department under the supervision and direction of the Chief Health Officer. This department shall be charged with all matters relating to maritime sanitation and quarantine in ports and waters of the Canal Zone, and in the harbors of the cities of Panama and Colon; and with land sanitation in the Canal Zone, and sanitary matters in said cities in conformity with the Canal Treaty between the United States and the Republic of Panama and existing agreements between the two Governments thereunder; and all matters relating to hospitals and charities.

EXECUTIVE SECRETARY.

There shall be an Executive Secretary, who, under the direction of the Governor of the Panama Canal, shall be charged with the supervision of all matters relating to the keeping of time of employes; to post-offices, customs, taxes, and excises, excepting the collection thereof; police and prisons; fire protection; land office; schools, clubs, and law library; the custody of files and records; and the administration of estates of deceased and insane employes. He shall, in person, or through one of his assistants, perform the duties of a Shipping Commissioner. He shall conduct all correspondence and communications between the authorities of the Canal Zone and the Government of the Republic of Panama, and such other correspondence as may be given him in charge by the Governor. He shall have charge of the seal of the Government of the Canal Zone, and shall attest such acts of the Government as are required by law to be performed and done under the seal.

The duties herein prescribed for the foregoing departments, offices, and agencies will be assigned to divisions or bureaus thereunder by the Governor of the Panama Canal, as the necessities therefor arise. Each of the foregoing departments shall discharge such further duties as may be assigned to it from time to time by the Governor; and the Governor, with the approval of the President, may transfer from time to time specific duties from one department to another.

Section II.

The organization provided for in Section 1 shall be, in general, in accordance with the outline chart accompanying the memorandum of January 27, 1914, entitled "Memorandum to accompany Executive Order of January 27, 1914, providing for a permanent organization for the Panama Canal," and officers from certain departments shall be detailed in accordance with that memorandum.

Section III.

This Order shall take effect from and after the first day of April, 1914, from which date the Isthmian Canal Commission, together with the present organization for the Panama Canal and the Canal Zone, shall cease to exist, in accordance with the terms of the above-mentioned Act of Congress.

WOODROW WILSON.

THE WHITE HOUSE,
January 27, 1914.

[No. 1885.]

Memorandum to accompany Executive Order of January 27, 1914, providing for a permanent organization for the Panama Canal.

In construing and carrying out the foregoing Order, I direct that it be done with the following considerations in view:

I have deemed it advisable for reasons of efficiency, economy, and good administration to have all the activities connected with the Panama Canal under the supervision of one Cabinet officer.

The troops which will be stationed on the Canal Zone for the protection of the Panama Canal are under the Secretary of War; the Panama Canal Act provides that in time of war an officer of the Army shall, upon the order of the President, have exclusive authority over the operation of the Panama Canal and the Government of the Canal Zone; the construction of the Canal has been successfully carried on under the supervision of the Secretary of War; the logical conclusion is, therefore, that the supervision of the operations of the Panama Canal under the permanent organization should be under the Secretary of War.

It is directed that officers shall be detailed for certain duties from the several departments, as follows:

As Engineer of Maintenance, an officer of the Corps of Engineers, U. S. Army, who shall act as Governor in the absence or disability of the Governor of the Panama Canal.

As Superintendent of Transportation, an officer of the U. S. Navy.

As Electrical Engineer, an officer of the Corps of Engineers, U. S. Army.

As Captains of the Terminal Ports, officers of the U. S. Navy.

As Superintendent of Shops and Dry Docks, a naval constructor, U. S. Navy.

As Chief Health Officer, an officer of the Medical Corps, U. S. Army.

As Superintendent of Hospitals, an officer of the Medical Corps, U. S. Army.

As Chief Officer of the Quarantine Division, an officer of the U. S. Bureau of the Public Health.

As Chief Quartermaster, an officer of the Quartermaster Corps, U. S. Army.

The organization is to be in general accordance with the chart accompanying this memorandum, except that all of the various divisions and subdivisions need not be established until, in the opinion of the Governor, it is desirable to do so, the organization being expanded gradually as the necessities of the work require. WOODROW WILSON.

THE WHITE HOUSE,
January 27, 1914.

The Executive Order defining "Conditions of employment for the permanent force of the Panama Canal," published in full in THE CANAL RECORD of February 4, was signed by the President on February 2, 1914.

EXECUTIVE ORDER

To Prevent Fire Hunting at Night; and Hunting by Means of a Spring or Trap, and to Repeal the Executive Order of September 8, 1909.

By virtue of the authority vested in me, I hereby establish the following Order for the Canal Zone.

Section 1. Every person who shall hunt at night, between the hours of sunset and sunrise, with the aid or use of a lantern, torch, bonfire, or other artificial light, or who shall hunt by the use of a gun or other firearm intended to be discharged by an animal or bird, by means of a spring or trap, or other similar mechanical device, shall be guilty of a misdemeanor.

The penalties imposed by this Order shall be in addition to the punishments authorized by the law against carrying arms without a permit.

Section 2. The Executive Order of September 8, 1909, amending Section 454 of the Penal Code of the Canal Zone, is hereby repealed.

Section 3. This Order shall take effect thirty days from and after its publication in THE CANAL RECORD.

WOODROW WILSON.

THE WHITE HOUSE,
January 27, 1914.

[No. 1884.]

Sunday Trips of Sightseeing Barge Through Gatun Lake.

The Panama railroad sightseeing barge was placed in service on Sunday, February 8, when two trips were made through Gatun Lake. On the morning trip from Gamboa to Gatun, about 100 passengers were carried, and on the afternoon trip from Gatun to Gamboa, about 50. The tug *Porto Bello* towed the barge in the morning from the end of a hawser; in the afternoon, the tug *Reliance* performed this duty with the barge lashed alongside. The second trip occupied about two hours and 20 minutes. There will be two trips of the barge through the lake on Sunday, February 15, one leaving Gamboa at 8.40 a. m., and the second, leaving Gatun at 2 p. m. Fare $1.50, U. S. currency, one way.

John Burke Suspended.

John Burke, manager of the Panama railroad commissaries, was suspended from office on Monday, February 9, and has been given until April 1 to show that certain checks deposited to his credit were come by honestly.

Civil Service Examinations.

Applications for the examinations mentioned in THE CANAL RECORD of February 4 will not be received after February 14.

ISTHMIAN CIVIL SERVICE BOARD.

CULEBRA, C. Z., February 9, 1914.

CUSTOMS ON BAGGAGE.

Bulletin of Treasury Department on Declarations for Entry into the United States.

The following bulletin, issued by the Secretary of the Treasury, with respect to the entry of baggage through the customhouses of the United States, is published for the information and guidance of all concerned:

Paragraph 642, appearing in the free list of the present tariff Act, reads, as follows:

> 642. Wearing apparel, articles of personal adornment, toilet articles, and similar personal effects of persons arriving in the United States; but this exemption shall include only such articles as were actually owned by them and in their possession abroad at the time of or prior to their departure from a foreign country, and as are necessary and appropriate for the wear and use of such persons and are intended for such wear and use, and shall not be held to apply to merchandise or articles intended for other persons or for sale; provided, that in case of residents of the United States returning from abroad all wearing apparel, personal, and household effects taken by them out of the United States to foreign countries shall be admitted free of duty, without regard to their value, upon their identity being established under appropriate rules and regulations to be prescribed by the Secretary of the Treasury; provided further, that up to but not exceeding $100 in value of articles acquired abroad by such residents of the United States for personal or household use or as souvenirs or curios, but not bought on commission, or intended for sale, shall be admitted free of duty.

BAGGAGE DECLARATIONS.

The law requires that every person entering the United States shall make a declaration and entry of personal baggage. The senior member of a family present as a passenger may, however, declare for the entire family.

A failure to declare articles acquired abroad and brought in as baggage renders the articles subject to forfeiture and the passengers liable to criminal prosecution. (Sections 2802 and 3082, R. S.)

Returning residents of the United States should use the form of declaration printed in black; nonresidents should use the form printed in red.

The exact number of pieces of baggage accompanying a passenger must be stated in the declaration, including trunks, valises, boxes, hand bags, and packages or bundles of every kind. Forms of baggage declarations will be furnished passengers by the steamship officers. The declaration should be prepared and signed at least one day before the expected arrival of the vessel. Declarations spoiled in preparation should not be destroyed, but should be turned over to the purser, who will furnish a new blank.

When the declaration has been prepared and signed, the coupon at the bottom of the form must be detached and retained by the passenger and the declaration delivered to the ship's officer designated to receive the same. After all the baggage and effects of the passenger have been landed, the coupon which has been retained must be presented at the inspector's desk, and an inspector will then be detailed to examine the baggage.

Passengers must acknowledge in person, on the pier, their signatures to the declarations.

RETURNING RESIDENTS OF THE UNITED STATES.

Returning residents of the United States must declare all articles acquired abroad, in their baggage or on their persons, whether by purchase, by gift, or otherwise, and whether dutiable or free of duty. Exemption, however, will be allowed by customs officers of articles aggregating not over $100 in value, if suitable for personal or household use, or as souvenirs or curios, and whether intended for the personal use of the passengers or as gifts or presents to others, provided the articles are not bought on commission for another person nor intended for sale. Articles so exempt from duty must, nevertheless, be declared.

Articles belonging to one passenger cannot be included in the exemption of another.

Use does not exempt from duty wearing apparel or other articles obtained abroad. Such articles which have been used abroad may, however, be specifically noted on the declaration and due allowance will be made by the appraising officers for depreciation through wear and use, and duties charged upon the articles at their value in their condition as imported.

Passengers must not deduct the $100 exemption in making out their declarations. Such deductions will be made by customs officers on the pier.

All wearing apparel, personal, and household effects taken out of the United States by residents shall be admitted free of duty without regard to their value, upon their identity being established. If remodeled, repaired, or improved abroad the cost of such remodeling, repairing, or improvement must be declared, and receipted bills for such alterations should be presented. The cost of such repairs is subject to duty, but may be included by customs officers within the $100 exemption. If the cost or value of the repairs be not declared, the articles will be subject to duty upon their entire value.

Citizens of the United States, or persons who have at any time resided in this country, shall be deemed to be residents of the United States, unless they shall have abandoned their residence in this country and acquired an actual, *bona fide* residence in a foreign country. Such citizens or former residents who declare as nonresidents must present satisfactory evidence to the customs officers upon the pier that they have given up their residence in the United States and have become *bona fide* residents of a foreign country.

The residence of a wife follows that of the husband, and the residence of a minor child follows that of its parents.

The examination of baggage will be facilitated and difficulties avoided if receipted bills for foreign purchases be presented, and if all articles acquired abroad be packed separately in one or more trunks.

NONRESIDENTS OF THE UNITED STATES.

Nonresidents of the United States must declare all articles in their baggage, or on their persons, which do not constitute wearing apparel, articles of personal adornment, toilet articles, or similar personal effects, whether intended for their personal use or for others. They must also declare all articles of wearing apparel, jewelry, and other articles of personal adornment, toilet articles, and similar effects, when not owned by them or when intended for other persons, or for sale

HOUSEHOLD EFFECTS.

Household effects, such as furniture, table linen, bed linen, tableware, etc., imported as baggage, must be declared. If shown to the satisfaction of the customs officers to have been actually owned and used abroad by the passenger not less than one year, and not intended for any other person, nor for sale, such effects will be admitted free of duty. If not so owned and used abroad, duties must be paid thereon, unless included in the $100 exemption allowed returning residents.

CIGARS AND CIGARETTES.

Each passenger over 18 years of age may bring in free of duty 50 cigars or 300 cigarettes, or smoking tobacco not exceeding three pounds, if for the *bona fide* use of such passenger. These articles must be declared, but will be passed free by customs officers in addition to the $100 exemption.

CONTESTED VALUATION.

Passengers dissatisfied with values placed upon dutiable articles by the customs officers on the pier may demand a reexamination. Application therefor should be made to the officers in charge immediately. If, for any reason, this course in impracticable, the package containing the articles should be left in customs custody and application for reappraisement made to the collector of customs in writing within 10 days after the original appraisement. No request for reappraisement can be entertained after the articles have been removed from customs custody.

Examination of any baggage may be postponed if the passenger requests the officer taking his declaration to have the baggage sent to the appraiser's stores.

Currency or certified checks only can be accepted in payment of duties, but upon request baggage will be retained on the pier for 24 hours to enable the owner to secure currency or certified checks.

The offering of gratuities or bribes to customs officers is a violation of law. Customs officers who accept gratuities or bribes will be dismissed from the service, and all parties concerned are liable to criminal prosecution.

Discourtesy or incivility on the part of customs officers should be reported to the collector at the customhouse, to the deputy collector or deputy surveyor at the pier, or to the Secretary of the Treasury. Passengers should not, however, deem customs officers discourteous merely because such officers examine baggage thoroughly or appraise articles at a value different from that stated in the passenger's declaration.

BAGGAGE FOR TRANSPORTATION IN BOND.

Baggage containing dutiable articles may be forwarded in bond to any other port of entry upon good reason therefor being shown.

Passengers desiring to have such baggage forwarded in bond should so indicate on their declarations, and also make a request therefor upon the inspector at the time he is assigned to the examination of their baggage. Similar action should be taken when it is desired to have baggage forwarded to another countryin transit through the United States.

SEALSKIN GARMENTS.

An Act of Congress of 1897, as amended in 1912, expressly forbids the importation into the United States of garments made in whole or in part of the skins of seals taken in the waters of the Pacific Ocean. Unless the owner is able to establish to the satisfaction of the collector that the garments are not prohibited by said Act, they cannot be admitted.

AIGRETTES AND OTHER PLUMAGE.

Paragraph 347 of the present tariff Act contains the following proviso:

> The importation of aigrettes, egret plumes, or so-called osprey plumes, and the feathers, quills, heads, wings, tails, skins, or parts of skins, of wild birds, either raw or manufactured, and not for scientific or educational purposes, is hereby prohibited; but this provision shall not apply to feathers or plumes of ostriches, or to the feathers or plumes of domestic fowls of any kind.

Any of the above described prohibited

articles will be excluded from entry when brought in by passengers as trimmngs on hats or other articles of wearing apparel, and will be confiscated whether found in the baggage or on the person. In cases where there has been no wilful intent to violate the law, such prohibited articles may be exported to a foreign country.

W. G. McAdoo,
Secretary of the Treasury.

Treasury Department,
Office of the Secretary,
Washington, December 20, 1913.

Street Improvements in Front of Panama National Institute.

The work of building a macadamized highway, flanked by sidewalks and parking, as an approach to the front entrance of the National Institute of Panama, has been begun by forces of the Division of Municipal Engineering. A 36-foot road will be built for a distance of 309 feet, at right angles from I street, which extends along the east end of the Institute. It will rise on a six per cent grade from I street to the front of the entrance, where, for a distance of 26 feet, the road will be level, passing on a different grade to connection with Ancon boulevard. The front of the building is 263 feet long. All of the sidewalks to be laid will be level, at the elevation of the lowest step of the entrance, and access to I street will be made by steps. The sidewalks will be eight feet three inches wide, and the parking to be planted in shrubbery will be six and one-half feet wide.

A force of between 150 and 200 men will be engaged on the work, which is estimated to cost about $16,000. Among the principal items of the work will be 737 cubic yards of excavation, the spoil to be used in a fill for widening the street in front of the building; 982 cubic yards of borrowed fill to supplement this; the laying of 606 lineal feet of curbs and gutters and 669 square yards of pavement; and the building of steps, terraces, and retaining walls, involving the placing of 28 cubic yards of plain and 142 cubic yards of reinforced concrete.

SECOND DIVISION LABOR TRAIN SCHEDULES.

TIME TABLE NO. 1—EFFECTIVE DECEMBER 1, 1913.

SOUTHBOUND.

STATIONS.	101	103	105	107	109	111	113	115	117	119	121	123	125	127	129	131	133
Leave	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	A.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M
*Bas Obispo	5.20			6.30					12.30							5.30	
*Las Cascadas	5.27	5.45		6.37					12.37							5.37	
Empire	5.35	5.50		6.41	7.40		11.10		12.41	1.40				5.10		5.42	
Culebra	5.40	5.54		6.45	7.44		11.14		12.45	1.44				5.14			
Rio Grande	5.45																
Paraiso			5.50			10.40		12.10			4.40		5.05				
Paraiso Junction	5.55		5.53			10.43		12.13			4.43		5.08				
Gamboa												5.02					
Obispo												5.04					
New Culebra												5.15					
Gold Hill Junction												5.17					
Pedro Miguel Junction	5.58		5.55			10.45		12.15			4.45	5.27	5.10				
Miraflores	6.03		5.59			10.50		12.20			4.50	5.33	5.15				
Corozal	6.09		6.05			10.59		12.30			4.59	5.39	5.24		5.13		6.21
Diablo			6.08										5.27		5.15		6.23
Balboa Junction	6.12		6.10									5.46	5.31		5.18		6.26
Ancon													5.35		5.20		6.28
Big Tree	6.15		6.13									5.57					
East Balboa	6.20		6.17									6.00					

NORTHBOUND.

STATIONS.	102	104	106	108	110	112	114	116	118	120	122	124	126	128	130	132
Leave	A.M.	A.M	A. M.	A.M.	A.M.	A.M.	A .M.	A.M.	A.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.
East Balboa	5.25				6.25									5.15		
Big Tree	5.28				6.28									5.18		
Ancon		5.45		6.05												5.45
Balboa Junction	5.39	5.47		6.07	6.30									5.22		5.47
Diablo		5.50		6.10												5.49
Corozal	5.46	5.54		6.15	6.34			10.59			12.30		5.00	5.26		5.51
Miraflores	5.51	6.01			6.43			11.07			12.38		5.09	5.33		
Pedro Miguel Junction	6.00	6.05			6.47			11.12			12.42		5.14	5.37		
Gold Hill Junction	6.12															
New Culebra	6.18															
Obispo	6.25															
Gamboa	6.27															
Paraiso Junction		6.08			6.50			11.15			12.45		5.18	5.40		
Paraiso		6.12			6.55			11.18			12.48		5.25			
Rio Grande														5.50		
Culebra			5.57			6.48	7.47		11.15	12.10		12.46		5.55	5.17	
Empire			6.01			6.51	7.50		11.18	12.14		12.50		6.00	5.21	
*Las Cascadas			6.06						11.23					6.06	5.25	
*Bas Obispo			6.12						11.30					6.12	5.30	

Trains Nos. 108, 129, 132, and 133 run over I. C. C. tracks from Corozal to Miraflores material yard. Train No. 104 makes regular stop at Spur 2. Trains Nos. 102 and 123 go around "Y" to Panama.

Corozal and Balboa Labor Train.

Northbound. Southbound.

142	140	138	136		135	137	139	141	143
P.M.	P.M.	A.M.	A.M.	Arrive Leave	A.M.	A.M.	P.M.	P.M.	P.M.
5.20	12.35	11.20	6.30	Corozal	6.10	6.35	12.15	12.37	1.10
5.18	12.33	11.18	6.28	Diablo	6.12	6.37	12.17	12.39	1.12
5.13	12.28	11.13	6.23	Yard Office	6.17	6.42	12.22	12.44	1.17
5.10	12.25	11.10	6.20	Sand Dock	6.20	6.45	12.25	12.47	1.20

Train No. 142 connects with No. 128 at Corozal. Train No. 135 connects with No. 101 at Corozal.

Ancon—Fort Grant Labor Train.

146	144		145	147
P.M.	A.M.	Arrive Leave	A.M.	P.M.
5.30	11.48	Ancon	6.10	12.40
5.27	11.43	Big Tree	6.13	12.43
5.23	11.40	East Balboa	6.16	12.46
5.17	11.33	Fort Amador	6.20	12.52
5.13	11.30	Breakwater	6.23	12.55
5.05		Naos Island	6.30	

Empire—Gold Hill Labor Train.

152	150	148		149	151	153
P.M.	A.M.	A.M.	Leave Arrive	A.M.	A.M.	P.M.
5.15		6.15	Gold Hill Engine House	6.15		
5.21	11.05	6.21	Gold Hill Tower	6.09	6.29	12.39
5.25	11.10	6.25	Suspension Bridge	6.05	6.25	12.30

Train No. 149 connects with No. 102 at Gold Hill Engine House.
Train No. 152 connects with No. 123 at Gold Hill Engine House.

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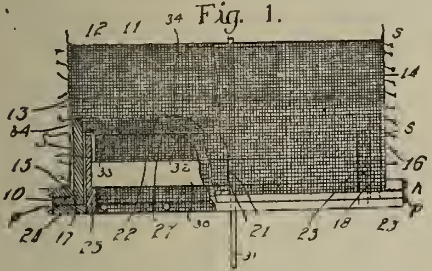
*As per notice published in *The Canal Record* of January 21, 1914, I. C C. labor trains ceased operating north of Empire after January 26.

INSECT TRAP.

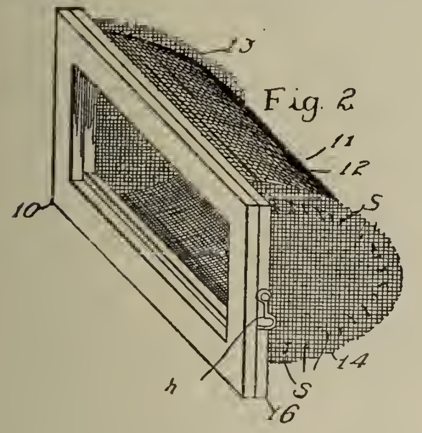
Local Invention Designed Chiefly to Catch Mosquitoes by Means of Human Scent.

Mr. Charles H. Bath, division inspector in the Department of Sanitation, has been granted a patent (No 1,082,489) on an improved insect trap, the principal object of which is to provide a device to entrap mosquitoes by means of human scent, without subjecting the occupants of a room to attack. The idea of furnishing this form of a lure is based on the now generally recognized belief that human scent will attract mosquitoes. The trap is designed to be applied over the inside of an opening in the wall, or window, of a room, preferably near the ceiling on account of the stronger scent, so that the mosquitoes attempting to enter will be caught. The entrance to the trap is eight by 23 inches, and the insects will enter it in preference to seeking a more difficult place. The trap may also be placed over the outside of the opening, and in this manner the insects already in a room seeking an outlet may be trapped. When the device is placed on refuse boxes, or over pits, where fly larvæ are hatched, the light at the outside will serve for the necessary attraction. Quarts of flies have been caught in this manner on the Isthmus. For catching moths and the like, artificial light, placed in a suitable position, will suffice to attract. The invention is so constructed that it can be readily taken apart for cleaning and disinfection, as well as for removing the accumulation of insects. A description of it more in detail, follows:

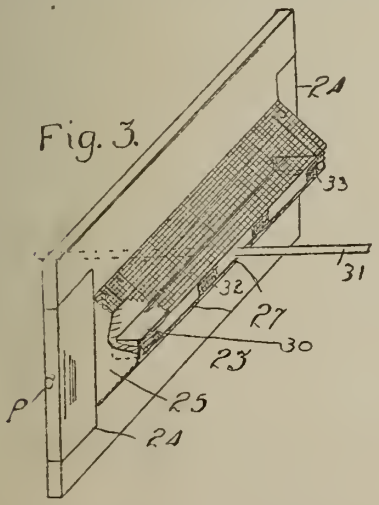
Fig. 1.



THE PARTS ASSEMBLED.

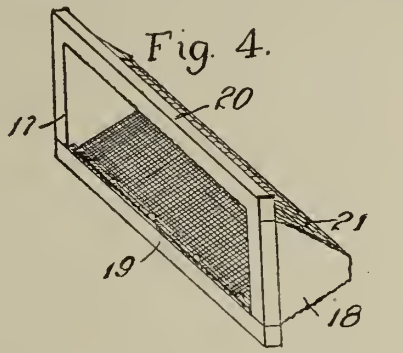


MAIN HOUSING, OR CAGE.

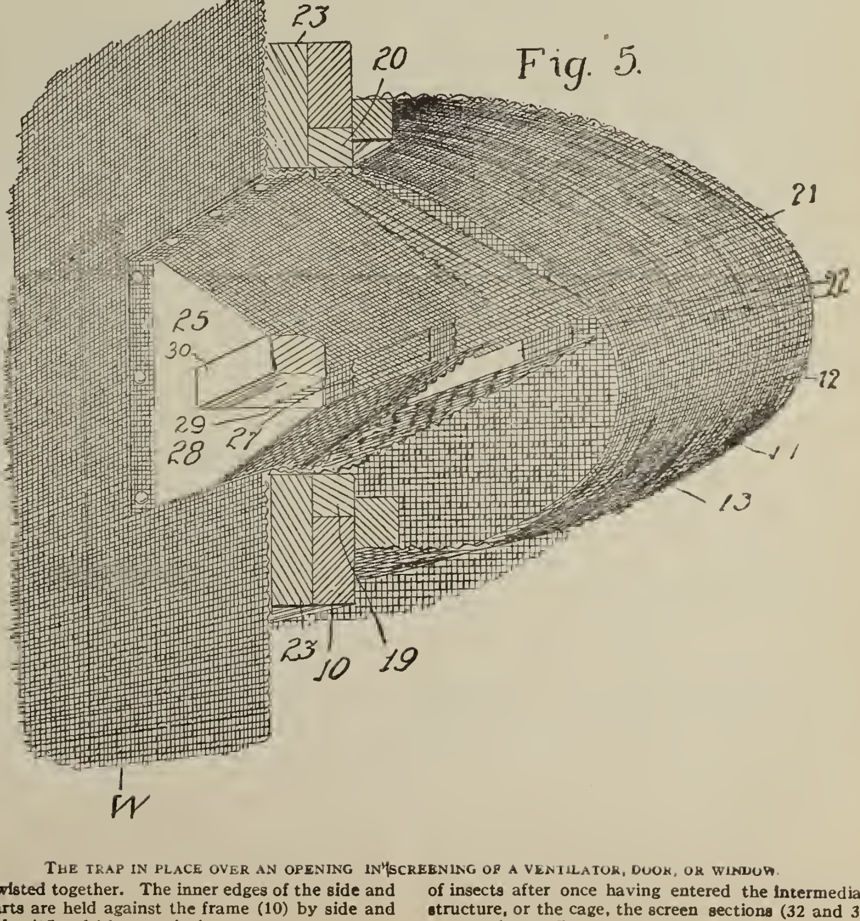


OUTER INLET STRUCTURE, WHICH IS FASTENED OVER INSIDE OF OPENING IN SCREEN OF VENTILATOR, DOOR, OR WINDOW.

Its construction involves a main housing or caging, comprising a rectangular frame (10) to which is secured the wire structure or caging (11). The sides of this structure are formed of one piece of wire screen or gauze (12), while the ends (13 and 14) are pieces of wire screen or gauze secured to the side frame (12) by receiving through its meshes the strands (S), which are then twisted together. The inner edges of the side and end parts are held against the frame (10) by side and end strips (15 and 16 respectively.



INTERMEDIATE INLET-STRUCTURE THAT FITS INTO MAIN CAGE.



THE TRAP IN PLACE OVER AN OPENING IN SCREENING OF A VENTILATOR, DOOR, OR WINDOW.

An intermediate inlet structure, shown in Figure 4, comprises conical end walls (17 and 18) connected at their bases by side bars (19 and 20), with a wire screen or gauze (21) secured to the edges of the conical end walls and to the side bars (19 and 20). Along the apex of the screen the sections are cut out to leave inlet passageways (22) to the interior of the cage (12). This intermediate structure is adapted to fit into the cage structure as indicated in Figures 1 and 5, the side strips (15) of the cage structure extending slightly beyond the side walls of the frame (10) to form abutment for the side bars (19 and 20) of the intermediate structure.

An outer inlet structure, shown in Figure 3, comprises a rectangular frame (23) from the end walls of which (24) the conical pieces (25) extend. Wire screen or gauze is secured to the edges of these pieces, with the gauze along the apex cut away to leave the passageways (27). When the parts are to be assembled, the intermediate structure is fitted into the main structure, and the frame (23) of the outer structure is applied to the frame (10) of the main structure, and held to such frame by means of hooks (h) or pins (p). The assembled structure may be placed in any position, so that the insects will find entrance into the outer inlet structure; they will pass along the conical walls and then through the passageways (27) of this structure. From here the insects will pass into the intermediate inlet frame, and out of the passageways (22) thereof, and into the main structure or cage (14). The operation of the conical inlet frame is well understood by mosquito experts; insects readily enter at the bases and leave through the apex passageways, but refuse to enter the frames at the apex. The insects eventually land in the main cage, and may be readily removed after the intermediate and outer inlet structures have been lifted out.

The traps should be cleaned at least once a month. The cage may be removed easily by unfastening the hooks (h). In order that the inlet or outlet through the wall opening may be closed to insects upon removal of the cage, suitable means are provided for closing such openings. The end blocks (25) on frame (23) have the grooves (29) in which the ends of a bar (30) may slide to open or close the passageways (27) at the apex of the conical screen member. To manipulate this bar, a wire or rod (31) may be extended therefrom, so that the block can be readily shifted to close the passageways before the cage is removed, and to reopen them when the cage is applied. To better prevent escape of insects after once having entered the intermediate structure, or the cage, the screen sections (32 and 33) are relatively offset; that is, the sections (33) of the intermediate structure are in line with the passageways (27) of the inner structure. Also, to prevent return of insects at the ends of these structures, screen sections (34 and 35) are left to extend a distance inwardly from the conical end blocks.

A number of experiments have been conducted by the inventor with traps of the above design. A series of tests conducted at the former laborers' barracks at Miraflores in 1911, covering a period of 71 days, with 44 traps set in eleven barracks, and with the average of 14½ traps in use per day, showed an estimated daily catch per trap of 96 *anopheles*, or a total of 1,392 per day. The total estimated number caught during the entire period of 71 days was 98,832. One of the traps that had not been cleaned out for several days contained a thick layer of mosquitoes, flies, moths, and other insects. The dead *anopheles* in this trap amounted to several thousand. In an average of six traps daily for 60 days over 37,000 *anopheles* were caught and counted. The largest catch on record in one night, in one of these traps, was 1,018 *anopheles*.

◆

Admissions to Colon Hospital.

The primary object of Colon Hospital as at present organized is to treat emergency cases, but this rule has been waived to admit Panamanians when necessary. It is not possible with the present equipment of the hospital to handle all classes of maternity cases among residents of the city, but even in such cases, where life is endangered, aid will not be refused. It is thought that in nearly all instances the sick of Colon can be cared for without difficulty at Santo Tomas Hospital, but in every case where immediate treatment is necessary, it will be given. The superintendent of the hospital, the district physician, and the alcalde have been informed that charity cases may be transferred to Santo Tomas Hospital in the hospital car without charge, and the attendants have been instructed to receive these patients and to look after them until they reach Panama.

◆

Hotel Aspinwall, Taboga.

Families of employes are entitled to the employes' rate of $2.25 per day, per person, at the Hotel Aspinwall, Taboga.

Launch tickets to Taboga are on sale at all I. C. C. hotels and the Hotel Washington.

◆

Transfer Charge for Employes' Baggage.

A transfer charge will be made hereafter for employes' baggage from the line railroad stations to the Panama railroad docks at Cristobal and Colon, as well as for the handling of baggage of employes returning to the Isthmus. These charges will be in accordance with the current rates for handling baggage, placed in effect when the railroad company took the baggage business out of private hands, namely, 15 cents for a grip, 25 cents for a trunk weighing 150 pounds, or under, and 40 cents for one weighing over 150 pounds. A few years ago a charge was made for handling employes' baggage, along the lines now adopted, but the arrangement was subsequently annulled, and since then the railroad company has handled this class of baggage free. No change will be made in the present method of transferring baggage to pier No. 11, with the exception that the station agents have been instructed to use the current transfer baggage checks, now in their possession, for all baggage checked to Panama railroad steamers in the same way as they have been doing for outside lines. The four new baggage wagons, ordered for the service some time ago, have arrived and are in use, two at each terminal.

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Postal Savings Bank Transactions.

Following is a statement of the postal savings bank transactions at Canal Zone post-offices for the month of January, 1914:

OFFICE.	Amount issued.	Amount paid.
Ancon	$15,797.00	$18,099.00
Balboa	19,459.00	13,396.00
Bas Obispo	60 00	290.00
Corozal	25,928.00	25,549.00
Cristobal	13,411.00	12,208.00
Culebra	8,241.00	8,687.00
Empire	20,769.00	17,147.00
Gatun	13,536.00	10,228.00
Las Cascadas	1,800.00	2,079.00
Paraiso	8,769.00	4,401.00
Pedro Miguel	8,206.00	10,704.00
Cristobal, Station A	1,260.00	1,090.00
Cristobal, Station B	1,760.00	1,238.00
Total	$138,996.00	$125,116.00
Balance on hand, January 1, 1914	$549,445.00	
Deposited during month	138,996.00	
Withdrawn during month		125,116.00
Balance on hand, January 31, 1914		563,325.00
	$688,441.00	$688,441.00

◆

Crematory Installation Completed.

The smokestack at the new crematory at Ancon was raised on Saturday, January 31, which completed the installation of the plant; the first operation took place on Thursday, February 5. The building housing the apparatus is situated in the Ancon cemetery grounds, and is of a temporary character, it being planned to move the crematory to a different location, and house the apparatus in a permanent structure as soon as the work of exhuming and burning the unclaimed bodies in the graveyard is finished. This work is preparatory to vacating the plot for burial purposes, as it will become a part of the new Balboa townsite.

Notices have been sent out to relatives or friends, where obtainable, of persons buried in the cemetery announcing that 90 days' time would be given to effect a removal of the bodies. Several exhumations have already been made since the issuance of the notice. There were 4,945 burials in this cemetery from May 9, 1905, the date of the first interment, to February 1, 1914. By far the greater number of interments are of colored persons, the section allotted to the whites occupying but a small proportion of the whole plot. In one part of the section for the whites are the graves of the soldiers, sailors, and others transferred from the Flamenco Island cemetery in August, 1911, a list of which was published in THE CANAL RECORD of August 30, 1911. What is left of these interments will probably be burned, and the ashes, together with the monuments that mark some of these graves, provided no other disposition is made, will be taken to a new cemetery plot to be laid out at Corozal, or some other point on the Pacific side.

A description of the cemetery apparatus, which consists of two retorts with accessories, manufactured by the Jarvis Engineering Company of Boston, was published in THE CANAL RECORD of July 30, 1913. The building is divided into three rooms, the first and largest for the furnaces, the second for the air blower, oil pump, electric motor, etc., and the third for use as a store room. California crude oil will be used as fuel, for the first time, it is stated, in a crematory of this design. The California product was tried at a 2-retort crematory installed at Omaha, Neb., but failed to give successful results, owing to its density. Some slight modifications have been made in the burners at the Ancon cemetery plant, which, it is expected, will overcome the difficulty met with at Omaha. The apparatus was installed under the direction of Mr. A. E. Barnes, sent down by the Jarvis Engineering Company for the purpose. He will also superintend its future operation.

◆

Present Work of Steamshovels.

Nineteen steamshovels were excavating in the construction of the Canal and its accessory works on February 2, as follows:

Three 95-ton shovels were excavating from the top of slides on the east bank of Culebra Cut, north of Gold Hill.

Four 95-ton shovels were removing hard rock from the Sosa Hill quarry, for armoring the Naos Island breakwater.

Two 95-ton Bucyrus shovels and one Model 91 Marion shovel were excavating the site of the proposed dry docks and coal station adjoining, at Balboa.

One 70-ton shovel was borrowing clay fill from the east side of the hill on which all that remains of the village of El Diablo is situated, and at the same time preparing the permanent right-of-way of the Panama railroad, running to Balboa.

One 70-ton shovel was borrowing spoil from the west side of Cocoli Hill, for completing the connection between Miraflores west dam and Miraflores Locks, and completing the west backfill of the locks, especially at the northwest wing wall.

Two 70-ton shovels were deepening and widening the discharge channel of Miraflores Spillway.

One 70-ton shovel was working near the old sand track junction, south of Miraflores Locks, excavating the dike separating the Canal and the channel of the Rio Grande, below the point at which the Cardenas River flows into the Rio Grande.

One 70-ton shovel was borrowing spoil from hills west of Gatun Dam for backfill around the hydroelectric station, on the east side of the discharge channel of Gatun Spillway, and for raising and widening the Gatun-Mindi levee.

Two 95-ton shovels were engaged at Porto Bello, quarrying hard rock for armoring the lee side of the Toro Point breakwater.

One 70-ton shovel was working in a borrow pit of the Panama railroad at Mount Hope, providing material for the railway to the proposed coaling plant at the north end of Mindi Island, and for fills in the extension of Colon.

◆

Ancon Crusher.

Following is a statement of rock crushed at Ancon quarry during the week ending February 7:

DATE.	Hours worked.	Cubic yards.
February 2	7.10	2,085
February 3	8.20	2,135
February 4	8.00	2,233
February 5	8.30	2,214
February 6	8.15	2,270
February 7	7.05	2,334
Total	47.20	13,271

OFFICIAL CIRCULARS.

Provisions of the Income Tax Law.

CULEBRA, C. Z., February 9, 1914.

CIRCULAR No. 526:

1. *Normal income tax on income exceeding* $3,000 *or* $4,000—The income tax law, Section 2 of the Act of October 3, 1913, requires every citizen of the United States, whether residing at home or abroad, thus including those residing on the Isthmus of Panama, to pay a normal income tax of one per centum per annum upon the entire net income of such citizen in excess of $3,000, in case of a single person, or $4,000, in case of a married man or woman with a wife or husband living with him or her. For the taxable period ending December 31, 1913, viz., March 1 to December 31, 1913, the tax will be assessed upon the net income exceeding $2,500 in the first case and $3,333.33 in the second case.

2. *Net income defined*—The law provides that:

> "The net income of a taxable person shall include gains, profits, and income derived from salaries, wages, or compensation for personal service of whatever kind and in whatever form paid, or from professions, vocations, businesses, trade, commerce, or sales, or deals in property, whether real or personal, growing out of the ownership, or use of, or interest in, real or personal property; also, from interest, rent, dividends, securities, or the transaction of any lawful business carried on for gain or profit, or gains or profits and income derived from any source whatever, including the income from, but not the value of property acquired by gift. bequest, devise, or descent: provided, that the proceeds of life insurance policies paid upon the death of the person insured, or payments made by or credited to the insured, on life insurance, endowment, or annuity contracts, upon the return thereof to the insured at the maturity of the term mentioned in the contract, or upon surrender of contract, shall not be included as income."

3. *Withholding agents*—All persons, firms, agents, employers, etc.,

> "including all officers and employes of the United States having the control, receipt, custody, disposal, or payment of interest, rent, salaries, wages, premiums, annuities, compensation, remuneration, emoluments, or other fixed or determinable annual gains, profits, and income of another person exceeding $3,000 for any taxable year, other than dividends on capital stock or from the net earnings of corporations and joint stock companies or associations, subject to like tax, who are required to make and render a return in behalf of another."

are required to deduct and withhold a sum sufficient to pay the normal tax, and to pay the same to the proper officer of the United States, and they are made personally liable for such tax.

4. *Deductions at the source for 1913 limited*—No deductions from the source were required until November 1, 1913, and no deduction is to be made for the months of November and December, 1913, unless the total income from March 1 to December 31, 1913, paid to any person by the withholding agent after October 31, 1913, exceeds $3,000. If the income for the taxable part of the year 1913 paid by any one employer or other withholding agent after October 31, 1913, exceeds $3,000, the tax is to be collected on the entire amount paid unless the exemption of $2,500, or $3,333.33, as the case may be, is claimed by filing not less than 30 days prior to March 1, 1914, "With the person who is required to withhold and pay the tax for him, a signed notice in writing claiming the benefit of such exemption." If this notice is given no tax is to be withheld upon the amount of the exemption. The form of the notice required to be given is contained in Section 8.

5. *Deductions on Panama Canal pay rolls*—Beginning when the amount of salary due any officer or employe of the Isthmian Canal Commission for the calendar year 1914 equals $3,000, there will be deducted, upon the pay rolls of the Commission, the normal income tax of one per cent on the total salary for the calendar year unless there is filed with the Examiner of Accounts of the Isthmian Canal Commission, prior to the 25th day of the month in which the salary reaches the amount of $3,000, the notice in the form contained in Section 8. If the notice is given to the Examiner of Accounts as above provided, deduction will be made only on the excess of the exemption of $3,000, or $4,000, as the case may be. If the notice is not filed 30 days or more prior to March 1, 1915, the deduction will be made upon the total salary if it exceeds $3,000, and a refund of the amount will not be made unless authorized by law, and then only in conformity with the regulations prescribed by the Secretary of the Treasury.

6. *One exemption allowed*—No person and no man and wife is entitled to more than one exemption.

7. *Deduction from pay of U. S. Army and Navy officers*—The income tax will be deducted from the salaries of officers of the United States Army and Navy detailed for duty with the Panama Canal, and from the salaries of all other Government employes whose compensation is paid in part only by the Panama Canal, beginning when the total amount of salary due for the calendar year 1914 and payable by the Canal equals $3,000. The deduction will then be one per cent of the total salary for the calendar year actually payable from Panama Canal funds unless the notice contained in Section 8, claiming exemption, is filed with the Examiner of Accounts at the time and in the manner provided in Section 5. If this notice is given any balance of the exemption claimed in excess of the regular Army or Navy pay will be applied against the salary paid by the Panama Canal. Each Army and Navy officer whose salary as such officer exceeds $3,000 should file with the Army or Navy paymaster paying his account a notice on the form provided in Section 8, prior to the month in which his total salary for the calendar year paid by such Army or Navy paymaster amounts to that sum, and in any case not less than 30 days prior to March 1.

8. *Notice to withholding agents*—Any person subject to the normal tax of one per cent, the amount of which is withheld or is to be withheld at the source, wishing to avail himself or herself of the exemption of the $3,000, or $4,000, as the case may be, must file with the withholding agent not later than 30 days prior to the date on which the return on his income is due: that is, 30 days prior to March 1 of each year, a notice in the following form which has been adapted for use of officers and employes of the Panama Canal:

FORM FOR CLAIMING EXEMPTION FROM THE SOURCE, AS PROVIDED IN PARAGRAPH C, SECTION 2, OF THE FEDERAL INCOME TAX LAW OF OCTOBER 3, 1913.

To .... Examiner of Accounts,
Isthmian Canal Commission,
Empire, Canal Zone.

I hereby serve you with notice that I .... am single—married and living with my wife—husband (strike out so as to show status correctly), and now claim the benefit of the exemption of $.........., as allowed in Paragraphs C and D of Section 2 of the Federal income tax law of October 3, 1913 (my total exemption under said paragraphs being $.........)

Signed: ....
Address: ....
Street and number.
....
Date: ....191... *City and State.*

As stated in preceding sections this same notice must be given before the total salary due for the calendar year equals the amount of $3,000, otherwise a deduction on the total salary will be made.

9. *Deductions to be made in computing net income*—The following is included although its provision cannot now be availed of in connection with the returns of income for the calendar year 1913:

> "Any person subject to the normal income tax of one per cent, a part of whose income is withheld, or is to be withheld at the source, who may wish to avail himself of the deductions authorized, may file either with the collector of internal revenue for the district in which return is made for him, or with the withholding agent, nor later than 30 days prior to March 1, a return and notice in substantially the following form:

United States Internal Revenue.

RETURN MAKING APPLICATION FOR DEDUCTIONS, AS PROVIDED BY PARAGRAPHS B AND E, SECTION 2 OF THE FEDERAL INCOME TAX LAW OF OCTOBER 3, 1913:

To ....
....
....

I hereby solemnly declare that the following is a true and correct return of my gains, profits, and income from all sources from March 1 to December 31, for the year 1913, and a true and correct return of deductions asked for under Paragraph B of Section 2 of the Act of October 3, 1913, and I hereby claim deductions as shown below.

....

Amount of gains, profits, interest, rents, royalties, profits from copartnerships, and income from all sources whatsoever........$........

Deductions.

1. The amount of necessary expenses actually paid in carrying on business, except business expenses of partnerships, and not including personal, living, or family expenses $........
2. All interest paid within the year on personal indebtedness of taxpayer.........$........
3. All National, State, county, school, and municipal taxes paid within the year (not including those assessed against local benefits)......................... $........
4. Losses actually sustained during the year incurred in trade, or arising from fires, storms, or shipwreck, and not compensated for by insurance, or otherwise..........$........
5. Debts due, which have been actually ascertained to be worthless and charged off within the year....................$........
6. Amount representing a reasonable allowance for the exhaustion, wear, and tear of property arising out of its use or employment in the business, not to exceed in the case of mines five per cent of the gross value of the output for the year for which the computation is made, but not including the expense of restoring property or making good the exhaustion thereof, for which an allowance is or has been made....................$........
7. The amount received as dividends upon the stock, or from the net earnings of any corpoation, joint stock company, association, or insurance company which is taxable upon its net income....................$........
8. The amount of income, the tax upon which has been paid or withheld for payment at the source of income................$........

Total deductions................$........

(Signed) ....
(Address)..............
Date................, 191..

NOTE—Money or other things of value, disposed of by gift, donation, or endowment, shall not be deducted or be made a basis for a deduction from the income of persons or corporations in their tax returns under the income tax law.

The Federal income tax law exempts from taxation interest upon the obligations of the United States or its possessions, or upon the obligations of a State or any political subdivision thereof; also, the compensation of the present President of the United States during the term of office for which he has been elected, and of the Judges of the Supreme and inferior courts of the United States, now in office, and the compensation of all officers and employes of a State or any political subdivision thereof paid by the State or any political subdivision thereof, except when such compensation is paid by the United States Government.

10. *Deductions allowable for 1913*—For the tax period from March 1, 1913 to December 31, 1913, the deductions allowed, as provided in Section 9, shall be five-sixths of the deductions allowable for a calendar year.

11. *Returns*—On or before March 1, 1914, and the first day of March in each year thereafter, a true and accurate return, under oath or affirmation, must be made by each person of lawful age, except as hereinafter stated, having a net income of $3,000, or over, for the taxable year, to the collector of internal revenue for the district in which such person resides, or has his principal place of business, or in the case of a person residing in a foreign country, in the place where his principal business is carried on within the United States. Such return in the form prescribed must set forth specifically the gross amount of income from all separate sources, and from the total thereof, deducting the aggregate items or expenses and allowances authorized.

Guardians, trustees, executors, administrators, agents, receivers, and conservators, and all persons, corporations and associations acting in any fiduciary capacity, must make and render a return of the net income of the person for whom they act subject to the tax coming into their custody and control or management, except that a return made by one of two or more joint guardians, trustees, executors, administrators, agents, receivers, and conservators, or other persons acting in a fiduciary capacity, filed in the district where such person resides, or in the district where the will or other instrument under which be acts is recorded, under the regulations prescribed by the Secretary of the Treasury, is constituted a sufficient compliance with the requirements.

12. *Persons physically unable to make returns*—If a person subject to said tax part of which income is withheld, or is to be withheld, is a minor or insane person, or is absent from the United States, or unable to make the application or return, because of serious illness, the application or return may be made by the withholding agent, who shall make the following oath under the penalties of this Act:

I hereby swear (or affirm) that I have sufficient knowledge of the affairs and property of........ .... (naming person and address for whom acting) to enable me to make a full and complete return for .... (naming person), and that the return of income and application for deductions made by me are true and accurate.

(Signed)...............
(Address)..............
(Street and number.)
....
(City and State.)

Date: .... 191....
Signed and sworn to before............, 191..
....

13. *Returns from the Isthmus*—No collector of internel revenue has been designated to receive the returns due March 1, 1914 from those on the Isthmus of Panama who are required to make such returns. Forms for making the returns may be obtained by employes of the Isthmian Canal Commission and the Panama Railroad Company upon application to the Examiner of Accounts of the Isthmian Canal Commission. Returns should be made in the following manner: Residents of the Canal Zone who have *bona fide* residence in the United States should forward their returns to the

collector of internal revenue for their respective districts, or to the collector of internal revenue of the district where they have their principal place of business. Residents of the Canal Zone who have no *bona fide* residence in the United States, or no place of business, may make their returns direct to the Commissioner of Internal Revenue at Washington, or to the collector of the district in which they last resided before coming to the Isthmus.

14. *Penalties*—Subsection (F) of Section 2 provides *inter alia*, as follows:

> "Any person or any officer of any corporation required by law to make, render, sign, or verify any return, who makes any false or fraudulent return or statement with intent to defeat or evade the assessment required to be made shall be guilty of a misdemeanor and shall be fined not exceeding $2,000, or be imprisoned not exceeding one year, or both, in the discretion of the court, with the costs of prosecution."

15. *Assessment and payment of tax*—The law requires the Commissioner of Internal Revenue to notify all persons of the amount to which they are respectively liable, on or before the first day of June of each successive year, and requires that the assessment shall be paid on or before the 30th day of June. If possible, arrangements will be made, so that payments may be made to a collector for the Panama Canal, who will make a remittance for all amounts collected to a collector of internal revenue, or to the depository designated by the Commissioner of Internal Revenue.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Car Demurrage System.

CULEBRA, C. Z., February 6, 1914.

CIRCULAR No. 525:

A car demurrage system is to be established between the several departments and divisions of the Isthmian Canal Commission and the Panama railroad, effective about March 1, 1914, and, as a preliminary means of establishing the proper car records and of educating those concerned in the preparation and use of the various blank forms, the following reports will, effective at once, be submitted by responsible officers:

1. Form A. I. 87-Revised—Daily report of cars.

This report will be submitted daily by all agents and yardmasters, both I. C. C. and P. R. R. It will be prepared to show all cars on hand at the respective station or yard, together with full information called for by printed headings or instructions.

In all cases where cars are consigned "Care of Quartermaster," under the heading "Remarks," last column, note the name of the person responsible for unloading the car.

The agent or yardmaster preparing and submitting this report will secure from the quartermaster of his district the names of the persons responsible for unloading all cars consigned in care of the district quartermaster. The quartermaster's or storekeeper's decision in this matter will be final.

This report is to be made up and closed by 11 a. m., each day, a carbon copy being retained for the office file. The original shall be mailed to the trainmaster, Colon, if sent by railroad mail, or trainmaster, Cristobal, if sent by Canal Zone mail, on first train after 11 a. m.

2. Form A. I. 828—Yardmasters' weekly report of cars on band."

This report shall be submitted by all agents and yardmasters, both I. C. C. and P. R. R. at 4 p.m., each Saturday. It shall be addressed to trainmaster, Colon, if sent by railroad mail, or trainmaster, Cristobal, if sent by Canal Zone mail. This report will show the information called for by printed headings, and under the column "Remarks" will designate the office or person responsible for unloading the cars.

3. Form A. I. 827—Transfer list.

This report is to be made out and forwarded to trainmaster by railroad mail, as addressed on the back. It needs no envelope. This form has been prepared on stiff paper to facilitate writing car numbers, or when checking a short train, and is intended for use by I. C. C. and P. R. R. crews to keep track of cars moved over the road without billing. As an example: An I. C. C. engine moves two steel flat cars, loaded with dredge pipe, from Miraflores to Paraiso. The conductor enters these two cars on form and hands it to any P. R. R. agent, or block office, he passes while making the transfer. This gives the trainmaster's office, Colon, a record of the cars.

Under heading "Origin," show at what point cars are picked up. Under heading "Destination," show where cars are set out. Other information should be shown as called for by headings. The card should be signed.

It is not intended that this form should be used for movement of steel dump cars, or Lidgerwood side flats.

A supply of the necessary blank forms is available in Colon, and the trainmaster has been instructed to see that a suitable initial supply is furnished all offices upon application. Any additional number required should be requisitioned from the Depot Quartermaster, Mount Hope.

All district quartermasters will cooperate with station agents and yardmasters, and render any assistance necessary to secure full information for preparation of these reports. They will arrange to check up at least once daily with the agent or yardmaster in their particular territory, and take account of the cars for which they are responsible.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission.
President, Panama Railroad Company.

Observance of Washington's Birthday.

CULEBRA, C. Z., February 6, 1914.

CIRCULAR No. 524:

As Washington's Birthday falls on Sunday, February 22, 1914, the following day, Monday, February 23, 1914, will be observed as a holiday in the Canal Zone, and as far as practicable all public business will be suspended on that day.

GEO. W. GOETHALS,
Chairman.

Operation of Handcars and Velocipedes on Panama Railroad Main Line Tracks.

CULEBRA, C. Z., February 5, 1914.

HEADS OF DEPARTMENTS AND DIVISIONS:

The general superintendent of the Panama railroad states that the number of hand cars and 1-man and 2-man velocipedes that are in use by employes of the Commission on the main tracks and yard tracks of the Panama railroad is increasing, and that same interfere with the switching, and delay track work. It is desired that hand cars and velocipedes assigned to this service be limited to the actual necessities of the department or division using same, and heads of departments and divisions are requested to see that all hand cars and railway velocipedes not assigned to some particular gang are turned over to the nearest storekeeper of the Quartermaster's Department.

The general superintendent of the Panama railroad also reports that Commission hand cars are frequently equipped with seats so that white foremen can sit down at the front part of the car. This practice is dangerous, and it is requested that instructions be issued to all concerned to discontinue same.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Termination of Service Papers.

CULEBRA, C. Z., February 9, 1914.

CIRCULAR No. 309-D:

Whenever possible, this office should receive termination of service papers at least five days prior to the date the employe's service is terminated.

GEO. W. GOETHALS,
Chairman.

Examination of Applicants for Position as Pilot.

ANCON, C. Z., February 6, 1914.

Applicants for license as pilot on the Panama Canal may be examined at any time during office hours as to their qualifications for such position. Arrangements should, however, be made in advance, either by letter or by telephone, with Captain Hugh Rodman, U. S. N., Administration Building, Ancon, C. Z.

HUGH RODMAN,
Chairman, Board of Local Inspectors.

Change in Sailing Date of the "Advance."

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., February 9, 1914.

CIRCULAR No. 360:

All concerned—The steamship *Advance* will sail from pier No. 11, Cristobal, at 3 p. m., on Monday, February 16, instead of Tuesday, February 17, as scheduled.

F. MEARS,
General Superintendent.

Handling Mail Matter on Panama Railroad Baggage Cars.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., February 10, 1914.

CIRCULAR No. 361:

All concerned—It has been brought to my attention that certain mail matter is being delivered this company for handling in baggage cars as company business, which is not only against the rules of this company, but in direct violation of the postal laws.

The postal authorities have called attention to the matter and a continued effort to violate such laws will, no doubt, meet with serious results, as it will be necessary for us to turn such matter over to the postal authorities.

All employes of this company have been instructed not to receive any other than company mail in official envelopes, and such mail or packages, plainly marked to indicate that they contain documents covering through cargo, such as accountable receipts and bills of lading, etc.

F. MEARS,
General Superintendent.

Change of Position of Manual Block Office at Gamboa.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., February 9, 1914.

G. S. BULLETIN No. 46:

All concerned—The manual block office at Gamboa cabin will be moved to the south end of the present platform on Thursday, February 12, work beginning at 7 a. m. The manual block signal will be disconnected and out of service for probably two days, and during this time, all trains will be governed by red and yellow flags.

F. MEARS,
General Superintendent.

Board to Inspect Surplus Furniture.

WAR DEPARTMENT,
WASHINGTON, January 23, 1914.

Special Orders }
No. 19 }

(*Extract*)

* * * * * * * * *

17. A board of officers to consist of Brig. Gen. Carroll A. Devol, Quartermaster Corps; Capt. Pegram Whitworth, Tenth Infantry; and Capt. Robert E. Wood, cavalry; is appointed to meet in the Canal Zone at the call of the senior member of the board for the purpose of ascertaining and report upon the amount of surplus furniture in the possession of the Isthmian Canal Commission, the condition of the furniture, and as to whether or not it is suitable for equipping officers' quarters and messes in the Canal Zone, with a view of fixing a fair value at which the furniture may be taken over for the use of the Army.

Such journeys as may be required of the members of the board are necessary for the military service.

(2118948 A. G. O.)

By order of the Secretary of War.

LEONARD WOOD,
Major General, Chief of Staff.

Official:
GEO. ANDREWS,
The Adjutant General.

Rainfall, Feb. 1 to Feb. 8, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	......	......	......
Balboa	......	......	......
*Miraflores	......	......	......
Pedro Miguel	......	......	......
Rio Grande	......	......	......
Central Section—			
Culebra	T	4	T
*Camacho	.05	4	.05
Empire	.03	4	.03
Gamboa	......	......	......
*Juan Mina	.01	4 & 7	.02
Alhajuela	......	......	......
*El Vigia	......	......	......
Frijoles	.61	1	.62
*Monte Lirio	.85	1	.96
Atlantic Section—			
Gatun	.49	1	.49
*Brazos Brook	.05	1	.05
Colon	.65	1	.75
†Porto Bello	.58	1	.64

*Standard rain gage—readings at 5 p. m., daily Automatic rain gage at unstarred stations—values midnight to midnight. †To 5 p. m., February 6.

Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun and Miraflores Lakes for the week ending midnight, Saturday, February 7, 1914. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.					
	Vigia.	Alhajuela	Gamboa	Frijoles	Gatun Lake	Miraflores Lake
Sun., Feb. 1	125.4	91.9	85.0	.....	85.0	51.0
Mon., Feb. 2	125.4	91.9	85.0	.....	85.0	51.0
Tues., Feb. 3	125.3	91.8	85.0	.....	85.0	51.0
Wed., Feb. 4	125.2	91.7	84.8	.....	84.9	50.8
Thurs., Feb. 5	125.2	91.7	84.8	.....	84.8	50.8
Fri., Feb. 6	125.2	91.7	84.8	.....	84.8	51.6
Sat., Feb. 7	125.2	91.7	84.9	.....	84.8	52.6
Height of low water, nearest ft.	125.0	91.0				

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association

GENERAL.

"The prisoner of Zenda" in motion pictures, with James K. Hackett in the leading role, is being shown at the clubhouses during the present week. Owing to the late arrival of the boat it was impossible to print the schedule for these reels in THE CANAL RECORD for this week, but they will be bulletined by the secretaries in each clubhouse well in advance.

The moving picture schedule for the week February 16 to 21 is, as follows: Monday, Gatun; Tuesday, Cristobal and Balboa; Wednesday, Corozal; Thursday, Culebra; Friday, Empire; Saturday, Pedro Miguel.

Word has been received that "Walter Eccles and the Four College Girls" will sail from the United States on March 9, for a tour among the local clubhouses.

The final standing in the all-Isthmian individual chess championship is, as follows:

	Won.	*Lost.*
Mr. H. A. A. Smith	6½	1½
Mr. C. R. Logan	5	3
Wm. DuBois	2½	5½
L. E. DuBois	2½	5½
F. W. Fields	2	6

COROZAL.

The high scores for bowling in duckpins for the past week are, as follows: Davis, 100, 104, 101; Beall, 105; Hutchings, 102; Sims, 101; Owens, 103, 112; Taylor, 100.

The elimination handicap pool tournament was started Monday evening, with 24 entries.

PEDRO MIGUEL.

The membership of Pedro Miguel clubhouse is rapidly increasing, and is now 110.

The exhibit of water color paintings of the Canal and Panama, made by Mr. E. J. Reid, was largely attended on Tuesday afternoon and evening. Many interesting subjects were exhibited, such as Canal construction work, and the native life and scenes in Panama.

The boys' gymnasium classes have been started, and will be held twice a week from now on. One day each week is reserved for bowling.

Classes in Spanish will be started as soon as enough people manifest an interest in this study to warrant the engagement of an instructor.

The barber shop was opened on Tuesday, February 10. The shop will be open Tuesdays, Thursdays, and Saturdays of each week, day and evening.

Thirty-five people attended the first Sunday evening song service on February 8. All those interested in this informal gathering are invited to attend.

A Sunday school was organized by the people of Pedro Miguel on Sunday morning, February 8. The officers elected were, as follows: Secretary-treasurer, Miss Green; librarian, Miss Jordan; pianist, Miss Hockenberry; superintendent, Mr. Russell. A number of the older people present volunteered to teach classes. The Sunday school will meet every Sunday morning at the Y. M. C. A., at 9.30 o'clock. It will be entirely undenominational and will be affiliated with the Isthmian Sunday School Association. It is desired to have the convention, scheduled for April, held at Pedro Miguel.

The pool and billiard tables have been recovered, and are now in good condition. The pool rooms are attracting a number to the building.

Gymnasium classes for the men will be started soon. The work will consist of calisthenic exercises, light and heavy apparatus work, and recreational games. All members of the clubhouse are welcome to join these classes without extra charge.

CULEBRA.

High scores in Baltimore duckpins for the past week are, as follows: Ferguson, 135; Chadbourne, 135; Case, 154, 146; Friddle, 139.

High scores in regular duckpins were, as follows: Palmer, 102, 101; Case, 112, 103; Barnes, 109.

The all-star Isthmian vaudeville company will give an entertainment on Friday night, February 13. Admission will be, as follows: Members, free; adult nonmembers, 50 cents; children, 25 cents.

A special moving picture exhibition will be given on Monday night, February 16, consisting of the feature reel in four parts, entitled "The prisoner of Zenda," and other films.

EMPIRE.

The first appearance of the all-Isthmian vaudeville company was at Empire on Friday, February 6, when 350 people were present. The program was, as follows: Music by Gray's orchestra; fancy dancing, by Mr. Brittin; Barbadian sketch, by Messrs. Burmeister and Morrison; "ragtime "melodies, by Messrs. Schaeffer and MacMahon, Stevedal, by Messrs. Emery, Schubert, and Pearsall; expert juggling, by Mr. Brennan; moving picture reel; burlesque wrestling, by Messrs. Huber and Hughes; bass solos, by Mr. Case.

The first game in the duckpin league was bowled between Pedro Miguel and Empire on Thursday, February 5, on the Empire alley. Empire won two out of three games, Pedro Miguel winning its game on the roll off, as the game ended in a tie. Scores:

Empire	451	432	517
Pedro Miguel	415	432	464

GATUN.

A number of people have already taken advantage of the offer of the Y. M. C. A. to teach swimming lessons. Application should be made of the physical director.

Mr. F. H. Wang, who has been employed as office assistant at the clubhouse for the past three years, has tendered his resignation, effective February 9. Mr. Wang goes to Pedro Miguel, where he becomes postmaster.

Forty new books have arrived from the United States.

A group picture of the basketball team was taken on Saturday, February 7, and will be on sale at the clubhouse at 50 cents each.

Gatun's representative in the interassociation chess tournament was Chester R. Logan. By defeating DuBois of Culebra on Saturday evening, February 7, with a score of 2 to 0, Logan gave Gatun second place for the tournament. Logan's games were, as follows:

Fields, Corozal	0	Logan	2
DuBois, Cristobal	1½	Logan	½
Smith, Empire	1½	Logan	½
DuBois, Culebra	0	Logan	2

The opening game of the Isthmian duckpin tournament was played at Gatun on Saturday evening, February 7, when Gatun won all three games. The score follows:

Gatun.				*Cristobal.*			
Dumville	100	83	86	Pinney	82		86
Furlong	83	92	104	Farr	86	86	
Delaney	87	91	99	Scheid	94	90	80
Conley	79			Collins	88	83	95
Claherty	108	94	94	Smith	88	95	101
Davidson		96	90	Barte		91	88
	457	456	473		438	445	450

The Gatun team has elected Mr. B. B. Dumville the captain for the season.

The Gatun juniors won the basketball game played with the Canal Zone high school on Saturday evening, February 7. Gatun's line-up was: Richardson, Thompson, Godwin, Claybourn, Thompson. The high school's team was composed of Loulan, E. Frasier, A. Frasier, Udry, and Cook. The score was 18 to 6. Physical Director Kjellander acted as referee.

The following men have joined the glee club, which meets once a week for practice: Coleman, Gilbert, Gerchow, Fonner, Thompson, Duey, Arthur, Evans, Edwards, Klinger, Stauffer, Walker, Richardson, Dumville, Laughlin, Smawley, Dclamater, Hindle, Dewey. Mrs. Dow Walker acts as accompanist.

H. H. Hodges won the prize in tenpins given for the month of January. Michael Conley won first prize in duckpins.

CRISTOBAL.

Schradley and J. Raymond won two out of three games in the handball tournament, playing against Barcroft and W. Fraser. Scores, 19–21, 21–19, 21–20.

German baseball has been introduced in the boys' and young men's gymnasium classes.

On Saturday morning, February 14, a boys' team athletic contest will be held. Twenty-four boys will take part, divided into three teams, The captains are Anderson, Billet, and Cotton. The events are, as follows: Standing broad jump, running high jump, 50-yard dash, throwing medicine ball for distance, and team relay race.

By rolling 123 at duckpins, Mrs. Charles Cotton broke all records for women on the Cristobal alleys, Friday afternoon, February 6.

Mr. A. H. Pinney was elected captain of the team to represent Cristobal in the all-Isthmian duckpin league. Messrs Barte, Farr, Pinney, Smith, Scheid, Collins, and Russell comprise the team.

The high duckpin scores of the local alleys for the past week were, as follows: Farr, 127; Pinney, 117; Weaver, 116.

Mr. William Jennings Price, American minister to Panama, will deliver an address on Sunday afternoon, February 15, in the social hall of the clubhouse; subject, "This one thing." Mrs. L. P. Williamson will sing, and Mrs. McCloud will give a violin solo. The general public is invited.

The all-Isthmian vaudeville troupe will give an entertainment at Cristobal, on Wednesday night, February 18. The prices will be those charged at the regular United States entertainments.

By an unanimous rising vote, the discussion club requested Capt. John C. McArthur to appear again before the club and continue his address on "The standing Army."

PORTO BELLO.

A pool tournament is in progress, with the following entries: Thompson, Baker, Bradberry, Ransbottom, Colberg, Woolworth, Chase, Cummings, King, and Doyle. King is in the lead, having won five games and lost only one. Baker is a close second, with four games to his credit and one lost.

Washington's Birthday will be observed in Porto Bello with the following program:

Morning—Tug-of-war, bachelors versus married men; sailing race, one mile; canoe paddling, one-half mile; cayuco race, two persons, one-half mile.

Afternoon—Swimming race from the float to the shore, for men; swimming race from the float to the shore, for ladies; swimming race from the float to the shore, for boys; swimming race from the float to the shore, on the back, for men; fancy diving; relay race, four men to a team; swim under water for distance; one mile swim, for men; tub race; swimming nearest to a pole blindfolded, for ladies and children.

In the evening an entertainment will be held in the clubhouse, consisting of local talent.

Canal Supplies.

The following steamers with supplies for the Isthmian Canal Commission and Panama Railroad Company arrived at the ports of Colon, Balboa, and Cristobal during the week ending January 31:

Panama, January 25, from New York, with 170 crates roofing tile, 55 cases woodwork, 73 cases window glass, 23 cases elevator parts, for Administration Building Balboa; 54 packages pump parts, for Division of Municipal Engineering; 145 bundles reinforcing bars, for permanent quarters, Balboa; 28 cases electrical machinery, 267 bundles structural steel, for First Division; 82 cases plumbing material, four boxes electrical supplies, 50 bundles conduit, for Mechanical Division; 207 bundles pipe, for Panama Railroad Company; 14 crates mop handles, 469 pieces pipe, 16 cases lubricating oil, 417 bundles steel bars, 150 coils rope, 194 plates, steel, 10 coils rope, 125 cases lanterns, 200 bundles pipe; and a miscellaneous cargo, the whole consisting of 2,923 packages, weighing 345 tons.

Tagus, January 26, from New York, with 250 pieces steel ties, for Panama Railroad Company; 400 pieces steel plates, for stock.

Prinz Joachim, January 26, from New York, with eight reels wire, one case electrical material, for Mechanical Division; 36 drums unslacked lime, nine bundles steel bars, for stock.

Heredia, January 26, from New Orleans, with 750 kegs white lead, 23 barrels rosin, 692 bales hay, 25 crates plumbing supplies, two barrels grease, for stock

Cristobal, January 27, from New York, with 124 cases electrical machinery, 27 reels cable, 32 cases electrical machinery, one electric towing locomotive, 1,206 packages structural steel, 109 packages structural steel, for First Division; two reels cable, 12 bundles copper wire, eight crates plumbing furnaces, for Mechanical Division; 58 packages structural steel, for Panama Railroad Company; 47,998 bags cement, 46,000 pounds coke, 10 cases asbestos covering, 1,000 pieces pipe, 136 drums chloride of calcium, for stock; and a miscellaneous cargo, the whole consisting of 50,750 pieces, weighing 2,858 tons.

Santa Marta, January 28, from New York, with 14 crates structural material, for Division of Fortifications; six iron water gates, 16 cases oil and machinery, for Division of Municipal Engineering; five pieces structural material, for First Division: 233 bundles pipe, 10 bales oakum ,for stock.

Nessian, January 28, from Liverpool, with 10 ladder dredge buckets, for Dredging Division; 155 barrels carbolic acid, for stock.

Atenas, January 29, from New Orleans, with 102 pieces oak lumber, for Mechanical Division; 1,168 bales straw, 320 sacks feed, 165 pieces oak lumber, for stock.

Colusa, January 28, from San Francisco, with 150 pieces untreated piling, for Atlantic Division; 1,582 pieces sugar pine lumber, for stock.

Allianca, January 31, from New York, with 109 boxes electric lamps, 11 cases steel shutters, 15 reels insulated wire, 21 packages manganese steel castings, 422 pigs iron, 275 bundles pipe, for Mechanical Division; 40 boxes drugs, for Sanitary Department; 82 packages electrical machinery, 280 packages structural steel, 12 boxes brass valves, 359 crates roofing tile, for First Division; six packages skylight material, 39 cases woodwork, 61 cases window glass, for Administration Building, Balboa; 86 packages armament material, for Division of Fortifications; 16 packages wheels and axles, 25 pieces steel angles, 45 reels wire rope, 50 cases lard oil, 49 cases paper, 13 packages lamps, 600 cases linseed oil, for stock; and a miscellaneous cargo, the whole consisting of 2,793 packages, weighing 182 tons.

Tyskland, January 31, from Jacksonville, Fla., with 129 pieces Y. P. car lumber (10,700 BF.), for Mechanical Division; 72,023 pieces Y. P. lumber (1,309,698 BF.), for stock.

Pastores, January 31, from New York, with two barrels electrical material; 13 cases gas generating equipment, for Lighthouse Division; 28 packages structural material, for fortifications; three cases brass valves, one box pipe-fittings, two coils wire rope, for stock.

COMMISSARY DEPARTMENT.

The commissary stores are open during the following hours:

Cristobal, 8 a. m. to 12.30 p. m., and 2 to 7 p. m.
Balboa, 8 a. m. to 12.30 p. m., and 2.30 to 7. p. m.
Ancon, 8 a. m. to 1 p. m., and 3 to 6 p. m,
All others, 8 a. m. to 1 p. m., and 3 to 7 p. m.

Retail prices of cold storage provisions for the week beginning February 11, 1914:

FRESH MEATS.	Price.
Mutton—Stewing, per pound	7
Shoulder, neck trimmed off (4 pounds and over), per pound	9
Entire forequarter (not trimmed, 10 pounds and over), per pound	8
Legs (8 to 10 pounds), per pound	17
Cutlets, per pound	18
Short cut chops, per pound	20
Lamb—Stewing, per pound	8
Entire forequarter, neck trimmed off, per pound	10
Legs (5 to 8 pounds), per pound	20
Chops, per pound	24
Cutlets, per pound	24
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	17
Chops, per pound	26
Loin, for roasting, per pound	26
Cutlets, per pound	30
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	8
Plate, per pound	9
Corned, No. 1, per pound	14
Corned, No. 2, per pound	12
Chuck roast, 3 lbs., and over, per pound.	12
Rib roast, second cut (not under 3½ pounds), per pound	16
Rib roast, first cut (not under 3 pounds), per pound	18
Pot roast, per pound	19
Rump roast, per pound	19
Porterhouse roast, per pound	20
Steak, chuck, per pound	12½
Round, per pound	13
Rib, per pound	18
Sirloin, per pound	19
Rump, per pound	19
Porterhouse (not less than 1½ pounds), per pound	20
Tenderloin (Western), per pound.	30
Pork—Hams, fresh, per pound	§20
Loin chops or roast, per pound	19
Shoulders, fresh, per pound	§17
Spare ribs, per pound	15
Backbones, per pound	15
Pigs' feet, each	7
Pigs' heads, whole	60
Pigs' heads, ½-head	30
Sausage, home made, per pound	20

MISCELLANEOUS.	
Livers—Beef, per pound	11
Calf, each	60
Half, each	30
Steak, Hamburger, package	13
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Devonshire Farm, per pound	20
Sweetbread, beef, per pound	*25
Eggs, fresh, per dozen	40
per ½-dozen	20
Bluefish, per pound	11
Halibut, fresh, per pound	12
Salmon, per pound	12
Roe shad, each	75
Shad roes, per pair	40
Oysters, per quart	28

POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, large, each.	1.40
Fancy roasting, milk fed, med., each.	1.10
Fancy roasting, corn fed, about 5½ pounds, each	1.25
Fancy roasting, corn fed, about 4½ pounds, each	1.00
Fowls, each ††60, 70, 80, 90, and	1.00
Ducks, Western (about 4½ pounds), each	1.25
Capons, about 8½ pounds, each	3.00
Broilers, milk fed, each	70
Broilers, corn fed, each	60
Turkeys, per pound	25
Squabs, each	50
Ducks, Mallard, each	65
Teal, each	40
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30

CURED AND PICKLED MEATS.	
Ham—Real York and Cumberland, per pound.	37
Genuine Westphalia, per pound	40
Sugar cured, per pound	20
Sliced, per pound	22
Half, (for boiling), per pound	21
Boiled, per pound	28
Hocks, per pound	‡8
Beef, salt, family, per pound	12
Bacon, breakfast, whole piece, per pound	25
Sliced, per pound	26
Ham, lunch, per pound	32
Pork, salt, family, per pound	14
Ox tongues, each	1.00

	Price.
Pigs' feet, per pound	7
Tongues, per pound	18

DAIRY PRODUCTS.	
Butter—Creamery special, per pound	*39
Sheffield Farms, extra fancy, per lb.	46
Cheese—Philadelphia cream, cake	10
Roquefort, per pound	35
Young America, per pound	22
Swiss, per pound	28
Edam, each	75
Edam, tin	25
Parmesan, per pound	35
Gouda, per pound	30
Snappy, per cake	10
Milk (certified), per bottle	**20
Fer-mil-lac, per bottle	**20
Ice cream, quart	‡25
½-gallon	‡50
Cream (certified), per pint bottle	45

VEGETABLES AND FRUITS.	
Brussels sprouts, per quart	15
Beets, per pound	3
Celery, per head	†9
Cabbage, per pound	3½
Cucumbers, per pound	10
Carrots, per pound	3
Lettuce, per pound	*6
Onions, per pound	3½
Potatoes, white, per pound	3
sweet, per pound	2
sweet, Jersey, per pound	4
Parsley, per bunch	*4
Parsnips, per pound	*3½
Peppers, per pound	16
Radishes, per pound	8
Squash, per pound	†5
Turnips, per pound	3
Tomatoes, per pound	*8
Spinach, per pound	10
Apples, per pound	6
Grapes, Malaga and Tokay, per pound	17
Cranberries, per pound	9
Grape fruit, American, each	7
Tropical, each	4
Lemons, per dozen	15
Limes, per hundred	80
Oranges, Jamaican, per dozen	12
Tangerines, each	2

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*Indicates reduction from last list.

**Indicates five cents allowed for return of bottle.

†Indicates advance on last list.

††Fowls weigh each, about, as follows: 3, 3½, 4, 4½, and 5 pounds. Prices are based accordingly; when size ordered is not in stock, next lightest weight is supplied and refund note sent for difference.

‡Sold only from commissaries; no orders taken for delivery.

§Not less than half of a fresh ham or shoulder will be sold.

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Misdirected Letters.

ANCON, C. Z., February 9, 1914.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressees:

Boyd, W. Y.
Cook, Mrs. Annie L.
Domingaez
Drewry, William D.
Futton, Mrs. David
Garside, James
Kennedy, Capt. J.
King, J. E.
Luckett, Dr. Thos. O.
McCoy, Jas. G.
Payne, Burd W.
Sauerwein, G. M., Jr.
Smith, Arman
Snopko, Anna
Stevenson, Harold
Swanson, Mrs. Anna
Walker, H.
Washataugh, Frank
Lyon, S. I.

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Tide Table.

The following table shows the time of high and low tides at Panama for the week ending February 21, 1914:

DATE.	High	Low	High	Low	High
	A.M.	A.M.	A.M.	P.M.	P.M.
February 15	......	12.49	6.50	1.09	7.13
February 16	...	1.36	7.36	1.55	7.59
February 17	.....	2.25	8.25	2.46	8.50
February 18	......	3.21	9.23	3.48	9.50
February 19	......	4.27	11.38	5.00	11.06
			P.M.		
February 20	......	5.43	12.17	6.21	......
February 21	12.34	6.58	1.29	7.34	......

75th meridian time.

◆

LOST—In the short street leading back from the railway station at Culebra, on the evening of February 8, a card case containing a sum of money in bills, and a card pass made out in the name of H. D. Furlong, Gatun. If the finder will return articles to the police station at Culebra, he will be suitably rewarded.

◆

Married.

SPALDING–ARMSTRONG—In New York City, on January 21, 1914, Miss Eleanor E. Armstrong of Port Colborne, Ontario, Can., to Mr. Walter J. Spalding of St. Louis, Mo., the Rev. Geo. W. Roesch officiating. Canal Zone residence, Corozal.

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.		Sails.	Arrives.
*Advance	P. R. R.	Feb. 5	Feb. 12
*Panama	P. R. R.	Feb. 11	Feb. 17
*Allianca	P. R. R.	Feb. 18	Feb. 24
*Colon	P. R. R.	Feb. 24	Mar. 2
*Advance	P. R. R.	Mar. 2	Mar. 9
*Panama	P. R. R.	Mar. 9	Mar. 15
*Allianca	P. R. R.	Mar. 14	Mar. 20
*Colon	P. R. R.	Mar. 20	Mar. 26
*Advance	P. R. R.	Mar. 26	April 2
*Panama	P. R. R.	April 2	April 8
CRISTOBAL TO NEW YORK.			
†Colon	P. R. R.	Feb. 11	Feb. 17
†Advance	P. R. R.	Feb. 17	Feb. 24
†Panama	P. R. R.	Feb. 24	Mar. 2
†Allianca	P. R. R.	Mar. 2	Mar. 8
†Colon	P. R. R.	Mar. 8	Mar. 14
†Advance	P. R. R.	Mar. 14	Mar. 21
†Panama	P. R. R.	Mar. 21	Mar. 27
†Allianca	P. R. R.	Mar. 26	April 1
†Colon	P. R. R.	April 1	April 7
NEW YORK TO COLON.			
*Zacapa	U. F. C.	Feb. 4	Feb. 11
Emil L. Boas	H.-A.	Feb. 7	Feb. 16
*Calamares	U. F. C.	Feb. 7	Feb. 14
Almirante	U. F. C.	Feb. 11	Feb. 18
*Pastores	U. F. C.	Feb. 14	Feb. 21
Trent	R. M.	Feb. 14	Feb. 23
Prinz Joachim	H.-A.	Feb. 14	Feb. 23
Santa Marta	U. F. C.	Feb. 18	Feb. 25
*Tenadores	U. F. C.	Feb. 21	Feb. 28
Pr. Eitel Friedrich	H.-A.	Feb. 21	Mar. 3
*Metapan	U. F. C.	Feb. 25	Mar. 4
Orotava	R. M.	Feb. 28	Mar. 9
Prinz Aug. Wilhelm	H.-A.	Feb. 28	Mar. 9
*Calamares	U. F. C.	Feb. 28	Mar. 7
*Zacapa	U. F. C.	Mar. 4	Mar. 11
Prinz Sigismund	H.-A.	Mar. 7	Mar. 17
*Pastores	U. F. C.	Mar. 7	Mar. 14
COLON TO NEW YORK.			
Metapan	U. F. C.	Feb. 12	Feb. 19
Calamares	U. F. C.	Feb. 15	Feb. 25
Orotava	R. M.	Feb. 17	Feb. 25
Prinz Aug. Wilhelm	H.-A.	Feb. 17	Feb. 25
Zacapa	U. F. C.	Feb. 19	Feb. 26
Pastores	U. F. C.	Feb. 22	Mar. 4
Emil L. Boas	H.-A.	Feb. 24	Mar. 3
Almirante	U. F. C.	Feb. 26	Mar. 5
Tenadores	U. F. C.	Mar. 1	Mar. 11
Prince Joachim	H.-A.	Mar. 3	Mar. 11
Danube	R. M.	Mar. 3	Mar. 11
Santa Marta	U. F. C.	Mar. 5	Mar. 12
Calamares	U. F. C.	Mar. 8	Mar. 18
Prinz Eitel Friedrich	H.-A.	Mar. 9	Mar. 18
Metapan	U. F. C.	Mar. 12	Mar. 19
NEW ORLEANS TO COLON.			
Abangarez	U. F. C.	Feb. 7	Feb. 16
*Heredia	U. F. C.	Feb. 11	Feb. 16
*Atenas	U. F. C.	Feb. 14	Feb. 19
*Parismina	U. F. C.	Feb. 18	Feb. 23
COLON TO NEW ORLEANS.			
‡Turrialba	U. F. C.	Feb. 12	Feb. 17
‡Cartago	U. F. C.	Feb. 14	Feb. 19
‡Abangarez	U. F. C.	Feb. 17	Feb. 23
‡Heredia	U. F. C.	Feb. 21	Feb. 26
BOSTON TO COLON.			
Carrillo	U. F. C.	Feb. 5	Feb. 13
Tivives	U. F. C.	Feb. 12	Feb. 20
COLON TO BOSTON.			
Carrillo	U. F. C.	Feb. 15	Feb. 23
Tivives	U. F. C.	Feb. 22	Mar. 2

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 2 p. m.; for Southampton, on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays and Saturdays at 3 p. m.; ships for New York via Kingston, on Thursdays at 2 p. m.; for New York, via Limon and Havana, on Sundays at 5 p. m.; for Limon and Bocas del Toro, on Tuesdays at 3 p. m.; for Bocas del Toro direct, on Mondays at 5 p. m.; and for Boston, on Sundays at 3 p. m.

Hamburg-American steamers sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays: the *Prinz August Wilhelm* and *Prinz Joachim* at 10 a. m.: the *Emil L. Boas* and *Prinz Eitel Frederich*, at 2 p. m.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, FEBRUARY 18, 1914. No. 26.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Status of Work on Permanent Administration Building.

The erection of the structural steel in the framework and roof trusses of the permanent administration building, overlooking the new townsite of Balboa, has been entirely completed, and the sawdust concrete base for the roof is completed over the north half of the building. Two portable mixers, of $\frac{1}{2}$ and $\frac{3}{4}$-cubic yards capacity, are supplying material, by means of two elevators operated by donkey engines, for finishing the roof base over the south half of the building, and this is now practically completed with the exception of the overhang. The laying of the dark red vitreous roof tiles, of Spanish style, began on February 10, on the north wing.

The walls of the building, made of hollow concrete block manufactured at Corozal, are up to the full height of the three stories at the north wing, and up to the level of the second floor around most of the rest of the building. The square piers to form a colonnade along the front and the outer sides of the two end wings, have been completed to full height at the north wing and front, and to about the level of the second floor along the south wing. None of the cement stucco for finishing the exterior has been applied.

Within, the base slabs of reinforced concrete for the floors have been completed. These slabs are to be covered with redwood, then with a cushion of cinder concrete, and finished with long leaf yellow pine flooring, but this part is being deferred until other interior work is further advanced. Some of the interior woodwork, namely, for the window frames and sashes of the basement and first and second stories, has arrived from the manufacturers in the United States. All of the piping for the vacuum cleaning system has been installed. The conduits for the electric wiring, including the telephone service, is nearly all in place. The plumbing is about 40 per cent completed. The installation of an electric elevator, capable of handling 2,600 pounds safely and designed for a maximum of 15 passengers, is in progress and will be completed in a few weeks. Plastering the walls of the rooms on the first story of the north wing began on February 1.

It is estimated by the forces in charge of the building that it will be ready for occupancy in June of this year, if desired, though not all of the finishing work will have been done by that time. The rotunda in the central wing of the building will probably be the last part of the building completed, as it will be finished in marble, of which none has arrived on the Isthmus.

Sample Steamshovel at Brooklyn Navy Yard.

A 95-ton steamshovel is to be dismantled and shipped to the Brooklyn Navy Yard, where it will be reerected and advertised for sale in the United States.

Almost all the smaller steamshovels retired from the Canal work have already been disposed of by the Commission on the Isthmus, but it is anticipated that the larger size shovels can be sold to better advantage in the United States.

Corozal Cemetery.

A plot of ground, containing about two acres, has been set aside at Corozal for use as a permanent cemetery at the Pacific end of the Canal, and, effective February 5, its administration and care was assigned to the superintendent of Ancon Hospital. The cemetery is included within the limits of Corozal farm, and is situated on rising ground, a short distance back of the Commission hotel, and a little south of the farm buildings on the Herrera place. This site has been used for the burial of natives, and others, residing in the vicinity of Corozal, for the past five or six years, and during that time upward of 40 interments have been made there. The plot is surrounded by a barb wire fence, and is large enough for about 1,800 graves; it can be increased in size, when desired. The first burial of an American there since the closing of the Ancon cemetery was on Friday, February 13. The superintendent of Corozal farm will have direct charge of the burying ground, and the services of the farm inmates will be utilized in its maintenance.

Extension of Underground Duct Line in Colon.

As part of the plan of placing telegraph and telephone cables, as well as those to be used under low tension for the distribution of electricity for light and power, in underground duct lines, the Panama Railroad Company will begin work within a month on the construction of a 6-way duct line from a point near the Colon freight station to a point near Tower A interlocking cabin, Cristobal. Between the freight station and the passenger station, the line will be made 8-way, the two additional ways being for the cable of the Central and South American Cable Company. A 6-way line has been laid already from a point near the entrance to Colon Hospital to the freight station, but the part leading the rest of the way to Cristobal has been held in abeyance, pending decision on features of the transisthmian duct line.

Progress on Pontoon Barge for Crossing the Canal.

All the decking of the pontoon barge for the permanent crossing of the Canal at Paraiso, under construction on the north side of the approach to the Mount Hope dry dock, has been laid and about 65 per cent of the sheathing on bottom and sides, to form the hull, is in place. Caulking the deck is 90 per cent completed, and that of the hull about 30 per cent. Seventeen shipwrights and 16 caulkers were brought from shipyards on the north Atlantic coast of the United States especially for this job, and the only white men connected with the work who have been regular employes of the Canal Commission are the foreman in charge and the operator of the locomotive crane assigned to the handling of the heavy timbers. The negro helpers, 87 in number, were recruited from the regular forces of the Commission.

This barge is the largest vessel ever built on the Isthmus. It will contain approximately 575,000 feet, board measure, of yellow pine timber, and the seams to be caulked will have an aggregate length of about nine miles. The length of the barge, 378 feet, exceeds that of the steamship *Colon* of the Panama Railroad Steamship Line by 18 feet.

Panama railroad floating piledriver *No. 1* is engaged in preparing along the water side of the barge the piles to support the shipways down which the vessel will be slid into the French canal. The ways will have an incline of about five per cent, and the vessel will slide into the water sideways. It is expected that the launching will take place within a month.

Changes at Corozal Farm.

A board, consisting of Lieut.-Col. Chas. F. Mason, Mr. H. A. A. Smith, and Mr. C. A. McIlvaine, appointed to consider matters in relation to the Corozal farm, has recommended a number of changes in the regulations governing it, which have been approved.

The regulations formerly provided for a working day of 10 hours. In view of the fact that the disabled laborers employed on the farm, many of whom have lost at least one limb, are not able to work 10 hours, it has been decided to make the working day eight hours.

Men having families dependent upon them and living with them at the farm will, hereafter, be allowed commutation for subsistence at the rate of 27 cents a day for colored, and 40 cents a day for white inmates, for each day they are on duty, or sick with a physician's certificate covering, and shall be allowed the same commutation for Sundays and holidays provided they have been working the day preceding and the day following such Sundays and holidays, or provided their absence on these days was due to illness. This change has been made to place the married men on the same footing as the bachelor inmates, as formerly no allowance was made married men for rations on Sundays and holidays, or when sick.

A shed, situated near the farm kitchen, has been set aside for the exclusive use of the disabled colored inmates in the serving of food. Previously, it was the custom to serve them along with the well laborers, but this plan did not work out satisfactorily. It has been decided also not to quarter any outside laborers in buildings assigned to the farm laborers.

The stockade, formerly used by the Quartermaster's Department as a shelter for its employes, will be turned over to the farm to house the insane patients assigned to work about the place. The services of these men are much needed at the present time, in order to clear up the pasture lands before the rainy season sets in.

The number of disabled and indigent inmates at the farm is gradually increasing, and was 48 on February 14.

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Steamshovel Operations in Culebra Cut During January.

During the month of January, the total amount of material excavated by the Fourth Division in Culebra Cut was 178,600 cubic yards. All of this amount was primary excavation for the Canal; 81,628 cubic yards were classified as earth excavation, and 96,972 cubic yards as rock excavation.

All the yardage handled by this division was excavated by steamshovels.

◆

Canal Excavation in January.

The grand total of Canal excavation to February 1, 1914, was 216,966,610 cubic yards, leaving 15,386,390 cubic yards remaining to be excavated under the revised estimate of July 1, 1913.

The total excavation for the month of January was 1,514,972 cubic yards, as compared with 1,581,726 cubic yards for December. The wet excavation amounted to 1,118,464 cubic yards, and the dry excavation to 396.508 cubic yards.

In the Atlantic section, the total excavation for January was 160,417 cubic yards. Of this amount, all but 4,626 cubic yards was wet excavation, consisting of 102,057 cubic yards dredged from the Atlantic entrance by the suction dredge *Culebra*, and 53,734 cubic yards, removed from the permanent coaling basin.

The total excavation in the territory of the old Central Division aggregated 849,032 cubic yards. Of this amount, 178,600 cubic yards were removed by Fourth Division steamshovels to relieve the pressure on the banks of Culebra Cut in the zone of slides; 445,222 cubic yards were excavated from the base of Cucaracha and other slides in the Culebra Cut section; 153,500 cubic yards were sluiced from the rear of Gold Hill, and from Cucaracha slide, by monitors, while 77,710 cubic yards were taken out by dredges operating in the lake channel north of the former site of Gamboa dike.

In the territory of the old Pacific Division operations by the Dredging Division resulted in the removal of 86,585 cubic yards from the Pacific entrance, and 205,656 cubic yards from the terminal basin. The material from the basin was dug by pipeline suction dredge and discharged into the tidal flat between Panama and Corozal. The dry excavation at the Pacific end consisted of 30,700 cubic yards removed by steamshovel at Miraflores Spillway, 161,818 cubic yards taken out at the terminal site, 14,130 cubic yards removed in work at the Rio Grande Diversion, and 6,634 yards dug in and around the terminal site, and charged to "Plant."

A detailed statement of excavation, and a summary of the work on the locks and dams, follow:

ATLANTIC SECTION.

LOCALITY.	"Work" Excavation.	"Plant" Excavation.	Total Excavation.
Dry Excavation—	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
Locks, dam and spillway	4,626	....	4,626
Mindi	....	....	....
Terminal	....	....	....
Total	4,626	....	4,626
Wet excavation—			
Atlantic entrance	102,057	....	102,057
Dock at east breakwater	....	....	....
Terminal	53,734	....	53,734
Total	155.791	....	155,791
Total wet and dry excavation	160,417	....	160.417

CENTRAL SECTION.

LOCALITY.	"Work" Excavation.	"Plant" Excavation.	Total Excavation.
Dry excavation—			
Culebra Section	178,600	....	178,600
Total dry	178,600	....	178,600
Wet excavation—			
Culebra Cut, dredges	445.222	....	445,222
Culebra Cut, hydraulic	153,500	....	153,500
Chagres Section, dredges	71.710	....	71,710
Total wet	670,432	....	670,432
Total wet and dry excavation	849.032		849.032

PACIFIC SECTION.

LOCALITY.	"Work" Excavation.	"Plant" Excavation.	Total Excavation.
Dry excavation—			
Locks, dams and spillways	30.700	....	30.700
Terminal	161,818	6,634	168.452
Rio Grande Diversion	14,130	....	14,130
Total	206.618	6.634	213.282
Wet excavation—			
Pacific entrance	86,585	....	86,585
Miraflores Locks	....	....	....
Diversions	....	....	....
Terminal	205,656	....	205.656
Total	292,241	....	292,241
Total wet and dry excavation	498.889	6,634	505,523

TOTAL CANAL EXCAVATION.

Dry excavation	389.874	6,634	396,508
Wet excavation	1,118,464	....	1,118,464
Total	1,508,338	6.634	1,514,972

LOCKS AND DAMS.

MATERIAL.	Atlantic	Pacific	Total
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*
Concrete placed in locks	176	7,372	7,548
Concrete placed in dams and spillways	635	....	635
Fill placed in dams	544	13,164	13,708

Mean rainfall along Canal (nine stations), 0.87 inches.

By "Work" excavation is meant excavation actually made for one of the constituent parts of the Canal, such as prism, diversions, or locks, etc.; that is, it represents material taken from the area to be occupied by the Canal and constitutes excavation useful for the completed Canal.

By "Plant" excavation is meant excavation outside any of the constituent parts of the Canal, such as prism, diversions, or locks, etc. It includes material necessary to be excavated for construction purposes only, and is chargeable against the particular plant item for which it is performed, such as prism, diversions, locks, etc.

ATLANTIC BREAKWATERS.

Heavy Rock on Toro Point Project now Altogether Placed by Derrick Barges—East Breakwater.

In the construction of the Toro Point, or west breakwater, the armoring along the ocean side is complete, the center fill nearly so, and the armoring of the harbor side finished for a distance of about 4,700 feet.

The work is being completed at the rate of about 100 feet per day. All of the trestle, excepting the piles, is removed ahead of the finished fill as it advances, in order that a smooth, compact breakwater may be obtained.

Rock for future repairs to the breakwater probably will be unloaded by derrick barges from the harbor side of the fill.

The bottom is firm, and only slight settlement has occurred.

The heavy rock used for armor is placed by three derrick barges. and is supplied from the Porto Bello quarry, by means of a fleet, consisting of one tug, the *Mariner*, and eight barges. The steamshovels regularly at work at Porto Bello are three Model 91 Marions, and the force engaged in quarrying and loading the rock consists of 48 gold and 300 silver men. The output of large rock from the quarry reached its maximum in October, 1913, when about 26,000 cubic yards were unloaded. Hereafter, about 18,000 cubic yards per month will be unloaded; the decreased amount is due to the fact that the trestle can no longer be used and the finishing of the slopes requires considerable care with a consequent decrease in the amount unloaded per day. Rocks weighing from 500 pounds to 25 tons are used.

The force engaged on the west breakwater proper includes 30 gold and 200 silver employes.

At Coco Solo Point, a track has been built connecting the Mount Hope–Margarita Point line with the root of the east breakwater. The Point is about four miles, by rail, from the Panama railroad at Mount Hope. Excavation of a small harbor at Coco Solo Point, involving the removal of 45,000 cubic yards, has been partially completed. A timber wharf, 98 feet long by 16 feet wide, and with its floor six feet above sealevel, has been constructed at Coco Solo harbor.

Piles for the trestle, which will be built out from Coco Solo Point for the construction of the breakwater, have been ordered from the United States. A first shipment was lost at sea in November, but another consignment is expected in February. The trestle will extend northwesterly a distance of 4,125 feet in single track, to the point at which the filling for the breakwater will begin, and will extend beyond in double form for a distance of 7,200 feet, the length of the breakwater.

Rock for the east breakwater will be obtained from Sosa Hill, the intention being to haul ten trains a day, beginning June 1.

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Concrete in the Locks and Auxiliary Works.

The following is a statement of the concrete laid in the Canal locks and auxiliary works up to February 1, 1914:

	Cu. Yds.
Gatun Locks	2,068,265
Gatun spillway	232,045
Gatun hydroelectric station	10,725
Gatun control house, ducts, etc	3,170
Pedro Miguel Lock	927,130
Miraflores Locks	1,504,205
Miraflores dam and spillway	79,004
Pedro Miguel-Miraflores duct line	6,193
Total	**4,830,737**
Total for the month	**11,918**

SOCIAL LIFE OF THE ZONE.

Ancon Study Club.

At the meeting of the Ancon Study Club on Thursday afternoon, February 11, Mrs. Maxon read a paper on native woods showing an exhibit of specimens of the different woods. An informal discussion of the subject followed the reading. The next meeting will be devoted to the study of English history and literature, with Mrs. Luce as leader. The subject of the meeting on February 26 is "Popular astronomy." Mrs. Wonson will read the paper.

Panama Auxiliary to be Organized March 12.

The regular meeting of the Ancon Study Club on March 12, will be suspended, and the members will be hostesses at a mass meeting held in the clubrooms, house No. 31, Tivoli district, for the purpose of organizing the Panama auxiliary of the Woman's Board of the Panama-Pacific International Exposition. Women who expect to attend the exposition, and are interested in the movement, are cordially invited to attend this meeting; those who cannot attend may signify their intention of becoming members of the auxiliary by notifying the secretary of the Ancon Study Club, Mrs. E. Luce.

Lenten Services.

The Woman's Altar Guild of St. Luke's Hospital Chapel will hold weekly meetings during Lent, which begins on Wednesday, February 25, on Tuesday mornings at the Hotel Tivoli, at 9.30 o'clock. The guild will sew for a church orphanage in South Carolina. The schedule of these meetings is, as follows: March 3, 10, 17, 24, 31, and April 7. At St. Luke's Hospital chapel, there will be services on Ash Wednesday at 10 a. m., and evening prayer on Wednesday afternoons through Lent, at 5 o'clock.

Lenten services in Christ Church, Colon Beach, have been arranged, as follows: On Ash Wednesday, February 25, there will be a celebration of the Holy Communion at 7.30 a. m.; penitential office and litany, at 9.30 a. m.; meditation, at 4.30 p. m.; and evensong, with an address, at 7.30 p. m. There will be daily services through Lent at 7.30 a. m., and 4.30 p. m. On Wednesday evenings, at 7.30, there will be choral evensong with Lenten address.

Foreign Missionary Meeting.

At the meeting of the Woman's Foreign Missionary Society of the Methodist Episcopal Church, held at the residence of Mrs. Taylor, Ancon, the discussion was largely devoted to the philanthropic work of the society in Panama. A donation of clothing and food and other necessaries for a destitute family in Panama was received. The lesson for the day, on "The Light of the World, was suspended owing to a press of matters concerning the philanthropic work.

Ladies' Auxiliary, U. S. W V.

At the meeting of the ladies' auxiliary of the United Spanish War Veterans, held in Empire lodge hall on January 21, the following officers were installed for the ensuing year, by Past President Ruth A. Purdue: President, Beulah A. Young; senior vice-president, Effie E. Frink; junior vice-president, Emma von Münchow; chaplain, Joanna Tuley; secretary, Mary J. Mantooth; treasurer, Maude Archart; historian, Nettie M. Jernegan; patriotic instructor, Annie Conley; conductor, Harriet M. Rice. A Lincoln and Washington birthday program was the feature of the meeting of the auxiliary, held in the Empire lodge hall on Wednesday afternoon, February 11, when nearly every one present read or said something relating to the lives of the two presidents.

Knights of Pythias.

A roll call meeting of Paradise Lodge, No. 6, Knights of Pythias, Paraiso, was held on Tuesday evening, February 17, in celebration of the fiftieth anniversary of the order. On the program for addresses were Messrs. A. M. Warner and W. S. Lawrence of Culebra; F. G. Swanson of Empire, William J. Vickery of Cristobal, and Emil J. Rall of Ancon. The visitors were met by brakes at Paraiso station, and those coming from the north of the line were entertained over night. The invitation extended included members in good standing from all parts of the Canal Zone.

Balboa Lodge, No. 4, Knights of Pythias, formerly of Las Cascadas, was consolidated with Ancon lodge, No. 8, at Ancon, effective February 1. All correspondence should be addressed to S. C. Russell, Ancon.

Tennis Tournament.

Following are the results of the tennis tournament, in doubles, held at Empire on February 8:

Preliminaries—Gatun (Wells and Rose) defeated Camp Otis (Swartz and Stewart) 7–5, 6–0. Culebra (Goethals and Fleischman) defeated Ancon Hospital (Runyan and Earhart) 5–7, 6–1, 7–5. Empire (Smith and Potter) defeated Cristobal (Poole and Hart) 6–2, 6–4. Gatun defeated Tivoli (Russell and Kalar), 0–6, 8–6, 6–0. Corozal (Neely and Sawyer) defeated Culebra, 6–3, 6–1. Pacific (Fechtig and Ohlson) defeated Pedro Miguel (Bartholomew and Shropshire) 6–4, 6–4.

Semifinals—Empire defeated Gatun, 6–2, 6–4. Corozal defeated Pacific, 6–3, 6–1.

Finals—Corozal defeated Empire, 6–8, 6–3, 6–3.

The next association tournament, "All comers singles," will be held at Ancon on February 22–23. Any member of a club affiliated with the association may enter on the payment of an entrance fee of $1 to the secretary, Mr. E. F. Ohlson, Ancon C. Z. Entries will be closed February 20, and drawing made.

Delta Kappa Epsilon Fraternity.

All members of Delta Kappa Epsilon fraternity on the Isthmus who are interested in a reunion are requested to communicate with Mr. D. T. Edwards, Ancon.

Sending Convalescents to Taboga Island.

Employes of the Canal Commission and the Panama railroad who are convalescent from illness may be sent to Hotel Aspinwall, Taboga, under sick leave from Ancon and Colon Hospitals. The number of days spent at the hotel by each employe under such leave is not to exceed the number prescribed by the physician, and will be certified by the steward in charge to the hospital sending the patient. The hotel charge for such convalescents will be the regular employes' rate of $2.25 per day for bed and board.

The steam launch *Louise* leaves the dredge landing at Balboa for Taboga at 9 o'clock in the morning on Tuesdays, Thursdays, and Saturdays; returning the same day, it leaves Taboga at 2 p. m. The postal address of the Commission hotel on Taboga Island is Hotel Aspinwall, Taboga, Balboa, Canal Zone.

PERSONAL.

Assistant Civil Engineer C. A. Bostrom, U. S. N., arrived on the *Ancon* on February 15, and will spend about two weeks on the Isthmus in study of special features of the Canal work.

Mr. John K. Baxter, formerly consul at St. Pierre. a French island possession off the coast of the Dominion of Canada, arrived on the Isthmus on the *Ancon*, on Sunday, February 15, on his way to Maracaibo, Venezuela, to which point he has been transferred.

Order of Railroad Telegraphers.

Panama Railroad Division, No. 158, Order of Railroad Telegraphers, will hold its next meeting in the Ancon hotel building, on Saturday, February 21, at 8 p. m. Business of importance is to be transacted.

JOHN F. STAHL, *Secretary-Treasurer.*

CRISTOBAL, C. Z., February 16, 1914.

Christian Endeavor Society at Corozal.

At a meeting at Corozal, on Sunday, February 15, held by those interested in the organization of a Christian Endeavor society, a constitution was adopted, and a nominating committee appointed, which was directed to report at a business meeting of the society to be held on February 26. It was decided to hold the first regular meeting on Sunday evening, March 1. The constitution provides that the name of the organization shall be the Christian Endeavor Society of Corozal; that there shall be two classes of members, active and associate; that the officers shall consist of a president, secretary, treasurer, and pianist, elected for a term of three months, and that the standing committees shall consist of lookout, prayer meeting, and music, social, and such other committees, as may be decided on from time to time. Regular prayer meetings will be held weekly, and a roll call, or "Consecration" meeting once each month; regular business meetings will be held monthly, and if thought desirable, in connection with a monthly "Social."

New Dipper Dredge on its Way.

The first of the new dipper dredges for use on the Panama Canal, was scheduled to leave Port Richmond, Staten Island, N. Y., for the Isthmus, on Tuesday, February 17. The boom for this dredge, weighing about 60 tons, and two of its dippers, weighing about 25 tons each, arrived on the *Ancon*, which docked at Cristobal on Sunday, February 15.

The Panama railroad sightseeing barge will make two trips through Gatun Lake on Sunday, February 22, leaving Gamboa at 8.40 a. m., and returning, leave Gatun at 2 p. m. Fare $1.50, U. S. currency, one way.

The post-office at Monte Lirio was discontinued at the close of business on Saturday, January 31. All ordinary mail matter addressed to that point will, from and after that date, be delivered at the Gatun post-office.

A total of 24,000 cubic yards of Punta Chame sand was unloaded at Balboa during the month of January. This amount represented 47⅛ barge loads.

RECORD OF CANAL WORK SINCE AMERICAN OCCUPATION.

TOTALS BY CUBIC YARDS OF EXCAVATION AND LOCK AND DAM CONSTRUCTION.

[All figures are of work useful for the completed Canal.]

DRY EXCAVATION.

CENTRAL SECTION.

M'THS.	CULEBRA SECTION.*								CHAGRES SECTION.**					
	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1909.	1910.	1911.	1912.	1913.	1914.
Jan....	566,750	1,227,022	1,150,249	1.323.693	1,356.394	1.416,035	1,135,580	777,322	389,399	175,802	255.385	28,357	....	71,710
Feb ...	639,112	1,248,265	1.194,454	1,259,173	1.409.338	1,349,569	996,800	....	450,182	286.309	219,550	66,145	....	....
March,	815,270	1,290,885	1,434,597	1.509.728	1,728,748	1,539,618	1,183,900	....	619,491	484,846	297,339	172,607	....	....
April ..	879,527	1,242,574	1.272,746	1,288,845	1.414,336	1,455,216	1,178,000	....	510,020	428,777	102,103	171,731	....	....
May....	690,365	960,840	1,126,963	1,099.279	1,299,100	1,405,760	921,000	....	386,170	248,974	29,783	12,524	....	....
June...	624,586	1,134,032	1,242,134	1,305,141	1,401.016	1,348,780	865,283	....	275,900	164,389	32.288	8,424	....	....
July ...	770,570	1.121.325	1,200,828	1,153,810	1,337,833	1,335,590	1,037,700	....	233,897	166.106	22,284	776	....	....
August	786.866	1.171,927	1,173,370	1,377,714	1,442,402	1,094,132	893,300	....	231,543	234,404	21,892	....	....	....
Sept. ..	753,468	1,122,860	1,235,978	1,339,948	1,340,173	922,712	448.200	....	235,818	234.290	21,272	....	....	....
Oct ...,	834,499	1,160,101	1,302.901	1.320,314	1,306,971	1,113,420	382.270	....	221.409	271,409	12,216	....	132,703	....
Nov....	790,632	1,022,576	1.070,792	1,209,554	1,209,498	973,071	441,494	....	93,619	260,882	12,248	....	119,092	....
Dec,...	1,025,485	1,210,046	1,152,022	1,211,400	1,351,082	1.074,510	719,807	....	105,044	197,481	10.809	....	140.622	....
Totals	9 177 130	13.912,453	14,557.034	15.393.599	16,596.891	15,028,413	10.203,334	777,322	3,752,492	3,153,669	1.037,169	460,564	392,417	71,710

Mos	ATLANTIC SECTION.†					PACIFIC SECTION.¶										
	GATUN LOCKS, DAM AND SPILLWAY.††					PEDRO MIGUEL LOCKS AND DAMS.‡					MIRAFLORES LOCKS, DAMS AND SPILLWAY.‡‡					BALBOA T'M'N'LS.§
	1910.	1911.	1912.	1913.	1914.	1910.	1911.	1912.	1913.	1914.	1910.	1911.	1912.	1913.	1914.	1914.
Jan .	125,011	65,889	1,330	46,773	4,626	27,320	15,690	24,969	1.147	....	31,479	48,744	95,609	26,483	44,830	161.818
Feb.	123,738	50,511	1,228	11,241	....	9.486	6,809	18,480	448	....	15,300	12,936	47,426	12,532	....	....
Mar..	132,007	51,431	254	35.705	....	6,784	674	1,777	800	....	18,184	72.739	28,352	28,700	....	....
Apl .	103,243	12,548	27.134	29,649	....	9,129	255	13.269	620	....	12.148	79,751	29,094	23.255	....	....
May.	82,958	17,677	24,280	1.829	....	10.405	5,905	26.018	127	....	20,250	57,975	13,096	3,778	....	....
June,	88,088	4,840	19,605	388	....	8,420	7.454	7,794	936	....	21,994	38,023	7.906	....	....	....
July ..	95,503	6,897	1,974	17,756	....	4,410	6,273	4,412	....	....	11,990	97.884	4.532	....	....	....
Aug .,	99,737	22,558	....	2,161	....	12,789	220	4,866	....	....	17,548	102,249	7,120	....	....	....
Sept.	103,040	3,489	1.025	1,091	....	10,405	3,472	1,613	....	....	8,590	96,112	5,192	....	....	....
Oct ..	118,327	112	1,700	1,383	....	7,433	5,365	1,257	....	....	9,850	107,790	14.107	6.980	....	....
Nov..	94,552	....	2,203	1,210	....	10.636	12.962	2.408	....	....	9,400	84,894	27,728	6,970	....	....
Dec..	72,030	....	16.677	2,168	....	11.195	17,320	3,176	....	....	17.906	79,480	30,319	30,420	....	....
Tot'ls	1.238.234	235.952	97,410	151.354	4.626	128.412	82,399	110,039	4.078	....	194,639	878.577	310,481	139,118	44.830	161.818

*Total to Feb. 1, 1914, 99,511,893 c. yds. Excavated 1904—1906 inclusive, 3.860.717 c. yds; by sluicing, 885,574 c. yds.: by dredging, 1.122,593 c. yds.

**Total to Feb. 1, 1914, 12,848.782 cu. yds.; 1907. 192.769 cu. yds : 1908, 3.787.992 c. yds.; by sluicing. 188,239 c. yds,; by dredging, 464,127 c.yds.

†Dry excavation Mindi Hills 1907-1912, 2,196,198 cubic yards,

¶Excavated various points in prism to Feb, 1, 1914. 4,819,797 cu. yds.; Balboa Locks and Dams, 1907. 78,233 cu. yds.; Outside prism 1908, 172 cu. yds,

††Total to Feb. 1, 1914, 6,662,779 cubic yards, including 26,628 c y., 1906; 1.340.179 c. y.. 1907: 2.774,561 c. y,. 1908; 793,835 c. y,. 1909.

‡Total to Feb. 1, 1914, 1,321,063 cubic yards. including 256.780 cu. yds. in 1908, and 739,355 cu, yds. in 1909.

‡‡Total to Feb. 1, 1914, 2,926,498 cubic yards, including 846,920 cu. yds. in 1908, and 511 933 cu. yds. in 1909.

§Total to Feb. 1, 1914, 1,432,972 cubic yards. including 318,731 cu. yds. in 1912, and 952,423 c. y. in 1913.

WET EXCAVATION.

Mos.	ATLANTIC SECTION.†						PACIFIC SECTION.††								
	ATLANTIC ENTRANCE.§						A'L'TIC T'N'LS*	PACIFIC ENTRANCE.§§						BALBOA TERMINALS**	
	1909.	1910.	1911.	1912.	1913.	1914	1914.	1909.	1910.	1911.	1912.	1913.	1914	1913.	1914.
Jan....,	521,050	510,055	520,181	520,228	508,338	102,057	53,734	469,529	518.936	379,810	334,735	215,025	86,585	216,540	205.656
Feb....	444,910	493,448	455,318	581,399	303,949	....	....	671.477	285.791	386,866	432,796	239.032	....	175,225	....
Mar ...	461,208	412,325	391,736	103,373	380,243	....	....	865.696	462,588	639.761	404,939	379,845	....	166,800	....
Apl	470,635	190,574	492,579	134,261	436.605	....	....	731.767	534,322	439,622	383,995	356,942	....	182,125	....
May	315,370	447,578	514,178	229,626	685,163	....	....	720.753	484,509	548,047	388.310	369,703	....	194.510	....
June	182,575	458,021	452,098	343,804	814,592	....	....	844,685	475,486	576.100	338,006	604.080	....	31,179	....
July	348.451	423,092	425,195	495.398	921 948	....	....	733,181	515,782	520,692	392,511	756.930	....	231.105	....
Aug	422,846	508,829	367,456	429,415	512,089	....	....	623,263	506.969	630,241	441,644	726,256	....	286,127	....
Sept	410.574	451,873	420,434	372,302	478.689	....	....	662.976	473,585	534,667	455,059	581,958	....	178,579	....
Oct	314,778	549,788	470,400	572,783	288,760	....	....	720,920	467,873	329,224	435.726	433,098	....	110,6 0	....
Nov.	457.889	600.708	742,242	670,247	206,327	....	....	627,791	425,870	346,089	534,273	341.585	....	....	....
Dec .... ,	489,121	482,370	533,409	814,373	221.474	....	....	727.460	387,034	141,189	349,747	182,277	....	94,591	....
Totals...	4.839,407	5,528,661	5,785,226	5.267,209	5,758,177	102 057	53.734	8.399.498	5,538.745	5,472,308	4,891,741	5,186.731	86.585	1 867,441	205,656

†Dredging, Gatun Dam, 1907, 38,425 cu. yds.; Gatun Locks, 1908-13, 1.776,791 cubic yards.

††Miraflores Locks and Dam, 1909-12. 652,246 cu, yds.; total to Jan. 1, 1914. 652.246 cu. yds.

§Total to Feb. 1, 1914, 38,073,112 cu. yds.. including 10.792.375 cu. yds. in 1905-08.

§§Total to Feb, 1, 1914, 41.451,808 cu. yds,. including 11,876,203 cu. yds. in 1905-08,

**Total to Feb. 1. 1914, 2,884.467 cu. yds.. including 264,556 cu. yds. in 1911, and 545,814 cu. yds. in 1912.

*Total to Feb. 1; 1914. 291,374 cu. yds.

CONCRETE IN LOCKS AND DAMS.*

MONTHS.	GATUN LOCKS.†			PEDRO MIGUEL LOCKS††			MIRAFLORES LOCKS.‡		
	1912.	1913.	1914.	1912.	1913.	1914.	1912.	1913.	1914.
Jan	34,983	28,085	176	15,003	4,652	3,692	48,416	50,456	3,680
Feb..........	26,664	30,780	....	12.639	4,294	....	63,893	34,979	....
March	27,532	48,180	....	9,331	13,412	....	83,706	21.030	....
April........	11,600	22,732	....	9,460	2,145	....	97,735	13.266	....
May..........	7.746	13,046	....	10.736	1,144	....	92.095	6,956	....
June	6,095	5,509	....	10,061	773	....	68,398	3,836	....
July	8,093	3,431	....	11.480	1,829	....	66,026	3,810	....
Aug..........	6,855	6,258	....	5,995	1,884	....	75,388	3,643	....
Sept..........	3,162	442	....	3,039	1,144	....	46,122	1,907	....
Oct..........	3.252	174	....	6,587	412	....	54,790	1,152	....
Nov..........	6,029	280	....	7,972	630	....	39,874	2,007	....
Dec..........	5,697	120	....	6,958	1,162	....	46,746	1.859	....
Total.....	147,708	159,037	176	109,261	33,481	3,692	783 189	144,901	3.680

*Concrete in dams to Feb 1. 1914—Gatun spillway, 232,045 cu. yds.; Miraflores dam and spillway, 79,004 cu. yds,; Pedro Miguel dam, 1,289 cu. yds.

†1.761,344 cu. yds. in 1909, 1910, and 1911. ††780,696 cu. yds. in 1909, 1910. and 1911. ‡572,435 cu. yds. in 1909, 1910. and 1911.

FILL PLACED IN DAMS—1906-1914.

YEAR.	GATUN,		PEDRO MIGUEL	MIRAFLORES,	
	Wet	Dry	Dry	Wet	Dry
	Cu. Yds.	Cu. Yds,	Cu. Yds,	Cu. Yds,	Cu. Yds.
To January 1. 1911..............	5,833,076	6,128.105	260,852	294,712	609,863
1911..............................	3,493,388	2,613,066	57,669	366.336	460,514
1912..............................	1,402.501	2.499,092	352,159	....	418,042
1913..............................	....	910,741	25,258	....	246,640
1914..............................	....	544	....	....	13,164
Totals.	10.728.965	12,151,548	695,938	661 048	1.748,223

CANAL EXCAVATION TO DATE.

By French Companies..		78.146.960
French excavation useful to present Canal..........................		29.908,000
By Americans—		
Dry excavation..	129,137,854	
Dredges	87,828.756	
Total..		216.966,610
May 4 to December 31. 1904	243,472	
January 1 to December 31, 1905	1,799,227	
January 1 to December 31, 1906	4,948,497	
January 1 to December 31, 1907..............................	15,765,290	
January 1 to December 31, 1908..............................	37,116,735	
January 1 to December 31, 1909..............................	35.096,166	
January 1 to December 31, 1910	31,437,677	
January 1 to December 31, 1911..............................	31,603,899	
January 1 to December 31, 1912	30,269,349	
January 1 to December 31, 1913	27,177,960	
January 1 to January 31, 1913	1,508,338	

TOTALS BY SECTIONS AND AMOUNTS TO BE EXCAVATED.

SECTIONS.	Amount excavated.		Remaining to be excavated.	
Atlantic—				
Dry excavation........................	8.858 977	49,038.679	397	4.128,321
Wet	40,179.702		4,132,298	
Central—				
Culebra Cut	99,511,893	112.360,675	5 500,107	5,336,325
All other points	12,848,782		*163.782	
Pacific—				
Dry excavation........................	10,578,735	55,567,256	209,265	5,921,744
Wet	44,988,521		5,712,479	
Grand total		216,966,610		15.386,390

*Estimate exceeded by this amount.

SALE OF OLD CANAL BUILDING.

Former Headquarters of French and American Canal Forces Passes to Panama.

Cable advice has been received that President Wilson has signed the deed conveying the old administration building in Panama to the Panama Government, and that the amount involved in the transaction, $80,000, has been paid into the Treasury of the United States. Authority for this sale was granted by Congress in the Sundry Civil Act, approved August 24, 1912.

The building was erected in the years 1874-75, by George Loew, a Frenchman, who, prior to this time operated a hotel in the bishop's residence on the Plaza de la Independencia, which at that time extended out to the present limits of the plaza. It was designed for a hotel, and was used for that purpose, under the name of the Grand, until its sale to the Universal Interoceanic Canal Company of Panama in 1881. The structure occupies the whole of a small block; it fronts on the Plaza de la Independencia, parallels Fifth street on the south, and Sixth street on the north, with its rear on Avenue A. The site originally consisted of three parcels of ground, one purchased by Loew from Messrs. N. Brandon and Son on October 8, 1873, the second, purchased from Juana Arosemena de Alvarado on February 28, 1874, and the third, acquired from Manuel José Hurtado on March 3, 1874. The building is approximately 75 by 166 feet in plan, surrounds a small patio, and contains three main and two mezzanine floors. The walls are built of rubble masonry, and are very thick; the roof is of tile. At the time it was erected, Panama had no system of waterworks, and in view of this fact, the owner dug a cistern, which was kept filled during the rainy season, and installed a 3-horsepower vertical steam engine, together with a hydraulic pump, which lifted the water into tanks located on the various floors. These tanks were six in number, with a capacity of from four to 40 tons. On the lower floor there was formerly a good-sized bathroom, equipped with shower baths. When the building was taken over by the United States, American employes at that time forced to live in Panama on account of lack of accommodations elsewhere, found these baths very convenient; the toilet facilities, however, were in a deplorable condition, and remained so until the installation of modern fixtures some time later. The original owner installed a gaslight plant to furnish the interior illumination, but this was out of service in 1904.

George Loew died in Paris about the year 1879, leaving as heirs, George Auguste Loew, in his own name, and as guardian and curator of his brother Henry, a minor; and Marie Georgette de Blanchet. These heirs, on October 19, 1881, conveyed the property to Louis Verbrugghe, representing the first French canal company, for the sum of $206,521.73. The property was encumbered by a mortgage of $109,800, which was taken up at the time of the transfer. The canal company altered the interior of the building to some extent to conform to its requirements, and used it as headquarters up to the time of its transfer to the United States on May 4, 1904.

The early American officials established headquarters in the building, and it was continued in use until the engineering departments of the Isthmian Canal Commission under former Chief Engineer Stevens, were moved to Culebra in 1906. The first offices to be opened in it, were those of Maj. Gen. George W. Davis, managing representative, and Paymaster E. C. Tobey, U. S. N., followed a few weeks after by former Chief Engineer John F. Wallace, who occupied a suite on the second floor in the northeast corner of the building. During the years 1904-1906, the building was completely occupied; it housed the offices of the chief engineer, Canal Zone Government, executive secretary, communications, chief sanitary officer, auditor, disbursing officer, department of building construction, division of material and supplies, maps, printing and lithography, personnel and quarters, machinery, meteorology and river hydraulics, water commissioner (afterward superintendent of public works), instrument repair shop, and various smaller offices. The exodus began in 1906, with the removal of the engineering offices to Culebra, the disbursing and accounts offices to Empire, and the greater part of the offices belonging to the division of material and supplies to Cristobal. The erection of the present administration building in Ancon, in 1907, furnished room for most of the other offices, although the old building continued to be occupied up to 1909, when it was vacated by all but the Panama health office, and the superintendent of public works. These latter offices were moved to a new location near the Panama railroad freight station last month.

During the yellow fever outbreak in 1905, the building became a source of infection, and two heads of office, Mr. M. O. Johnson, supervising architect, and Mr. R. R. West, auditor, were attacked and succumbed.

Since 1910, it has been the policy to permit the Panama Government the use of the vacant rooms in the building for certain of its offices, rent free, with the stipulation, however, that it should pay its own electric light, water, and repair bills. Under this arrangement, the national printing office was first moved into the building, and later, various other offices, until at the time of the recent transfer, a large part of the vacant space was thus occupied. The Panama Government proposes to make a number of important changes in the interior arrangements, and about $30,000 will be spent for this purpose.

Extension of Insured and C. O. D. Services to Incoming Canal Zone Mail Matter.

The Chairman has authorized the extension to the Canal Zone of the insured and C. O. D. features of the United States postal service, in so far as it affects incoming mail matter. Section 62 of the parcels post regulations, which covers the insurance provision, reads, as follows:

> "All mailable parcels on which the postage is fully prepaid may be insured against loss for an amount equivalent to its actual value, but not to exceed $25 on payment of a fee of five cents, and in an amount equivalent to its actual value in excess of $25, and not to exceed $50, on payment of a fee of 10 cents in stamps, such stamps to be affixed. The amount of the insurance fee shall be placed on the receipt given to the sender, and on the coupon receipt at the mailing office."

Insured parcels are not listed or billed from one post-office to another in the United States, but are treated in every way as ordinary mail matter; the only feature distinguishing them from ordinary parcels is the insurance tag, which is attached by means of a string. This tag is in three pieces, two of which are detached at the mailing office, one as a receipt to the sender of the parcel, and the other as the mailing office record. When the parcel reaches its destination, and is delivered to the addressee, the last piece of the tag is detached, signed by the addressee, and filed in the post-office as the delivery record.

In the dispatch of insured parcels to the Canal Zone, it has been decided to vary from the above arrangement to the extent that when parcels are sent out from New York, they will, as an additional precaution, be listed and witnessed by two bonded officials of the post-office, and on delivery at destination, they will be rechecked and witnessed by two other bonded post-office officials. Delivery under the above system is absolutely guaranteed, or the value of the parcel made good. Where parcels listed check short, or are rifled in the mails, and it is not possible to place the responsibility, the payment of indemnity will be shared jointly by the two postal services.

The C. O. D. provision is simple and fairly easy to handle. It permits a manufacturer, or dealer, in the United States to make a shipment of goods, within the parcels post regulations, to a resident of the Canal Zone. On arrival, the consignee is given the privilege of inspecting his purchase, and if found to be as ordered, he pays the bill, and also the fee covering the cost of transmitting the money to the seller, the money order fees in these cases accruing to the revenues of the Canal Zone postal service. If a parcel remains unclaimed for more than 30 days, the shipper is notified and requested to forward the equivalent of the postage for its return to him. In case no reply is received within reasonable time, the parcel is sent to the Dead Letter Office at Washington, where the shipper is again notified, and if still no reply is received, the contents of the parcel are later disposed of at public sale.

The above services apply only on mail matter sent from the United States to the Canal Zone, the existing regulations regarding the dispatch of mail matter from here being unchanged.

Missing Men.

Any one having knowlege of the present whereabouts of Herman Francis Newell, and Norman Newell, supposed to have been on the Isthmus at one time, is requested to communicate with the Office of the Chairman, Culebra.

Any one having information regarding the whereabouts of Mr. Edwin F. McCarthey, who is believed to be on the Isthmus, is requested to communicate with Mr. Frank B. Williams, 2 Isabella St., Worcester, Mass.

Ancon Crusher.

Following is a statement of rock crushed at Ancon quarry during the week ending February 14:

DATE.	Hours worked.	Cubic yards.
February 9	8.45	2,250
February 10	6.30	2,443
February 11	7.50	2,167
February 12	7.55	2,174
February 13	7.45	2,556
February 14	8.05	2,202
Total	46.50	13,792

The finances of the dinner held by the First Division employes at the Hotel Tivoli, under date of October 22, 1913, were closed out during the past week, when $31.64, the balance of subscriptions after all expenditures had been met, was turned over to the Red Cross Society.

OFFICIAL CIRCULARS.

Acting Chairman and Chief Engineer.

CULEBRA, C. Z., February 11, 1914.

CIRCULAR No. 527:

Effective February 12, 1914, Col. H. F. Hodges will be in charge of the work as Acting Chairman and Chief Engineer during my absence from the Isthmus.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Changes in Wage Scale.

CULBERA, C. Z., February 11, 1914.

All concerned—The following changes in the wage scale as provided in Circular 299 are made effective April 1, to comply with the requirements of the Panama Canal Act of August 24, 1912, and as provided for in the Executive Order of February 2, 1914:

In the preparation of the wage scale herein provided, the average salaries for similar classes of employment in the Government service in continental United States were taken as a basis, to which has been added 25 per cent, the maximum limit provided by the law. If at any time prior or subsequent to April 1 it is shown that the average wage in such service is higher than that which has been taken as a basis, proper correction will be made.

In the case of locomotive engineers and conductors, those who are now qualified will continue to hold this grade under the reorganization schedule unless reduced for cause.

Scale of Salaries for Clerical Positions.

The entrance salary for clerks in the permanent organization will be $100 per month for general clerks, and $125 per month for stenographers or clerks to fill positions where special training or knowledge is required. The scale of salaries for clerical work will be $1,200, $1,350, $1,500, $1,650, $1,800, $1,950, and $2,100 per annum. More than $2,100 per annum will not be paid, except for clerks having charge of all or a section of an office, and the amount to be paid will depend upon the duties and responsibilities of the position.

Scale of Hourly Rates for Skilled and Unskilled Labor.

Trade.	*Pay—Cents.*						
Acetylene cutter					.34	.38	.42
Acetylene welder				.46	.50	.54	.58
Blacksmith, tool dresser					.48	.52	.56
Blacksmith, general				.46	.50	.54	.58
Blacksmith, heavy forger						.61	.65
Boilermaker				.46	.50	.54	.58
Boilermaker, lead man							.63
Buffer and polisher						.42	.46
Cabinet maker, coach and general					.50	.54	.58
Carpenter, house and concrete form				.43	.47	.51	.55
Carpenter, lead man							.60
Car repairer				.39	.43	.47	.51
Car inspector and repairer				.39	.43	.47	.51
Caulker, wood				.41	.45	.49	.53
Coppersmith					.52	.56	.60
Coremaker		.31	.35	.39	.43	.47	.51
Coremaker, lead man							.58
Cupola tender						.41	.45
Diver							1.00
Driller, air tools					.30	.34	.38
Electric welder					.50	.54	.58
Electro plater						.51	.55
Erector	.32	.38	.42	.46	.50	.54	.58
Flange turner						.58	.62
Galvanizer				.33	.37	.41	.45
Helpers, (blacksmith, boilermaker, machinist, shipfitter, electrical, and pipefitter)				.30	.34	.38	.42
Helpers, woodwork				.30	.34	.38	.42
Instrument maker					.62	.66	.70
Ironworkers			.42	.46	.50	.54	.58
Lineman			.42	.46	.50	.54	.58
Locksmith					.55	.59	.63
Locksmith, safe							.70
Machinist, general				.46	.50	.54	.58
Machinist, tool maker					.52	.56	.60
Machinist, vise				.45	.49	.53	.57
Machinist, lead man							.63
Mason, brick					.62	.66	.70
Millwright					.45	.49	.53
Millwright, lead man							.58
Molder				.46	.50	.54	.58
Molder, lead man							.63
Painter, house, coach, and locomotive					.42	.46	.50
Painter, letterer and grainer					.48	.52	.56
Patternmaker				.49	.53	.57	.61
Pipefitter				.44	.48	.52	.56
Planing mill hand				.42	.46	.50	.54
Planing mill hand, lead man							.59
Plumber					.53	.57	.61
Rigger					.42	.46	.50
Riveter				.39	.43	.47	.51
Sand blast operator						.42	.46
Sheet metal worker				.42	.46	.50	.54
Shipfitter				.46	.50	.54	.58
Ship joiner				.45	.49	.53	.57
Shipwright				.43	.47	.51	.55
Shipwright, lead man							.60
Temperer, tool						.56	.60
Wireman				.46	.50	.54	.58

Scale for Steamshovel, Dredge, and Transportation Men.

	Month.
Conductor, unqualified	$150
Conductor, qualified	$170
Craneman, dipper dredge, 5-yard, without subsistence	$180
Craneman, steamshovel	160
Engineer, locomotive, unqualified	170
Engineer, locomotive, qualified	190
Engineer, steamshovel	190
Engineer, traveling	225
Foreman-conductor, wrecker	190
Hostler	120
Masters and operators, 5-yard dipper dredges, without subsistence	200
Operator, Brown hoist	190
Superintendent of transportation	250
Assistant superintendent of transportation	225
Yardmaster	190
Yardmaster	170

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Transfer of Mechanical Division Shops.

CULEBRA, C. Z., January 2, 1914.

CIRCULAR No. 349-F:

The heads of departments and divisions will anticipate, so far as practicable, their requirements for repair and manufacturing work heretofore done in the Empire shops, and will immediately place orders for all such work, as the transfer from the Empire to the Balboa shops will commence on March 2, 1914, and, during the period of transfer it will be impracticable for the Mechanical Division to perform as much work as usual.

The transfer of the headquarters of the Mechanical Division, and of the work now being done in the Empire shops, in the car and paint shops in Cristobal, in the car shop at Balboa, and of the engine houses of the Panama Railroad Company at Cristobal and Balboa, will be made, as follows:

1. The office of the superintendent of the Mechanical Division, the clerical, drafting room, and planning department forces, will be transferred from Empire to the Balboa shops on February 25, 1914. Until the shop office, building No. 28, shall have been completed, the office of the superintendent of the Mechanical Division will be installed in the temporary office building constructed for the superintendent of the Balboa terminals.

2. On and after February 24, 1914, all mail for the Mechanical Division will be addressed to the superintendent of the Mechanical Division, Balboa, Canal Zone.

3. On and after March 1, 1914, all classes of Panama railroad passenger and freight cars that require shop repairs will be sent to the Balboa shops. Such of the gold and silver employes, tools, and equipment, now in the car and paint shops at Cristobal, as may be required, will be transferred to the Balboa shops as rapidly after March 2, 1914, as the work on hand in the Cristobal shops on that date is completed. Upon the completion of all work in the Cristobal car and paint shops, the buildings will be used for the storing under cover, inspecting, cleaning, and field repairing of passenger equipment at the Cristobal terminal.

4. All classes of cars belonging to the Commission that require heavy repairs on and after March 15, 1914, will be sent to the Balboa shops. Such of the gold and silver employes, tools, and equipment in the Empire car shops, as may be required, will be transferred to the Balboa shops as rapidly as the work on hand in that shop on March 16 is completed. Upon the completion of all work in the Empire car shop, the building will be turned over to the Chief Quartermaster. No cars will be sent to the field car repair shop at Balboa after March 29; all cars at the south end of the Canal requiring minor repairs after April 1, will be sent to the Balboa shops. Upon the completion of work in the abovementioned car shops, they will be turned over to the Quartermaster's Department.

5. All work heretofore performed in the Empire shops, that is covered by shop work orders issued on and after March 2, 1914, except repairs to cars, instruments, and locks, will be performed in the Balboa shops. As the work in progress in the Empire shops on March 2 permits, such of the gold and silver employes, machines, tools, and other equipment, selected for transfer to the Balboa shops, will be transferred from the Empire to the Balboa shops.

6. On and after April 1, 1914, all instruments, locks, etc., requiring repairs will be sent to the superintendent of the Mechanical Division at the Balboa shops.

7. Upon the completion of the work described in Paragraphs 5 and 6, the machines, tools, and other equipment not required in the Balboa shops will be surveyed and turned over to the Quartermaster's Department in accordance with existing rules. After the removal of all machines, tools, shafting, pulleys, hangers, and other equipment, the buildings will be turned over to the Chief Quartermaster.

8. The electric and air compressor plants at Empire will continue in operation until further orders.

9. The roundhouse at Cristobal, and engine house at Panama, will be transferred on April 1, 1914, from the Panama Railroad Company to the Mechanical Division. After April 1, 1914, light running repairs only will be made to locomotives in the Cristobal roundhouse.

10. The inspector of shops is charged with the execution of the details of this order, and will designate the dates on which the machines, tools, equipment, and employes will be transferred.

11. Circulars Nos. 343, 343-B, 343-C, 349-A, 349-B, and 349-C are hereby modified to direct that the work covered by them will be performed at the Balboa shops, instead of at the Empire and Cristobal shops, after the dates of transfer specified above.

GEO. W. GOETHALS,
Chairman and Chief Engineer, Isthmian Canal Commission.
President, Panama Railroad Company.

Acting Subsistence Officer.

CULEBRA, C. Z., February 11, 1914.

CIRCULAR No. 528:

During the absence from the Isthmus of Lieut.-Col. E. T. Wilson, Subsistence Officer, all his duties in connection with the Subsistence Department of the Isthmian Canal Commission and the commissary department of the Panama railroad will be performed by Capt. F. O. Whitlock, assistant subsistence officer.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission,
President, Panama Railroad Company.

Transfer of Accounting Division, Commissary Department, to Examiner of Accounts.

CULEBRA, C. Z., February 10, 1914.

CIRCULAR No. 183-Z-7:

Effective February 11, 1914, the accounting division of the commissary department, Panama Railroad Company, will be placed in charge of the Examiner of Accounts, Isthmian Canal Commission.

GEO. W. GOETHALS,
Chairman.

Stock Material Surcharge.

CULEBRA, C. Z., February 11, 1914.

CIRCULAR No. 169-R:

Effective February 16, 1914, the surcharge on stock material to nonemployes, or to employes when it is to be used for other than personal use, and on which duty is payable to the Republic of Panama, will be increased from 20 per cent to 30 per cent.

GEO. W. GOETHALS,
Chairman and Chief Engineer.

Applications for Position of Pilot on the Panama Canal.

ANCON, C. Z., February 12, 1914.

No applications will be considered for the position of pilot on the Panama Canal unless the applicant shall have an unlimited license for vessels of unlimited tonnage, seagoing. It will be needless for candidates to ask an exception to this rule.

HUGH RODMAN.
Chairman, Board of Local Inspectors.

Train Schedule on February 23.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., February 16, 1914.

CIRCULAR No. 369:

All concerned—The train schedule of Monday, the 23d, (Holiday, account of Washington's Birthday falling on Sunday), will be the same as on Sunday; that is, trains Nos. 52 and 53, scheduled to run Sunday only, will be operated on Monday, February 23.

F. MEARS,
General Superintendent.

Cows For Sale.

ANCON HOSPITAL,
ANCON, C. Z., February 10, 1914.

For sale at the Ancon Hospital dairy, four cows suitable for butchering. May be seen at the dairy any afternoon from 3 to 5 o'clock, and can be sold at private sale.

CHAS. F. MASON,
Superintendent.

LOST—In Mount Hope cemetery, Sunday, February 15, 7-jewel Elgin watch, ladies' size, 20-year case, made by J. Boss and Company. A liberal reward is offered if returned to P. O. Box 299, Cristobal, C. Z.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The moving picture schedule for the week February 23 to 28 is, as follows: Monday, Pedro Miguel; Tuesday, Gatun and Balboa; Wednesday, Cristobal; Thursday, Empire; Friday, Culebra; Saturday, Corozal.

The standing in the all-Isthmian duckpin tournament is, as follows:

Team.	*Won.*	*Lost.*	*P.C.*
Gatun	4	2	667
Empire	4	2	667
Pedro Miguel	3	3	500
Cristobal	3	3	500
Culebra	2	4	333
Corozal	2	4	333

COROZAL.

The elimination pool tournament was started on Monday night, February 9, with 24 entries.

The elimination duckpin tournament is still in progress.

The following are some of the high scores in duckpins made during the past week: King, 101; Davis, 104, 106; Regan, 112, 101; Parkis, 118; McNeill, 105; Sims, 106; Steel, 100; Ragan, 106.

The Isthmian duckpin tournament games played on Monday, February 9 resulted, as follows:

Culebra.				*Corozal.*			
Chadbourne	93	85	82	Davis	115	97	108
Kiernan	81			Sims	83	84	78
Barnes	83	102	91	Owens	78		
R. Koperski	84	81	88	Seebt		79	
Case	85	88	104	Edwards			82
Kienmiller		93	85	Steele	98	86	75
				Parkis	103	80	109
	426	449	450		477	426	452

Ancon defeated the local basketball team in a closely contested game.

PEDRO MIGUEL.

The Pedro Miguel bowling team took two of the three games rolled on the home alleys with Gatun. Saturday evening. The scores are, as follows:

Gatun.				*Pedro Miguel.*			
Dumville	114	83	87	Orr	69	98	98
Delaney	99	82	..	Whiston	82	94	83
Furlong	79	82	79	Vandeburgh	96	84	100
Walsh	119	79	...	Bartholo'ew	84	91	87
Claherty	86	87	88	Dougherty	97	108	84
Davidson	...	...	86				
Richardson	...	...	87				
Totals	497	413	427		428	475	452

The score of 119 made by Walsh of Gatun team is the highest individual score made so far in the present league.

The clubhouse membership is steadily increasing, the total being 126, consisting of 114 men and 12 boys.

The Spanish class was begun on Thursday evening, February 19 under Mr. Renald of Corozal. The first lesson was free to give the people an idea of the method used. The De Tornos method will be used in the various classes that may be formed. The price of the lessons per month is $2. These lessons are opened to all members and to any of the ladies who may wish to take them.

The library books have been catalogued, and are now ready for distribution. The privileges of the library are open to members and their families, a deposit of $1.50 being required for each card issued. There are 680 books in the general fiction library, and about 400 in the reference library; these will be placed in the reading room on the second floor.

The Sunday school service on February 15 was attended by 41 children and adults.

The men interested in gymnastic work are invited to join the gymnasium class held twice a week, from 8 to 9 o'clock evenings.

The All-Isthmian vaudeville performance will be held at the local clubhouse on Tuesday evening, February 24. The prices of admission are 50 cents for nonmembers and 25 cents for children. Members are admitted free.

CULEBRA.

The all-Isthmian vaudeville company presented its program to a good-sized audience on Friday night, February 13.

On Saturday night, February 14, a chess "Fest" was held, with representatives present from Empire and Cristobal.

On Thursday night, February 12, the Empire team bowled the locals in the all-Isthmian duckpin tournament, the former winning two out of three:

Empire.				*Culebra.*			
Barrett	83	95	95	Chadbourne	95	86	101
King	88	87	85	Kiernan	97	86	80
Sims	112	99	88	Barnes	85	84	92
Potter	83	84	91	Kronmiller	94	102	85
Gustavson	93	100	92	Case	82	102	97
Totals	459	465	451		453	460	455

A handicap billiard tournament will be started, provided there are enough men interested. A preliminary tournament will be arranged for the placing of handicaps. Those desiring to enter are requested to see Mr. Cook.

On Sunday night, February 15, fifty-nine slides, colored and sepia, showing the island of Sicily with its celebrated historical churches, cities, and ruins. were exhibited to a good-sized audience. A lecture was read describing the scenes.

EMPIRE.

The medals won in the all-Isthmian tenpin tournament. held at Empire on November 25, have arrived. As some of the men who won medals have moved since then, it is desired that each one of these entitled to a medal, write the secretary where to send it.

The three high men in the "Ragtime" duckpin bowling tournament are, as follows: Sims, 30 games, 93.18 average; Barrett, 42 games, 92.33 average; Gustaveson, 53 games, 92.17 average.

A new lot of bowling and tennis shoes have arrived and are on sale.

Providing there are five persons for a beginners' class in Spanish, one will be started the first of March. Leave names at the desk.

GATUN.

Arenilla, the Mexican magician, appears at the clubhouse on Thursday evening, February 19. The program will be in four parts—magic, flying rings, spiritualism, and contortion. Admission, 25 cents.

Ten sets of duckpins and twelve duckpin balls have been ordered from the United States.

The Isthmian vaudeville company will appear at Gatun on Thursday evening, February 26.

Nine members of the Gatun association are now studying the violin and piano under the supervision of the association. A few more pupils can be taken on. See the secretary for particulars.

Mrs. Walker played piano selections at the "Prisoner of Zenda" motion pictures on Thursday evening. February 12.

A large supply of rubber-soled shoes and supporters has been received from the United States, and are now sale.

The American Institute of Electrical Engineers will hold a meeting at the Gatun clubhouse on March 3.

The Gatun Y. M. C. A. will celebrate its fourth anniversary by a series of four entertainments. On Wednesday, March 4, a "Smoker" will be held for men only; on March 5, formal exercises will be held, with a reception following; on Friday, March 6, motion pictures with special music, and on Saturday, March 7, there will be an exhibition of gymnasium work, folk dancing, boys'activities, and a basketball game.

The present standing of the boys' athletic contest is, as follows:

Juniors.

Name.	*Points.*
Hanson, Paul	642
Griffith, Essex	639
Sisson, Franklin	494

Midgets.

Loulan, Francis	683½	Stevenson, Branson	505
Clarity, Charles	602¾	Viberg, Herman	501
Christian, William	586¼	Twitchell, James	499¾
Kuller, John	551½	Cucuel, Alfred	465
Pentz, David	549½	Witt, Morris	391¾
Neville, David	549	Carkeet, John	382

CRISTOBAL.

The discussion club was addressed on Thursday night, February 12, by Mr. P. P. Scott of Florida, who spoke on the present and future of Florida, illustrating his remarks with stereopticon views. The meeting for February 19 will be addressed by Mr. Edward Schildhauer, electrical and mechanical engineer. Mr. Schildhauer will tell of some of the electrical problems that had to be solved in constructing the Panama Canal. The meeting for February 26 will be addressed by E. M. Keyser in charge of the seismograph instruments at Ancon. Mr. Keyser's subject will be "Earthquakes and volcanoes."

Cristobal won all three games from Corozal in the all-isthmian duckpin tournament on Saturday evening, February 14. The score follows:

Cristobal.				*Corozal.*			
Pinney	92	86	108	Davis	90	77	102
Scheid	75	100	83	Steele	86	96	83
Barte	116	92	98	Sims	83	73	..
Collins	87	70	108	Regan	...	...	76
Smith	101	90	87	Edwards	89	79	81
				Parkis	98	97	83
Totals	471	438	484		446	422	425

Entries are in order for the single folks' bowling tournament, on Monday evening, February 23 (Washington's Birthday.)

The first of a series of monthly Sunday afternoon meetings was held on Sunday, February 15, at 3 o'clock. The ladies' quartet, consisting of Mrs. Mears, Mrs. Wilford, Mrs. Williamson, and Mrs. Diers, gave two vocal numbers, with Mrs. Ulrich at the piano. Mrs. McCloud gave two violin selections, accompanied by Mrs. Brittin. Mr. Price will address the meeting on Sunday, March 8.

Messrs. Weimeir and Hagan defeated Messrs. Schradely and J. Raymond two straight games, in the handball tournament, by the scores of 21-19, 21-20. Schradley and J. Raymond defeated Jimenez and D. Raymond in three games; scores, 21-17, 21-16, 21-14.

Team number three, captained by R. Billet, won the Cristobal boys' triangular athletic meet on Saturday morning, February 14. The meet was composed of five events, and the winning team was not known until the last event, the team relay race, was run. Score: Team No. 3, captain, R. Billet, Buser, Waid, C. Weaver, Grow, Mendes, Bradford, 41.086 points; team No. 1, captain, M. Cotton, R. Appleton, Harrison, M. Weaver, Simonson, Hollowell, F. Raymond, 37.547 points; team No. 2, captain, J. Anderson, J. Raymond, Foley, Wardlaw, Otey, Allen, O. Rowe, 37.211 points. Minot Cotton won the all-round junior athletic championship with 45.40 points.

PORTO BELLO.

The standing in the pool tournament to date is, as follows:

Name.	*Won.*	*Lost.*	*P. C.*
Baker	7	1	.875
King	7	2	.777
Colberg	7	2	.777
Thompson	4	3	.571
Ransbottom	4	4	.500
Bradberry	3	4	.428
Woolworth	3	6	.333
Doyle	2	5	.285
Chase	0	6	....
Cummings	0	4	....

Supplies for the Canal.

The following steamers with supplies for the Isthmian Canal Commission and Panama Railroad Company arrived at the ports of Colon, and Cristobal during the week ending February 7:

Parismina, February 2, from New Orleans, with 136 barrels paving brick, for Panama railroad; 950,000 pounds pig iron, for Mechanical Division; 15,000 (board feet) yellow pine lumber, 120 bags feed, 73 rolls cotton duck, for stock.

Metapan, February 4, from New York, with 30 packages chain fender material, 135 barrels oil, four boxes electrical machinery, 35 cases electrical machinery, for First Division; 28 packages structural material, for fortifications; 18 crates galvanized stovepipe, 39 reels wire rope, 60 boxes window glass, 300 cases turpentine, for stock.

Colon, February 5, from New York, with 17 reels copper wire, 285 bundles pipe, 89 boxes lamps, 18 pieces castings, for Mechanical Division; 186 pieces structural material for Panama railroad; 28 packages machinery, for Sixth Division; 28 cases electrical machinery, for First Division; 37 cases woodwork, for Administration Building, Balboa; 18 packages structural material, 27 packages armament material, for fortifications; four crates plumbing material, for permanent buildings; 110 pieces pipe and fittings, for Division of Municipal Engineering; 62 packages signal material, one launch, for Panama railroad; 146 kegs nails, 200 drums calcium carbide, 94 pieces sewer pipe, 24 barrels compound, 47 bales excelsior, 240 coils rope, 50 crates galvanized pails, 137 cases paint, for stock; and a miscellaneous cargo, the whole consisting of 2,459 packages, weighing 192 tons.

Turrialba, February 5, from New Orleans, with 2,708 (board feet) oak lumber, for Mechanical Division; 949 pieces cast iron pipe, 80,870 (board feet) yellow pine lumber, 6,987 (board feet) oak lumber, for stock.

Tenadores, February 5, from New York, with 24 reels wire rope, for Mechanical Division; 277 bundles enameled brick, 40 packages electrical machinery, 159 packages structural material, 309 packages structural material, for First Division; 158 crates asbestos roofing, for fortifications; 250 kegs nails, 300 kegs paint, 429 pieces pipe, for stock.

Sixaola, February 6, from Boston, with two crates grindstones, one box screws, for stock.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending February 28, 1914:

DATE.	High	Low	High	Low
	A.M.	A.M.	P.M.	P.M.
February 22	1.47	8.02	2.30	8.34
February 23	2.46	8.56	3.17	9.24
February 24	3.34	9.40	3.57	10.05
February 25	4.14	10.21	4.33	10.43
February 26	4.49	10.58	5.05	11.18
February 27	5.22	11.32	5.35	11.51
		P.M.		
February 28	5.53	12.05	6.05	......

75th meridian time.

COMMISSARY DEPARTMENT.

The commissary stores are open during the following hours:

Cristobal, 8 a. m. to 12.30 p. m., and 2 to 7 p. m.
Balboa, 8 a. m. to 12.30 p. m., and 2.30 to 7 p. m.
Ancon, 8 a. m. to 1 p. m., and 3 to 6 p. m.
All others, 8 a. m. to 1 p. m., and 3 to 7 p. m.

Commissary Cold Storage.

No changes are reported in the list of cold storage supplies sold at the commissaries published in THE CANAL RECORD of February 11.

Family Quarters.

Applications for married quarters on file on January 31, were, as follows:

DISTRICT.	List No. 1.	List No. 2.
Balboa	8 (6)	67 (18)
Ancon	31 (24)	130 (51)
Ancon Hospital	....	8 (1)
Corozal	8 (6)	179 (68)
Paraiso	2	95 (18)
Culebra	1	42 (10)
Empire	1	72 (16)
Gatun	....	83 (11)
Cristobal	1 (1)	98 (14)
Toro Point	....	3 (2)
Porto Bello	....	10 (8)
Total	52 (37)	787 (217)

NOTE—The figures in parentheses show the number of applicants already occupying regular or nonhousekeeping family quarters at stations other than those at which applications are filed.

January Rainfall for Three Years.

STATIONS.	1912	1913	1914	Station Av.	Years of record	Rai'y days, '14
Pacific Section–						
Ancon	T	.63	.32	.95	16	7
Balboa	......	.78	.30	1.04	15	2
Miraflores	......	2.65	.57	1.88	6	2
Pedro Miguel	......	1.10	1.27	1.04	7	4
Rio Grande	.03	2.09	1.08	1.39	10	7
Central Section–						
Culebra	.05	1.57	.38	1.68	24	7
Camacho	.04	1.60	.46	1.15	8	5
Empire	.01	1.67	.34	.79	9	6
Gamboa	.06	2.65	.64	1.83	29	11
Juan Mina	.15	1.01	.44	.41	4	11
Alhajuela	.08	.96	.09	1.14	15	5
El Vigia	.08	.78	.28	.99	6	5
Frijoles	.67	3.85	.81	1.78	3	9
Trinidad	1.38	3 45	1.57	3.09	7	16
Monte Lirio	2.14	3.57	.83	3.21	7	4
Atlantic Section-						
Gatun	.91	4.63	1.63	3.69	10	14
Brazos Brook	.61	5.72	.90	3.46	8	12
Colon	.28	6.71	1.35	3.97	44	14
Porto Bello	.67	5.84	2.38	6.78	7	20

Misdirected Letters,

ANCON, C. Z ., February 15, 1914.

The following insufficiently addressed letters originating in the United States or its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressees:

Boy, Jules
Boyce, Joseph H.
Brehamy, Thos.
Brown, J. H.
Burns, Chas.
Carus, O. H.
Chairman of Colonization Promoters.
Davis, Capt. Russell
Geyer, John H.
Gibson, R. P.
Johnson, Horace
Joynor, G. W.
Lazaros, Evangel
Lewis, S.
McArther
Metzger, I. W.
Modetz, Joseph
Morgan, Wm.
O'Reilly, Mrs. Patrick
Paulding, John
Peronnet, Mlle. Rénee
Phillips, Laurence
Radbill, Samuel
Roussin, Arthur
Shepherd, Victor
Sieber, Miss Grace
Smith, H. R. (parcel)
Stengel, Harry
Stoy, Elmer C.
Taylor, William H.
Weeks, Nancey

Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun and Miraflores Lakes for the week ending midnight, Saturday, February 14, 1914. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.					
	Vigia.	Alhajuela	Gamboa	Frijoles	Gatun Lake	Miraflores Lake
Sun., Feb. 8	125.2	91.7	84.8	.....	84.9	52.4
Mon., Feb. 9	125.3	91.8	84.9	.....	84.8	52.2
Tues., Feb. 10	125.5	92.1	84.8	.....	84.9	52.2
Wed., Feb. 11	125.4	91.8	84.9	.....	84.9	52.2
Thurs., Feb. 12	125.3	91.8	84.9	.....	84.9	52.1
Fri., Feb. 13	125.2	91.7	84.9	.....	84.9	52.1
Sat., Feb. 14	125.2	91.7	84.9	.....	84.9	52.2
Height of low water, nearest ft.	125.0	91.0				

Rainfall, Feb. 1 to Feb. 14, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	T	9	T
Balboa	......	......	......
*Miraflores	......	......	......
Pedro Miguel	......	......	......
Rio Grande	.01	12	.01
Central Section—			
Culebra	T	Various	T
*Camacho	.05	4	.05
Empire	.03	4	.04
Gamboa	......	......	......
*Juan Mina	.01	Various	.03
Alhajuela	.01	8	.01
*El Vigia	.05	8	.05
Frijoles	.61	1	.74
*Monte Lirio	.85	1	1.10
Atlantic Section—			
Gatun	.49	1	.58
*Brazos Brook	.05	1	.08
Colon	.65	1	.83
†Porto Bello	.58	1	.77

*Standard rain gage—readings at 5 p. m., daily Automatic rain gage at unstarred stations—values midnight to midnight. †To 5 p. m., February 13.

WEATHER CONDITIONS, CANAL ZONE, JANUARY, 1914.

Typical dry season weather prevailed on the Isthmus during the month of January. The rainfall was below the station averages at all stations except Pedro Miguel and Juan Mina. The average rainfall in the Canal Zone amounted to approximately 40 per cent of the January normal. The monthly totals ranged from 0.09 inch at Alhajuela to 2.38 inches at Porto Bello. The maximum precipitation recorded in one day was 1.08 inches, at Pedro Miguel on the 29th.

Average air temperatures and atmospheric pressure were generally above normal. Approximately average conditions of relative humidity prevailed, while the cloudiness and wind movement were generally slightly deficient

There was a marked decrease in night and early morning fogginess with the return of dry season weather conditions. Of the fogs observed, 44 per cent were dissipated by 6.30 a. m., 72 per cent by 7.30 a. m., and 100 per cent by 8 a. m.

The following table summarizes the weather conditions for the month:

STATIONS.	Press're (reduc'd to mean of 24 hours).	Temperature.					Mean relative humidity.	Precipitation.			Wind.				
		Mean.	Maximum.	Date.	Minimum.	Date.		Total inches.	Station average.	Days of .01 inch or more.	Total movement (miles)	Prevailing direction.	Max. velocity (in miles).	Direction.	Date.
Colon	29 907	80.7	87	jan. 10	73	Jan. 29	81	1.35	3.97	14	9,680	N.	32	N. E.	Jan. 15
Culebra	29.878	78.7	90	Jan. 24	67	Jan. 19	89	.38	1.68	7	6,689	N. W.	25	N. W.	Jan, 6
Ancon	29.871	80.4	93	Jan. 30	68	Jan. 20	85	.32	.95	7	6,033	N. W.	23	N.	Jan. 8

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

		Sails.	*Arrives.*
NEW YORK TO CRISTOBAL.			
*Panama	P. R. R.	Feb. 11	Feb. 17
*Allianca	P. R. R.	Feb. 18	Feb. 24
*Colon	P. R. R.	Feb. 24	Mar. 2
*Advance	P. R. R.	Mar. 2	Mar. 9
*Panama	P. R. R.	Mar. 9	Mar. 15
*Allianca	P. R. R.	Mar. 14	Mar. 20
*Colon	P. R. R.	Mar. 20	Mar. 26
*Advance	P. R. R.	Mar. 26	April 2
CRISTOBAL TO NEW YORK.			
†Panama	P. R. R.	Feb. 24	Mar. 2
†Allianca	P. R. R.	Mar. 2	Mar. 8
†Colon	P. R. R.	Mar. 8	Mar. 14
†Advance	P. R. R.	Mar. 14	Mar. 21
†Panama	P. R. R.	Mar. 21	Mar. 27
†Allianca	P. R. R.	Mar. 26	April 1
NEW YORK TO COLON.			
Almirante	U. F. C.	Feb. 11	Feb. 18
*Pastores	U. F. C.	Feb. 14	Feb. 21
Trent	R. M.	Feb. 14	Feb. 23
Prinz Joachim	H.-A.	Feb. 14	Feb. 23
Santa Marta	U. F. C.	Feb. 18	Feb. 25
*Tenadores	U. F. C.	Feb. 21	Feb. 28
Pr. Eitel Friedrich	H.-A.	Feb. 21	Mar. 3
*Metapan	U. F. C.	Feb. 25	Mar. 4
Orotava	R. M.	Feb. 28	Mar. 9
Prinz Aug. Wilhelm	H.-A.	Feb. 28	Mar. 9
*Calamares	U. F. C.	Feb. 28	Mar. 7
*Zacapa	U. F. C.	Mar. 4	Mar. 11
Prinz Sigismund	H.-A.	Mar. 7	Mar. 17
*Pastores	U. F. C.	Mar. 7	Mar. 14
*Almirante	U. F. C.	Mar. 11	Mar. 18
Tenadores	U. F. C.	Mar. 14	Mar. 21
Prinz Joachim	H. -A.	Mar. 14	Mar. 23
COLON TO NEW YORK.			
Zacapa	U. F. C.	Feb. 19	Feb. 26
Pastores	U. F. C.	Feb. 22	Mar. 4
Emil L. Boas	H.-A.	Feb. 24	Mar. 3
Almirante	U. F. C.	Feb. 26	Mar. 5
Tenadores	U. F. C.	Mar. 1	Mar. 11
Prince Joachim	H.-A.	Mar. 3	Mar. 11
Danube	R. M.	Mar. 3	Mar. 11
Santa Marta	U. F. C.	Mar. 5	Mar. 12
Calamares	U. F. C.	Mar. 8	Mar. 18
Prinz Eitel Friedrich	H.-A.	Mar. 9	Mar. 18
Metapan	U. F. C.	Mar. 12	Mar. 19
Pastores	U. F. C.	Mar. 15	Mar. 25
Prinz Aug. Wilhelm	H.-A.	Mar. 17	Mar. 25
Tagus	R. M.	Mar. 17	Mar. 25
NEW ORLEANS TO COLON.			
*Atenas	U. F. C.	Feb. 14	Feb. 19
*Parismina	U. F. C.	Feb. 18	Feb. 23
*Turrialba	U. F. C.	Feb. 21	Feb. 26
Cartago	U. F. C.	Feb. 25	Mar. 6
COLON TO NEW ORLEANS.			
‡Abangarez	U. F. C.	Feb. 17	Feb. 23
‡Heredia	U. F. C.	Feb. 21	Feb. 26
‡Atenas	U. F. C.	Feb. 26	Mar. 3
‡Parismina	U. F. C.	Feb. 28	Mar. 5
BOSTON TO COLON.			
Tivives	U. F. C.	Feb. 12	Feb. 20
Sixaola	U. F. C.	Feb. 19	Feb. 27
COLON TO BOSTON.			
Tivives	U. F. C.	Feb. 22	Mar. 2
Sixaola	U. F. C.	Mar. 1	Mar. 9

Board of Local Inspectors.

ANCON, C. Z., February 15, 1914.

The Board of Local Inspectors will conduct examinations at the Administration Building, Ancon, on Wednesday, February 25, 1914, beginning promptly at 2 p. m., for persons desiring the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for licenses must procure from the Executive Office, Ancon, forms of application and information respecting the filling out of same, not later than the day previous to the examination. In addition, all persons desiring chauffeurs' licenses must provide themselves with automobiles with which to demonstrate their ability to properly operate the same.

NOTE—The demonstration test for applicants for chauffeurs' licenses will be given on Tuesday, the day preceding the regular examination, at 2 p. m., at the Administration Building, Ancon; on Wednesday, the day of the regular examination, for out-of-town applicants, at 2 p. m., at the Administration Building, Ancon. No demonstration tests will be given at Cristobal, except by appointment.

HUGH RODMAN, *Chairman,*
Board of Local Inspectors

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, FEBRUARY 25, 1914. No. 27.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each, to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Raising Surface of Miraflores Lake.

The culvert in the east side wall of Pedro Miguel Lock was opened at 2 p. m., on Saturday, February 21, for the purpose of passing water from the Gatun Lake level in Culebra Cut to Miraflores Lake, and raising the surface of the latter. The culvert, which is 18 feet in diameter, was left wide open for 40 minutes, and during this time about 17,000,000 cubic feet of water were passed through it. The surface of Miraflores Lake was raised from 51.91 to 52.36 feet above sealevel, a total of .45 inches.

During this run, the velocity of current caused by the outflow from Culebra Cut was measured. At Paraiso, near the south end, and at Gamboa, at the north end, the maximum velocity was about .4 mile per hour; through the restricted channel at Cucaracha slide, it was approximately four miles per hour.

Paraiso Springs Water Service Discontinued.

Effective February 20, the hauling of water in demijohns from Paraiso springs to residents of Corozal was discontinued, and the train formerly engaged in this service annulled. Under recent conditions, the service had required holding an additional engine in use at a cost of $44 per day. In case the operation of a distilling plant at Corozal shall appear in the future to be desirable, on account of the discontinuance of the Paraiso springs service, the matter will be acted upon jointly by the Sanitary Department, the Quartermaster's Department, and the Division of Municipal Engineering.

The regular water supply of Corozal, previously used at the I. C. C. hotel in the village, the bachelors' quarters, and a number of family quarters, is furnished from the Rio Grande reservoir and Miraflores Lake, in connection with the system for supplying the south end of the Canal. At Corozal, it is not filtered, but the watershed of both reservoirs is guarded vigilantly and the water from Miraflores Lake is treated with a solution of hyperchloride which is fatal to all bacilli in the water.

Wood Found 59 Feet Below Sealevel.

In the work of sinking the caissons to support the new wharves and pier at Balboa, pieces of wood in good state of preservation are frequently recovered from strata 50 feet or more below the present surface of the ground. A caisson recently sunk for Pier No. 1 struck a log at 59 feet below sealevel, or 67 feet below the surface, which was so large that is was necessary to cut it to pieces with axes in order to let the shoe of the caisson pass on to bed rock. A section of the log, six inches long and 20 inches in diameter, with the bark on, was washed and packed, and has been shipped to Mr. Henry Pittier of the Bureau of Plant Industry, in the Department of Agriculture, with the request that he identify it if possible and make a report on it. Mr. Pittier has made extensive studies of the woods of the Isthmus, as well as of other parts of Central America. The log was found in black alluvial deposit, directly above a stratum of gravel, several feet in thickness, which separates the alluvium from the bed rock to which the caissons are sunk.

Removal of Gatun Seismograph Station.

The seismograph station, which has been maintained by the Canal Commission on Guarapo Island in Gatun Lake, near the dam, will be abandoned, and the two 25-kg. instruments installed there, both of the Bosch-Omori type, will be transferred to their old location at Ancon, on March 1. The station on Guarapo Island was opened in the early part of 1911, for the purpose of obtaining a check on any seismic disturbances that might be registered at the Ancon station; for arriving at a more correct determination of their probable foci, and the effects, if any, on the tilting of the adjacent ground due to filling of Gatun Lake. As the two stations are but 40 miles apart, and as the records are nearly identical, it has been decided to effect a saving by combining again all the instruments at Ancon.

Repairs to Dredging Equipment.

The seagoing suction dredge *Culebra* was passed through Gatun Locks from the lake to the Atlantic entrance on Sunday, February 22, and has been set at work on a shoal west of the channel, near Mile 2. Later on the dredge will be placed in the Mount Hope dry dock for a complete overhauling. During the six years of its operation at the Pacific end, it has been given only emergency repairs to hull, as the facilities for overhauling the vessel there were incomplete, the method adopted being to beach it on one of the islands in the Bay of Panama for such repairs as were necessary.

In addition to the *Culebra*, the tug *Chame*, two empty coal lighters, and a mud scow, were locked down on Sunday. The *Chame* has been placed in dry dock, where it will receive a general overhauling; its rudder will be replaced by one of larger size, and the vessel will be equipped with a towing machine. On leaving dry dock, it will be returned again to the Punta Chame sand service. The mud scow will undergo some necessary repairs also.

The tug *Miraflores*, which was at Mount Hope dry dock for about three weeks, was returned to the Culebra Cut dredging service on Sunday, February 22. In addition to receiving a thorough overhauling, the vessel was equipped with a new boiler, and its old rudder was exchanged for one of larger size. These improvements, it is expected, will increase the working efficiency of the tug fully 35 per cent. On the up trip, the *Miraflores* had a mud scow in tow.

Erection of Permanent Family Quarters at Balboa.

The construction of 20 concrete 4-family quarters, known as Type B, was begun about January 5. Five of these buildings are situated on the main street, known as Balboa Prado, in the permanent town of Balboa, and 15 are on the east slope of Sosa Hill, extending from a point opposite the present commissary store, over the toe of the hill, to the rear of the present power plant.

These buildings are designed for the housing of 80 families of the gold employes. The excavation for the building foundations has been completed, and the work on the various buildings is now in all stages of advancement, between the pouring of concrete foundations and the erection of walls and floor arches as high as the second story. The work is being pushed to completion as rapidly as the materials can be obtained from the United States.

The buildings will be provided with an open basement, extending the full length and width of the building, 90 feet by 35 feet 10 inches. The clear head room in the basement will be about six feet six inches, and the clear head room in the apartments will be 10 feet. The walls of the basement are of reinforced concrete. The remainder of the walls, including the interior partitions, are of hollow concrete blocks, to be finished with stucco on the exterior, and cement plaster on the interior. The floor arches are of reinforced concrete, upon which will be laid redwood floor sleepers, with a filling of cinder concrete between same; the floor of the apartments will be of comb-grained yellow pine nailed to the sleepers. The roof framing will be of yellow pine, covered with roofing felt, and a top surface of red vitrified Spanish tile.

Each apartment consists of five rooms and bath, with an 8-foot 2-inch veranda the entire width of the apartment on the front, and an 11 by 12-foot veranda on the rear, called the "Kitchen veranda." The apartment includes a living room, 14 by 14 feet 10 inches, a dining room, 12 by 14 feet, two bedrooms, each 11 by 12 feet, a bathroom 11 by seven feet, with a small hall to provide communication between the bedrooms, bathroom, and the living room; and a kitchen 11 by 11 feet; also, a dry room approximately four by 11 feet, with a small closet in each bedroom. The bathroom is equipped with shower and tub, and the entire apartment is piped for hot and cold water. The floors on the verandas will be cement finished. The roof of the building has a pitch of six inches to the foot, and covers the verandas, projecting four feet two inches beyond same. The doors and windows will be of cypress, and the hardware of brass, sand finished. The force now employed on this construction includes 40 gold and 600 silver employes.

Operations at Cucaracha Slide.

The dipper dredges *Cardenas*, *Chagres*, and *Mindi* are excavating on the north side of the base of Cucaracha slide, close to Gold Hill, in practically the same positions they have occupied for the past month. On the south side of the slide, the pipeline suction dredges *No. 4* and *No. 86* are handling lighter material to the relay station on the west 95-foot berm, whence it is passed to the Rio Grande valley, with the rock being dumped behind a retaining dike considerably below the level of the watercourse. The second monitor installed on the slide, to be supplied with water pumped up by pipeline suction dredge *No. 82*, has begun operations, resulting in increased output by the two dredges which are carrying the spoil away. The daily excavation of all the dredges at the slide now approximates 20,000 cubic yards. New material comes into the channel about as fast as the excavation advances, but the bank is being continually lowered and the situation is regarded as satisfactory. Part of the spoil loosened by the monitors is washed through a flume into a dump barge moored at the base of the slide, and towed away in the same manner as spoil from the ladder or dipper dredges.

Progress on Permanent French Canal Bridge.

A piledriver is driving a trestle from the east side of the French canal, about 25 feet north of the present track crossing the Canal between Mount Hope and Mindi Island, in preparation for the construction of the east abutment pier of the permanent swing bridge for rail communication with the coaling plant at the north end of the island. Upon the completion of this approach trestle, the piledriver will place four rows, of eight each, of creosoted piles to support the concrete cap which will form the portion of the abutment above the water level. The base rock at this place slopes sharply, and at the point selected for the abutment is 61 feet below sealevel.

After the abutment has been completed, connection between it and the railway will be effected by means of an 80-foot plate girder which has been removed from the north end of the Gamboa bridge crossing the Chagres River. In its former use, this girder spanned a section of firm earth slightly below the level of Gatun Lake. A pile trestle has been constructed in its place, connecting with the adjacent pier of the bridge, and the girder taken out. It was the original plan to use at the French canal crossing one of the girders recovered from the old Barbacoas bridge, supporting it at the center by an additional pier, but the heavier Gamboa bridge girder will be used instead, as being more in keeping with the heavy construction of the rest of the bridge.

Locating New Pier at Cristobal.

For the erection of the recently authorized additional pier at Cristobal, the site investigated was one with its inner side 300 feet west of the outer side of pier No. 8, to provide between these two piers a slip of the same width as that between pier No. 8 and dock No. 9, both of which are now nearly completed. Borings over this area, approximately 1,050 feet long by 210 feet wide, have showed that hard rock lies there about 50 per cent lower than beneath pier No. 8. The average depth below pier No. 8 is about 65 feet, and at the site investigated it is about 110 feet, with a maximum of 120.4 feet. Borings were made in longitudinal rows, spaced about 150 feet apart, on 100-foot centers. As the foundation cost of the new pier will be about 60 per cent of the total, several designs are being prepared with a view of keeping this cost as low as possible.

Island of Juan Mina Assigned to Meteorological Section.

The site of the former village of Juan Mina on the south bank of the Chagres River, a few miles above Cruces, is now an island, which, in its elevated portions, will be about 10 feet out of water, when Gatun Lake is at the 87-foot level. The locality has never been flooded by the rises in the river, and produces an abundance of native fruits, especially oranges, which are said to be about the sweetest found in this part of the Isthmus. The island has recently been placed under the control of the meteorological section of the Second Division, on account of the fact that the house and repair station of the lineman in charge of the telephone line to the upper river gaging stations of Alhajuela and El Vigia are located at this point.

To Abandon Miraflores Passenger Station.

It has been proposed that Miraflores station be abandoned as a regular stop for passenger trains of the Panama railroad, and a committee consisting of representatives of the Assistant Chief Engineer, the General Superintendent of the railroad, the resident engineer of the Division of Municipal Engineering, and Mr. W. L. Phillips, landscape architect, will meet at Miraflores station at 2 p. m., February 25, to select the most suitable point for the erection of an alighting platform at which trains may be stopped on signal to allow construction employes engaged in the vicinity to get on or off.

The village of Miraflores has entirely lost its identity, the only buildings remaining being several laborers' barracks situated on knolls above the level of Miraflores Lake. The site of most of the former town, including all its public buildings, is now under water.

Enlisted men on the submarine flotilla stationed at Cristobal, and those in the camps of the Coast Artillery Corps on the Canal Zone, will be allowed personal transportation on the Panama railroad at half-rate charges, as provided for enlisted men of the Tenth Infantry.

The Panama railroad sightseeing barge will make two trips on Sunday, March 1; in the forenoon, leaving Gamboa for Gatun, at 8.40; and in the afternoon, leaving Gatun at 2 o'clock. Fare, $1.50, U. S. currency, each way.

PLAN OF BALBOA TERMINALS.

Layout of Permanent Plant at Balboa for Marine and Railway Maintenance and Manufacturing Work.

The layout for the Pacific terminals at Balboa, including the dry docks, shop facilities, wharves, and the one new commercial pier authorized at present, is indicated by the accompanying sketch. The site, beginning with the sea end, extends about one mile in a southwest to northeast direction. It is bounded on the west and north by the approach channels from the Canal, on the south by Sosa Hills, and on the east by the yards of the Panama railroad. Its normal width is about 900 feet, and it will have an area of approximately 103 acres.

The site was originally a flat on the northwest side of Sosa Hills, with a general elevation of only a few feet above sealevel. Solid rock under the site dips at a steep inclination from the hills. The area occupied by the shops proper has been raised to a general elevation of about 17.5 feet above sealevel by means of dry spoil; the area east of the shops proper was raised to a general elevation of about 16 feet by material pumped into it by pipeline suction dredges, working in the inner harbor. At the same time, the site was widened by excavation along the north face of Sosa Hills.

The foundations for the buildings on this site with the exception of a few carried to solid rock, rest on clusters of timber piles, about 10 piles to the cluster, driven to a depth of about 35 feet and splaying over a circular area about 30 feet in diameter. The heavier superstructures for the wharf facilities and the coal plant will rest on caissons, driven to rock at a general level of about 50 feet below sealevel. Most of the caissons will be of 6-foot diameter reinforced concrete shells, filled with reinforced concrete, and the others will be 4 to 6-foot diameter steel shells, similarly filled. A total of about 1,100 caissons will be used for the structures. The dry docks will rest on bed rock.

The area devoted to the terminals was formerly occupied by a part native, part American, village, known as La Boca, as well as by the shipways, wharves, and shops of the Pacific dredging department, the Quartermaster's storehouse, and the storage yard for supplying materials to that department. After the issuance of the order by the Secretary of War changing the name of the Pacific entrance and vicinity to Balboa, the settlement was mostly referred to as Old Balboa. All the former buildings have been removed in the progress of the terminal construction, except the Quartermaster's storehouse and part of the timber wharf devoted to the sand service, and to making light repairs to vessels; these will be demolished when new facilities are provided to care for their work.

The layout was designed to place the metal and woodworking shops, storehouse, and other facilities most needed in connection with repairs to vessels, close to the dry docks and the repair wharf, at the sea end of the site; and the foundry, lumber, and equipment shed and car shop nearer the land end, with the locomotive roundhouse at the extreme inland end of the site, adjoining the terminal yards of the Panama railroad. The office building is situated near the center of the plant.

BUILDINGS.

Following is a summary of the plan dimensions, ridge height, and floor space of the numbered buildings:

Building.	Purpose.	Inside.		Height.	Floor Space.
		Length.	Width.		
No. 1......	Machine shop	358′ 8″	130′ 6″	62-6	46,806
No. 2......	Forge shop	274′ 1″	89′ 1″	62-6	24,416
	Pipe, tin, and copper shop	89′ 1″	84′ 4″	....	7,513
No. 3......	Steel storage shed	359′ 5″	50′ 4″	52-6	18,090
No. 4......	Boiler and shipfitter shop	358′ 8″	129′	62-6	46,268
No. 5......	General storehouse	400′ 3″	118′ 8″	75-0	94,230
No. 6......	Paint shop	252′ 11½″	49′ 8½″	39-6	12,570
No. 7......	Car shop	317′ 1″	122′ 4″	40-6	38,790
No. 8......	Planing mill	400′ 5″	121′ 4″	40-6	48,580
No. 9......	Galvanizing plant	147′ 11″	39′ 4½″	39-6	5,825
No. 10.....	Lumber and equipment shed	549′ 0″	122′ 4″	40-6	67 160
No. 11.....	Pattern storage shed	119′ 10″	58′ 8″	37-6	13,003
No. 12.....	Foundry	316′ 6″	118′ 0″	62-6	34,508
No. 13.....	Coke shed	167′ 10″	18′ 6″	24-0	3,104
No. 14.....	Boiler house	59′ 10″	43′ 4″	47-6	2,931
No. 15.....	Roundhouse*	418′ 5″	75′ 9″	24-0	59,000
No. 16.....	Gas house	41′ 1¼″	22′ 0″	21-6	923
No. 17.....	Toilet	48′ ½″	22′ 0″	16-0	1,057
No. 18.....	Toilet	48′ ½″	22′ 0″	16-0	1,057
No. 19.....	Toilet	31′ 9″	22′ 0″	16-0	698
No. 20.....	Toilet	31′ 9″	22′ 0″	16-0	698
No. 21.....	Toilet	73′ 3½″	22′ 0″	16-0	1,612
No. 22.....	Toilet	79′ 9½″	22′ 0″	16-0	1,755
No. 23.....	Toilet	79′ 9½″	22′ 0″	16-0	1,755
No. 24.....	Toilet	48′ 0″	22′ 0″	16-0	1,056
No. 25.....	Toilet	48′ 0″	22′ 0″	16-0	....
No. 26.....	Paint house	48′ 2½″	22′ 6″	16-0	1,085
No. 27.....	Sand house	27′ 0″	19′ 0″	37-9	513
No. 28.....	Office building†	117′ 10″	79′ 5″	59-0	27,624

*Segment of annulus. †Average dimensions.

The buildings, in general, are of the usual mill building type of construction, with steel framework. With the exception of the pattern storage and general storehouse, which have two stories, and the office building with three stories, the buildings have one floor. The general design provides heavy columns of steel around the exterior walls, supporting the truss work of the roof and leaving the interior unobstructed. The pattern storage and the roundhouse have flat roofs of reinforced concrete, covered with composition roofing, supported on channel purlins and I-beam rafters. The other buildings have double pitched roofs, with a pitch of one-fifth, supported on channel purlins resting on the roof trusses, which are carried by the columns. The roofing material is reinforced cement tiles, colored red. The tiles, the majority of which measure two by four feet each, rest directly on the channel purlins.

Light will be admitted through the roofs by means of heavy wired glass set in some of the tiles.

The main roof spans are 61 feet two inches and the lean-to spans are, in general, 28 feet 11 inches high. In the construction of the car shop, planing mill, and lumber and equipment shed, two such spans of 61 feet two inches were placed side by side. The space between the lean-to roofs and the main gables will be occupied by windows and cement plaster.

The sides and ends of the machine shop, forge shop, boiler shop, planing mill, and foundry, except at the crane openings in the ends, which will be closed with steel rolling doors, will be enclosed by 8-inch concrete walls to a height of approximately three feet three inches above the floor level, and above the walls will be placed movable metal louvres which will extend to the eaves of the lean-tos. The steel storage shed will be entirely enclosed with rolling steel doors, except the gables will be closed with cement plaster on metal lath. The walls for the office, general storehouse, pattern storage, paint house, and toilets are made of hollow tile, plastered on both sides; those for the paint shop, galvanizing plant, and coke shed will be of more solid concrete, five inches thick. The gable ends of all buildings will be of cement plaster on metal lath.

The flooring of the various buildings is of material best suited to the requirements of the work performed in them. In the machine shop and planing mill, where machine work is to be performed, the floors will be of wood blocks, laid on concrete.

Crane runways for heavy overhead electric traveling cranes have been provided to extend the length of the machine and erecting shop, forge shop, steel storage shed, and boiler and shipfitter shop and 38 feet five inches beyond either end, so the cranes can serve the double tracks along each end of the buildings. In the foundry, the craneway extends the length of the building and 105 feet five inches beyond the west end, over the flask yard. The galvanizing plant has a craneway extending the length of the building.

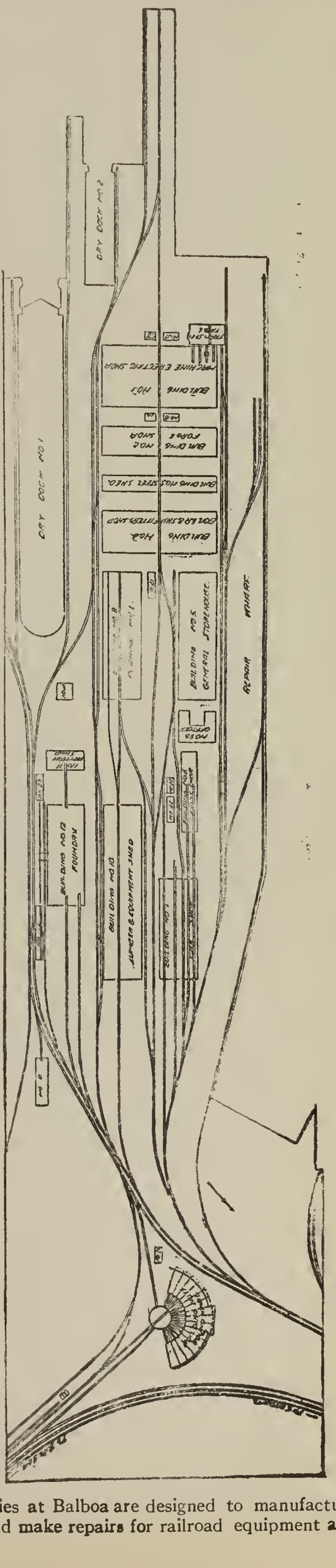
The structural steel used in all the buildings will aggregate 6,000 tons, and the cement tile roofing aggregates 720,000 square feet.

All of the buildings, wharves, docks, etc., are provided with railway tracks of 5-foot gage, as well as with connections with the main line of the Panama railroad, skirting the eastern end of the site. A total of approximately 10 miles of track will be used in the yards of the shops and dry docks alone. The maximum curvature occurring in the track layout is 18 degrees. Standard No. 7 rigid frogs were used throughout, with a few exceptions at points at which it was necessary to revert to greater angles to obtain the required curvature, as, for instance, between the car and paint shops.

Drainage of roof and surface water is cared for by a series of drains, with the section of a flat letter "V", placed around all the buildings. The gutters drain both ways from the center of the length or width of the building to catch basins at suitable intervals. The catch basins drain through pipes to a storm sewer extending along dry dock No. 1, on the south, and under the repair wharf to sea, on the north.

MACHINES.

The machines installed, or to be installed, at the terminals are of the type usually found in manufacturing, marine, and railway shops, but the assembling of so many different classes and types in one plant makes a combination of equipment than can probably be found nowhere else in the world. The facilities at Balboa are designed to manufacture and make repairs for railroad equipment and



GENERAL LAYOUT OF BALBOA TERMINALS.

such general construction work as will be carried on along the Canal; to make repairs to the gates, dams, and operating machinery of locks, spillways, etc., of the Canal; to maintain the dredging equipment in permanent service on the Canal, and to provide for all repair needs of vessels of the United States Navy, and those engaged in commercial service. The comprehensive mission of the plant may be summarized as attending to all the manufacturing and repairs required in the maintenance and operation of the Canal, though it is the present intention to maintain the shops and dry dock at Mount Hope as an auxiliary plant, for vessels and equipment at the Atlantic end.

The foundry and planing mill were occupied in August, 1913, and the pattern storage building in November, 1913. The The transfer of work to the remaining buildings will begin on March 2, 1914, as provided for in circular No. 349-F.

ACCOMMODATIONS FOR SHIPPING.

The accommodations for shipping at the terminals include a reinforced concrete pier, 1,000 feet long by 300 feet wide for handling cargo, the inner corner of which is shown in the accompanying plan; a repair wharf, having an aggregate length of 2,960 feet, with average width of 50 feet; two dry docks, the larger 1,000 feet long, 110 feet wide, and with a depth of 35 feet over the keel blocks at mean tide, the smaller 350 feet long, 71 feet wide, and with a depth of 13½ feet over the keel blocks at mean tide; and a coaling plant with facilities for handling and storing 210,000 tons of coal. Descriptions of these features have been published in previous issues of THE CANAL RECORD.

Reclaiming Swamp East of Camp Bierd.

An area between Camp Bierd, at the north limit of Cristobal, and the French canal, is being reclaimed from its former swampy condition for an extension of the site suitable for buildings, including the new Cristobal substation. A timber dike has been built along the north side of this area, adjoining the lagoon used as a marine graveyard for several abandoned French dredges, and the material for making the fill is supplied by pipeline suction dredge *No. 83*, excavating diagonally across the French canal from this area in preparing the approach to the coaling plant. The dredge discharges ordinarily on the other side of Mindi Island from the French canal, but at night, from 6 p. m. to 6 a. m., the French canal to the south of the dredge is closed to traffic, and the discharge is made through an auxiliary line, crossing the canal to the bank adjoining the swamp. A total of about 12,000 cubic yards of spoil will be required.

Sand Service Discontinued Temporarily.

In order to advance the completion of the repair wharf which is to be part of the permanent terminals at Balboa, it has become necessary to remove the timber wharf for unloading sand, which now occupies a part of the site of the repair wharf. The sand service from Punta Chamé was, therefore, discontinued on February 7, to be resumed within three or four months, when new facilities for unloading the barges shall have been provided. About 75,000 cubic yards of sand have been stored in the stock pile along the east side of Miraflores Locks to cover the requirements within that period. The total consumption on the Isthmus is now about 500 cubic yards per day.

The French ladder dredge *Gopher*, which has been reclaiming sand from Chamé, has been brought to the Pacific entrance channel, to work, for the present, near station No. 2115, opposite the north end of Corozal. The drill boat *Teredo* and the rock breaker *Vulcan* have been breaking rock in the channel at this point, and the *Gopher* will proceed with the excavation of the loosened material.

The tug *Chamé* and three dump barges, formerly in the sand service, were passed through Miraflores and Pedro Miguel Locks on February 8, to take part in the dredging operations in Culebra Cut, and on the same day clapets *No. 6* and *No. 7* were passed down to the Pacific entrance, to serve the *Gopher*.

Aquatic Meet at Cristobal.

About 1,500 people attended the aquatic meet, held on Washington's Birthday under the auspices of the Cristobal Y. M. C. A., at Pier 9. Bingaman won the 25-yard, 50-yard, and 100-yard swims, Fraser finished second in the 25 yard dash, won the obstacle swimming race, finished second in the tub race, won third place in the under water swim, and swam on the winning relay team. One of the best events of the afternoon was the race between Bingaman and Green in the mile swim. Green took the lead at the start, but at the half-mile turn both were even. On the last lap, Green slowly forged to the front and was never headed. Green swam the mile in 30 minutes, 38 4-5 seconds. Following are the results:

25-yard dash.—First, Bingaman, Gatun; second, W Fraser, Cristobal; third, Gordon, Cristobal. Time, 15 1-5 seconds.

50-yard dash, boys, 95 pounds and under.—First, Wardlaw; second, Kerr; third, McKeown, all of Cristobal. Time, 38 1-5 seconds.

25-yard back swim.—First, J. Mitchell, Gatun; second, A. Marcus, Camp Harrison; third, Dustheimer, Gatun. Time, 20 2-5 seconds.

Fancy diving.—First, Dustheimer, Gatun, 91 points; second, Jimenez, Cristobal, 87 points; third, Hanson, Corozal, 85 points.

50-yard dash.—First, Bingaman, Gatun; second, Dustheimer, Gatun; third, N. Giavelli, Empire. Time, 31 2-5 seconds.

Obstacle swimming race.—First, W. Fraser, Cristobal; second, A. Fraser; third, Hanson, Corozal. Time, nine minutes.

100-yard swim.—First, Bingaman, Gatun; second, Gordon, Cristobal; third, Kyes, Gatun. Time one minute 13 seconds.

Tub race.—First, N. Giavelli, Empire; second, W. Fraser, Cristobal; third, A. Fraser, Cristobal. Time, 33 seconds.

Under water swim for distance—First, Nash, Cristobal, 132 feet; second, Hanson, Corozal, 130 feet; third, W. Fraser, 121 feet.

One mile swim—First, Green, Cristobal; second, Bingaman, Gatun; third, Marcus, Camp Harrison. Time, 30 minutes, 38 4-5 seconds.

Relay Race between Gatun and Cristobal—Won by Cristobal. Team composed of W. Fraser, P. Simons, Green, and Gordon. Gatun team—Clayton, Dustheimer, Mitchell, and Bingaman. Time, 2 minutes, 21 seconds.

Winner of meet—First, Cristobal, 47 points; second, Gatun, 36 points; third, Empire, six points; fourth, Corozal, five points; fifth, Camp Harrison, four points.

DRY DOCKING SUBMARINES.

Repairs to be Made to Them in One of the Gatun Lock Chambers.

The submarines *C-1*, *C-2*, *C-3*, *C-4*, and *C-5*, which have been stationed at the Atlantic entrance to the Canal since December 12, 1913, when they arrived from Guantanamo, Cuba, require to go into dry dock for general overhauling, and as the dock at Mount Hope can not be spared for so long from its services to the dredging equipment, it has been decided to dock the submarines in the upper level of the east flight of Gatun Locks. They will be docked probably about March 2, and it is estimated that about three weeks will be required for their overhauling. The chamber selected can be spared with the least interference with the work of the First Division in installing machinery and testing valves. The tender *Severn*, on which the crews of the submarines mess and sleep, will be berthed alongside the upper approach wall of the locks.

The Mechanical Division will perform the overhauling and is now preparing ladders, blocks, battens, cradles, etc., in the chamber, for the work. It will erect and remove the stages; take off and replace the manhole plates on the ballast and fuel tanks; test the hull, fuel tanks, and ballast tanks to air pressures of 10, 15, and 50 pounds, respectively, renewing rivets if necessary and making the plates airtight to the respective pressures; clean the ballast tanks and paint them with two coats of anticorrosive paint; provide a water pump or other device capable of giving a water pressure of 3,000 pounds to the square inch, for testing the high pressure air service; and, on submarine *C-4* only, line up the diving rudder bearings and, by swinging the diving rudder in a lathe, line up its journals.

The crews of the submarines will overhaul machinery and valves, and clean and paint the hulls of the boats.

Shipments of Household Goods to San Francisco.

The Luckenbach Steamship Company, Incorporated, through its Isthmian manager, Mr. R. E. Wheelan, announces that it will accept shipments of household goods and personal effects of Canal Commission employes to San Francisco at 25 per cent reduction from the regular tariff of $10 per ton, weight or measurement, ship's option.

Reducing Level of Gatun Lake.

One gate of the Gatun spillway was opened at 7 a. m., Saturday, February 21, for the purpose of lowering the surface of Gatun Lake, then 84.96 feet above sealevel, to elevation 84.8 feet. Two gates were left open between 7 a. m., and 5 p. m., on the following day. Elevation 84.76 was attained at 5 p. m., February 23. It is desired to keep the surface, for the present, between elevations 84.8 and 85.

Ancon Crusher.

Following is a statement of rock crushed at Ancon quarry during the week ending February 21:

DATE.	Hours worked.	Cubic yards.
February 16	8.30	2,307
February 17	6.55	1,694
February 18	7.15	2,179
February 19	8.30	2,431
February 20	8.05	2,846
February 21	8.10	1,990
Total	47.25	13,447

CANAL WORK IN JANUARY.

Report of the Acting Chairman and Chief Engineer to the Secretary of War.

CULEBRA, C. Z., February 17, 1914.

The Honorable the Secretary of War,
Washington, D. C.

SIR: I have the honor to submit the following report of operations on the Isthmus for the month of January, 1914:

ITEM.	Unit.	Atlantic.	2d. Div.	4th Div.	5th Div.	Dredging	Municipal Eng'n'r'ing	Total.
Work excavation, dry	Cubic yds.	4,626	161,818	178,600	44,830	....	....	389,874
Work excavation, wet	Cubic yds.	....	....	....	153,500	964,964	....	1,118,464
Total work excavation	Cubic yds.	4,626	161,818	178,600	198,330	964,964	....	1,508,338
Plant excavation, dry	Cubic yds.	....	6,634	....	....	....	....	6,634
Plant excavation, wet	Cubic yds.	....	....	....	....	....	....	....
Total	Cubic yds.	....	6,634	....	....	....	....	6,634
Total Canal excavation	Cubic yds.	4,626	168,452	178,600	198,330	964,964	....	1,514,972
Concrete placed in locks, dams, and spillways	Cubic yds.	811	....	....	7,372	....	....	8,183
Fill placed in dams	Cubic yds.	544	....	....	13,164	....	....	13,708
Explosives used	Tons (Gr.)	9.32	31.53	13.17	15.10	33.00	....	102.12
Rock drilled	Feet	9,439	59,989	27,440	18,961	20,595	....	136,424
Tracks removed	Miles	2.52	3.10	5.05	....	....	....	10.67
New tracks laid	Miles	1.44	5.29	2.69	0.90	....	....	10.32
Rock crushed	Cubic yds.	....	....	....	43,160	....	....	43,160
Cement used	Barrels	294	10,641	....	....	....	4,499	15,434
New roads built	Miles	....	....	....	....	....	.88	.88
Water mains laid	Feet	1,660	....	....	....	....	23,183	24,843
Sewers laid	Feet	....	....	....	....	....	6,861	6,861
Open drains and ditches dug	Feet	....	2,160	....	....	....	6,504	8,664
Average daily force	....	1,114	2,851	1,226	995	2,450	2,351	10,987
Average rainfall	Inches	2.98	.30	.38	1.27	.87	1.63	.87

Department of Construction and Engineering.

The following table summarizes the principal items of work accomplished by the construction divisions during the month:

First Division—Office of the Chief Engineer.

LOCK GATES AND PROTECTIVE DEVICES.

The contractor finished work on the lock gates at Pedro Miguel on January 8; at Miraflores, January 19, and at Gatun, January 26. Some painting and the application of bitumastic enamel comprise the only remaining work.

Manufacture of the fender chains at Boston Navy Yard advances, one open link and one stud link section, each 55 feet long, having been completed on January 20. An order was placed for six additional chains. The contractor has shipped two operating valves and 12 resistance valves. Three complete chain fender machines, and various parts, have been delivered.

Approximately half of the structural steel required for the lock entrance cassion has been shipped to the contractor's plant, and over 96 per cent of all the structural steel and rivet material has been passed for shipment to the contractor at San Francisco.

OPERATING MACHINERY AND ELECTRICAL EQUIPMENT.

At the hydroelectric station at Gatun, the installation of machinery and equipment has been begun.

Installation of transformer room equipment at all the locks is about 87 per cent completed.

Control houses at all the locks are practically completed. Practically all control apparatus for lock and spillway machines is on the Isthmus, except part of the interlocking system and indicators for the main control boards. Erection of the main control board at Gatun is about 75 per cent complete; at Pedro Miguel, 40 per cent.

Erection of steel at Gatun substation has been begun; Miraflores substation is ready for steel erection; at Cristobal, borings are being made for the foundations.

Track-span bridges have been erected along approximately 28 miles of the transisthmian transmission line; 714 foundations for towers have been placed, out of a total of 804; 6,266 cubic yards of concrete have been placed. Stringing of wire was begun during the month, and four miles of ground wire and three and one-half miles of power wire were strung.

About 99 per cent of the total of 2,507,190 feet of cable on order for the power distribution at the locks, the Gatun duct line, hydroelectric station and spillway, and the Pedro Miguel-Miraflores duct line, has been delivered, and 1,519,633 linear feet have been pulled into the ducts.

Reflectors for exterior and interior illumination are 86 per cent completed. Out of a total of 206 lamp posts at Gatun, 204 have been completed; at Pedro Miguel, out of a total of 130, seventy-two have been completed; and at Miraflores, out of a total of 168, ninety-three have been completed.

Ninety-nine per cent of the towing track has been completed at Gatun and Pedro Miguel, and 96 per cent at Miraflores.

All valve machines are installed, and installation of the electrical apparatus is 95 per cent completed.

The miter gate moving machines are installed, and the electrical work is 76 per cent completed. Mechanical erection of miter gate forcing machines is 95 per cent completed, and electrical installation, 68 per cent.

Spillway gate machines are completely installed at Gatun, and at Miraflores only 20 per cent of the electrical installation remains.

On miter gate sump pumps, mechanical erection is 100 per cent complete, electrical, 77 per cent ; chain fender sump pumps, mechanical, 31 per cent, electrical, started; drainage sump pumps, mechanical, 100, electrical, 76 per cent; culvert pumps, mechanical, 100 per cent, electrical, 20 per cent.

LOCK OPERATIONS.

Nine lockages were made at Gatun, four at Pedro Miguel, and eight at Miraflores.

EMERGENCY DAMS.

The subdivision of emergency dams was discontinued on January 31, its work having been practically completed.

AIDS TO NAVIGATION.

The construction of range towers, installation of permanent lighting apparatus, construction of electric pole line along Culebra Cut, locating buoy sites, and other work in connection with aids to navigation were continued.

Second Division—Office of the Chief Engineer.

BALBOA TERMINALS.

Dry docks—Design work for dry dock No. 1 included a tunnel under the floor to carry electric conduits, air pipes, etc.; a sidewall capable of withstanding hydrostatic pressure, and valve operating machinery. For dry dock No. 2, a general plan was completed, embodying the latest features of the dock and surrounding wharf structures. This study includes a method of filling by means of six 24-inch electrically operated valves in the side walls.

Excavation in the dry docks, entrance basin, and coal pocket amounted to 83,204 cubic yards.

Permanent shops—The removal of the blacksmith, boilermaker and shipfitter, carpenter, and pipefitter machines and tools from the old shipways was completed on January 2, and the shipways and its buildings were demolished. Sufficient machines and forces were put into service in the forge, boiler and shipfitter's shops, for performing the work formerly done at the shipways. Fifty-four machines, out of a total of 178, have been installed in the machine shop; 13, out of a total of 35, in the forge shop; 14, out of a total of 37, in the boiler and shipfitter's shop, and 55, out of a total of 57, in the planing mill.

Excavation for shop foundations amounted to 971 cubic yards; for tunnel, 45; for machine footings, floors, and turntable, 695 cubic yards. Fill amounted to 1,614 cubic yards of spoil, and 1,806 cubic yards of rock, screenings, and cinders. Concrete placed amounted to 918 cubic yards in foundation piers, and 613 in machine footings.

Coaling plant—A detail drawing of the berm crane and conveyor car supports, Stations 5 to 8, was practically completed; studies are under way for continuation of this part of the plant across the subaqueous storage basin. Excavation for the coal pocket was nearly completed, the total for the month being 24,244 cubic yards.

Pier and quay walls—Excavation amounted to 3,345 cubic yards; fill, 11,073 yards; conconcrete in substructure of pier, 4,534 cubic yards; quay walls, 58 yards; piling driven, 1,035 linear feet.

In sinking the remaining piers for the substructure of pier No. 1, rock has been encountered at a higher elevation than formerly, and of the 400 feet penetration made for the month, 100 feet were through rock. Thirty-five caissons were sunk into rock to their final elevation during the month, making 165 caissons on pier No. 1 to date. Seventy-eight were filled with concrete and reinforced with rail during the period, using the elevator towers to distribute the concrete. Four thousand five hundred and thirty-four cubic yards of concrete were placed in this way inside the caissons.

The driving of steel cylinders was begun on quay wall e–f. The rock at this section is below −60, and several layers of sea deposit of varying hardness cover the rock. A total penetration of 157 linear feet was made in the month, 111 feet of which were classified as in rock. Ten caissons were started, and 605 linear feet of 6-foot steel caissons were placed in position.

The paving of the floor of quay wall g–h–i was completed, and the floor cleaned of all refuse. This quay is completed, with the exception of placing a few more anchors and driving the fender piles.

The construction of the superstructure of quay wall i–j–m–n was begun during the month. Due to lack of reinforcing rods, no work could be done before this date. No concrete was poured. The piers, which, heretofore, were under the construction tracks leading to pier No. 1 were excavated for and 1,097 linear feet of penetration were made. There are yet two caissons to be started. Forty-six caissons were filled with concrete to date.

Atlantic terminals—A profile of the borings taken along the east and west sides of the 700-foot extension was completed. A design for the support of the stocking and reclaiming bridges was decided upon. The design and drawings for the dock structure were being prepared throughout the month. Sketches of the limits of the coral fill were also prepared.

Transportation section—Equipment in service included 174 Lidgerwood flat cars, 414 steel dumps; 78 American locomotives, 13 French locomotives. Cars handled amounted to 26,551 Lidgerwood cars, 2,323 of crushed rock, 1,302 of sand, 202 of screenings.

Landscape architect—Plans made included location of residence for the Governor, revised sanitary sewer layout, location of public buildings. Surveys and construction were continued. Excavation amounted to 12,496 cubic yards; backfill, 2,090 cubic yards; townsite fill, 16,548 cubic yards; sewer pipe laid 3,854 linear feet; water pipe laid, 5,170 linear feet.

Meteorology and hydrography—Typical dry season weather prevailed on the Isthmus throughout the month of January. The rainfall was below the station averages at all stations, except Pedro Miguel and Juan Mina. The average rainfall in the Canal Zone amounted to approximately 40 per cent of the January normal. The monthly totals ranged from 0.09 inch at Alhajuela to 2.38 inches at Porto Bello. Slight seismic tremors were recorded at Ancon and Gatun on the 17th and 29th. These shocks were of insufficient intensity to be felt locally, and no damage resulted from them. The total yield for Gatun Lake watershed was 48 per cent below the 6-year normal for January, while that at Alhajuela was 40 per cent below the 25-year normal. For the 25-year period, Gatun was 57 per cent below normal. The flow of all streams continued to diminish throughout the month. The discharge at Alhajuela dropped from 1,710 second-feet on the 1st to 830 second-feet on the 31st. The maximum discharge for the month was 2,255 second-feet, on the 13th. During the month, Gatun Lake rose from 84.48 on the 1st to 84.90 on the 31st, or a storage increase of 1.91 billion cubic feet. Spillway gates were operated on the 2d, 3d, 5th, and 6th, discharging a total of 2.54 billion cubic feet.

Fourth Division—Office of the Chief Engineer.

Dry excavation, Culebra Cut—Excavation in Culebra Cut from slides, and from high levels as preventive work against slides, amounted to 178,600 cubic yards, of which 96,972 cubic yards were rock. The daily average of steamshovels was four, and the total of shovel days was 103.

Fifth Division—Office of the Chief Engineer.

Pedro Miguel and Miraflores—Grading and filling at Pedro Miguel Lock, except in the areas occupied by materials and shops, was completed. The backfill was increased by 760 cubic yards; total, 1,039,383 cubic yards. At Miraflores, general cleaning up, grading, and backfill were continued. Two steamshovels worked south of the spillway dam, and one in Cocoli borrow pit. Dry filling in the west dam was increased by 13,164 cubic yards, making the total 1,748,223 cubic yards of dry fill, and 661,048 of hydraulic fill. Backfill at the locks was increased by 41,114 cubic yards; total, 2,046,522 cubic yards.

Ancon quarry and crusher—Excavation in the quarry at Ancon Hill amounted to 44,725 cubic yards. The crusher plant crushed 43,160 cubic yards.

Gold Hill hydraulic excavation—The excavation by hydraulic method from the back of Gold Hill amounted to 153,430 cubic yards, of which 72,000 were classed as earth.

Sixth Division—Office of the Chief Engineer.

The total excavation by dredges was 1,133,804 cubic yards. The material remaining to be excavated by dredging is, as follows:

LOCATION.	Earth. *Cu. yds.*	Rock. *Cu. yds.*	Total. *Cu. yds.*
Ocean to Gatun Locks.........	460,769	1,204	461,973
Cristobal coaling station.........	39,356	841,353	880,709
Culebra Cut......	624,002	2,862,204	3,486,206
Miraflores Lake...	328,872	....	328,872
Miraflores Locks to the sea......	1,540,759	549,629	2,090,388
Inner harbor, Balboa...........	5,760,782	372,062	6,132,844
Total..........	8,754,540	4,626,452	13,380,992

In the Atlantic entrance, 102,057 cubic yards were removed from the Canal prism, and at the end of the month 35 feet of water could be carried to Gatun Locks. At Cristobal coaling station, 53,734 cubic yards of coral were removed. Dredges working in Gatun Lake near Gamboa removed 71,710 cubic yards of earth.

Excavation from Culebra Cut was, as follows:

LOCATION.	Earth	Rock	Total
Empire slide.........	2,177	33,093	35,270
Hagan's slide.........	754	9,067	9,821
Culebra slide (east)..	506	53,772	54,278
Culebra slide (west)..	506	53,773	54,279
Cucaracha...........	115,513	176,061	291,574
Total.............	119,456	325,766	445,222

At the Pacific entrance, 86,469 cubic yards of earth were removed from the Canal prism, and 205,656 cubic yards of earth from the inner harbor.

Division of Municipal Engineering.

General finishing up work was done on the new filtration plant and pump station for the Colon-Cristobal water system.

Work was continued at the townsites of Balboa, La Boca, and Pedro Miguel. The work at Pedro Miguel is about 51 per cent completed; at Balboa, about 40 per cent; at La Boca, 90 per cent.

The main walls of Ancon high service reservoir were completed. Work on the filtration plant at Miraflores, Ancon pump station, and the pipe lines for the new Panama water system was carried forward.

Atlantic Division.

At Gatun Locks, the dismantling of the last cableway was begun on January 26, and the routine work was carried on.

Two steamshovels excavated 17,714 cubic yards of earth and rock, 13,260 of which were used as backfill over the penstocks of the hydroelectric plant, 3,910 as embankment on the Gatun–Mindi levee, and 544 yards on the dam. The duct line construction was advanced by the laying of 357 feet of 20-inch duct, and 61 feet of 16-inch duct.

The contractor's work at Caño saddle dam was carried on under the eye of an inspector from the Atlantic Division.

The fill at the west breakwater was increased by 17,888 yards of rock from Porto Bello. The total fill is now 3,126,165 cubic yards, of which 669,254 cubic yards are within the breakwater section proper.

Preliminary work in connection with the east breakwater was continued.

Quartermaster's Department.

There was a slight increase in the working force, the total at work at the close of the month being 27,768 Canal, and 5,502 Panama railroad employes. The Canal force at the close of December was 26,953. Gold employes numbered 3,944 on the Canal force, and 752 on the railroad.

Work on the buildings at La Boca was continued, and 100 additional apartments were authorized. Work has been begun on the 4-family quarters at Balboa.

Subsistence Department.

Subsistence operations were conducted with a net profit of $2,565.66, of which $2,034.68 was profit on the Hotel Tivoli. The total number of meals served was 423,283, of which 174,408 were served at line hotels, 237,426 at laborers' messes, 11,180 at Hotel Tivoli, and 269 at Hotel Aspinwall.

Department of Civil Administration.

POSTS, CUSTOMS, AND REVENUES.

Postal receipts amounted to $7,608.83; money orders, $306,062.15; savings deposits, $138,996, withdrawals $125,116. At the port of Ancon, 24 vessels entered and 20 cleared; at Cristobal, 26 entered and 23 cleared.

POLICE AND PRISONS.

Arrests numbered 422, of whom 28 were women. Nine persons were committed to the penitentiary and 12 were discharged, leaving 91 in confinement. The cost of guarding and subsisting the prisoners was $2,135.79, and their work on the Gamboa–Empire road was valued at $1,572.60.

FIRE PROTECTION.

Twenty-one fires occurred, causing $11,998.56 damage to Commission property, and $135 to private property.

SCHOOLS.

The net enrollment in the white schools was 1,194; average daily attendance, 961.6. In the colored schools, the net enrollment was 1,300; average daily attendance, 748.8.

Department of Sanitation.

The total number of deaths from all causes among employes was 33, divided, as follows: Disease, 20; violence, 13, giving the annual average per thousand of 4.87 and 3.16, respectively. Among employes for the month, the annual average death rate per thousand was 8.03. The annual average death rate per thousand in the cities of Panama and Colon, and the Canal Zone, including both employes and civil population, for the month, was 25.94. Deaths from the principal diseases among employes were, as follows; Dysentery, unclassified, one; lobar pneumonia, four; malaria fever, estivoautumnal, one; tuberculosis, seven, leaving seven deaths from all other diseases, and 13 deaths from external violence. No case of yellow fever, smallpox, or plague originated on, or was brought to the Isthmus, during the month.

Respectfully,

H. F. Hodges,

Acting Chairman and Chief Engineer.

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Emigration and Immigration in January.

According to the figures of the quarantine service, there was a falling off in the emigration from the Isthmus during January, the excess of departures over arrivals totaling 1,382, as compared with an excess of departures amounting to 1,970 in December, and 2,037 in November. The net emigration for the six months period ending January 31, 1914, was 12,148, the greater part of which consisted of Canal employes.

The total number of steamship passengers embarking from the ports of Colon and Cristobal for foreign ports during January was 4,193, consisting of 1,800 cabin, and 2,393 steerage passengers. The number of persons landing from foreign ports was 2,835, consisting of 1,572 cabin, and 1,263 steerage passengers. The number of persons who embarked over those who landed at these ports was 1,358. There was a slight increase in the immigration of steerage passengers from West Indian ports, but all other countries contributing to this class, showed a decrease. Costa Rica furnished only 83, Colombia, 91, while a new low record in recent years in the immigration of deck passengers from Europe was established, namely 52. The number of persons arriving "In transit" during the month of January, nearly all tourists, was 2,392, as compared with 1,618 for the months of November and December, respectively.

The number of persons arriving at the ports of Ancon and Panma from foreign ports during ing the month was 492, consisting of 367 cabin, and 125 steerage passengers. The number of persons embarking for foreign ports was 516, consisting of 319 cabin, and 197 steerage passengers. The number of those who embarked over those who landed was 24.

The total number of vessels arriving at Colon during January was 98, of which one was a United States naval vessel. The number of vessels arriving at the port of Ancon was 24.

◆

A tennis court will be laid out at Pedro Miguel on a piece of level ground, east of the Panama railroad and in the rear of house No. 132. The work will be performed by the Canal Commission, and will be paid for by the local tennis club, which now numbers about 12 members.

Mr. José M. Misteli has been appointed consul at Panama for the Swiss Confederation.

The hull of the old drill boat *Terrier*, which sank in the French canal, near dock No. 11, on December 27, 1913, and was subsequently raised, will be towed to the west breakwater and used for the temporary location of a mess house for the crews of the derrick barges employed in placing the rock in armoring the breakwater. The mess house was formerly on Toro Point, at some distance from the men's work.

LABOR FORCE AND QUARTERS IN JANUARY.

The force report for January 28, shows the actual working force of the Canal Commission on that date to have been 27,768; of the Panama railroad, 5,502, and of the contractors, 349, a total effective working force of 33,619, an increase of 1,056, as compared with the statement for December. The gold force on the Canal work, composed almost exclusively of white Americans, was 3,944, an increase of 200, as compared with the previous month. A statement of the Canal force, by divisions, follows:

Department or Division.	Silver Employes*													Total silver.	Total gold.	Grand total.
	Artisans.						European laborers.		West Indian laborers.							
	Monthly	44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents	5 & 7 cents.			
Construction & Engineering..	3,804	7	7	376	1,245	3,538	1,054	594	65	175	4,682	2,617	180	18,344	2,913	21,257
Civil Admin....	132	..	..	...	.....	.....	......	......	...	...	.....	......	....	132	327	459
Sanitation......	497	..	..	3	1	4	......	......	...	...	5	306	36	852	251	1,103
Quartermaster's	901	..	..	264	417	568	20	1	...	...	679	931	18	3,799	294	4,093
Subsistence.....	649	..	..	1	2	5	......	......	...	...	.....	......	28	685	50	735
Disbursement...	7	..	..	...	.....	.....	......	......	...	...	.....	......	....	7	18	25
Examination of Accounts.....	5	..	..	...	.....	.....	......	......	...	...	.....	......	....	5	91	96
Total......	5,995	7	7	644	1,665	4,115	1,074	595	65	175	5,366	3,854	†262	23,824	3,944	27,768
Month previous.	6,265	8	9	710	1,624	3,731	1,552	316	72	321	5,072	3.288	‡241	23,209	3,744	26,953

I. C. C. force, 27,768; Panama railroad force, 4,079; Panama railroad commissary force, 1,423. Total, 33,270.
*All wages specified are in gold. †Includes 96 at five cents. ‡Includes 15 at five cents.

The force report of the Department of Construction and Enginering, including the employes of contractors, as of January 28, was, as follows:

Division.	Silver Employes*													Total silver	Total gold	Grand total
	Artisans.						European laborers.		West Indian laborers.							
	Monthly	44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents	20 cents.	16 cents.	13 cents.	10 cents.	5 & 7 cents.			
First Div.......	182	..	..	95	397	1,124	4	3	11	91	1,197	824	35	3,963	559	4,522
Second Div.....	748	..	..	26	184	671	278	185	...	...	930	525	36	3,583	515	4,098
Fourth Div.....	110	..	..	6	12	30	168	169	33	53	14	557	25	1,177	164	1,341
Fifth Division..	92	..	..	5	48	127	381	59	21	...	179	15	3	930	59	989
Sixth Division..	1.655	..	..	22	51	66	12	8	...	31	175	19	4	2,043	361	2,404
Fortifications Division	149	..	..	56	130	239	13	4	...	...	325	138	3	1,057	88	1,145
Municipal Engineering.....	259	..	..	45	198	494	4	116	...	...	814	407	45	2,382	113	2,495
Mechanical Div.	260	7	7	112	184	669	15	3	...	...	988	66	24	2,335	940	3,275
Atlantic Div....	349	..	..	9	41	118	179	47	...	...	60	66	5	874	114	988
U. S Steel Products Co......	......	..	..	...	.....	.....	......	......	...	...	.....	......	....	251	67	318
Chicago House Wrecking Co.	......	..	..	...	.....	.....	......	......	...	...	.....	......	....	19	4	23
McClintic-Marshall Co......	......	..	..	...	.....	.....	......	......	...	...	.....	......	....	1	7	8
Total......	3,804	7	7	376	1,245	3,538	1,054	594	65	175	4,682	2,617	†180	§18,344	§2,913	§21,257
Month previous	4,037	8	9	465	1,249	3,268	1,524	314	72	321	4,436	2,168	‡178	§18,049	§2,727	§20,776

*All wages specified are in gold. †Includes 66 at five cents. ‡Includes two at five cents. §Forces of contractors (total 349 on January 28,) not included in these totals.

QUARTERS.

A report of Commission and Panama railroad quarters occupied on January 31, follows:

Place.	Gold.			Europeans.			West Indians.		
	Men	*Women*	*Children*	*Men*	*Women*	*Children*	*Men*	*Women*	*Children*
Ancon[1]	603	329	258	6	....	....	998	43	4
Balboa	534	32	38	466	10	17	1,111	74	103
Bas Obispo[4]	3	2	1	....	....	....	16	9	10
Corozal[2]	715	234	193	464	....	....	659[3]	38	27
Cristobal[5]	878	360	403	36	....	....	1,157[6]	197	400
Culebra........................	346	148	138	37	13	29	426	92	151
Empire........................	674	274	316	155	42	72	376	148	249
Gatun........................	491	203	160	292	7	13	697	45	33
Las Cascadas........................	8	3	2	8	4	12	129	124	145
Paraiso........................	266	76	82	110	4	12	284	111	163
Pedro Miguel........................	205	104	117	279	....	....	257	....	......
Porto Bello	62	28	22	75[7]	1	2	222	4	7
Toro Point........................	77	14	12	78	....	....	232	....	......
Total	4,862	1,807	1,742	2,006	81	157	6,564	885	1,292

(1) Includes Sabanas police station, Taboga Island, Culebra Island, Palo Seco, and Naos Island. (2) Includes Miraflores. (3) Includes 66 Panamanians. (4) Includes Gamboa. (5) Includes Colon Beach and Colon Hospital. (6) Includes 37 East Indians, nine American citizens, and 72 Panamanians. (7) Includes 12 Asiatics. Gold force of contractors (included above), seven families, 108 bachelors.

MIRAFLORES SPILLWAY FLOW.

To Be Regulated By a Settling Basin in Place of Baffle Piers.

In preparation of a discharge channel for the spillway of Miraflores Lake, two steamshovels are engaged in the excavation of a settling basin below the ogee of the spillway dam, to take the place of baffle piers, as used in Gatun Spillway, and a third shovel, No. 110, is engaged about 1,100 feet south of Miraflores Locks in cutting away a 1,000-foot section of the embankment by which the waters of the Rio Grande were diverted from the adjoining section of the Canal during the progress of its excavation. The north end of this section is at about the site of the former sand track junction, and the embankment which is being removed formerly supported the sand track.

The Rio Grande diversion, which debouches into the Canal about 7,000 feet south of the sand track junction, and has carried the waters of the Rio Grande and its tributaries, is expected to carry the normal flow over the spillway; the excavation of the embankment, which is being carried to an elevation of about two feet above normal high tide level, will provide a place for overflow when the discharge from the spillway exceeds the capacity of the diversion channel.

In connection with this work, the embankment at the north end of the present trestle across the diversion, affording track connection between the east side of Miraflores Locks and the Panama railroad at Corozal Junction, will be cut away. This requires the building of a new and longer trestle at about the same place, and preparations for the work are now in progress. Spoil from the excavation of the diversion embankment, and from the settling basin directly below the spillway, is being used as fill for a raised track to the north end of the proposed trestle, and the work of driving piles for the trestle bents is expected to begin within a few days. The new trestle will be 600 feet long, and its track will be about six feet higher than that on the present trestle. From a point close to precise bench mark No. 42, it will cross the diversion channel at right angles, terminating at a knoll on the east side.

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Progress at Miraflores Purification Plant.

Since the completion of steamshovel excavation at the site of the filtration plant overlooking Miraflores Spillway, in the early part of January, and of supplementary task excavation shortly afterward, the reinforced concrete floor and sides of the clear water basin, which will be directly under the filter building, have been completed to the level of the floor on which the filters will be installed. Similar construction for the bottom and sides of the sedimentation basin, directly to the north, is in progress. The supporting wooden piles have been driven over most of the area, reinforcing steel is in place for about one-third of the basin, and the laying of concrete has begun.

The 300,000-gallon wash water tank, situated on the crest of the hill to the southwest of Miraflores tunnel, to supply water by gravity to Pedro Miguel and Paraiso, and to wash the filters, is completed. It has been built of reinforced concrete throughout. Its plan section is a regular 12-sided polygon, 70 feet between opposite sides, and it is twelve and one-half feet deep.

Construction of the auxiliary pumping station, designated as No. 2, for pumping clear water to the wash water tank, is to begin shortly. Work has been begun on Ancon pump station; and at the principal pumping station, No. 1, on the edge of Miraflores Lake, east of Miraflores passenger station, for lifting water to the filtration plant, the building has been completed to the top of the walls, but operations have been suspended, pending the arrival of steel framing for the roof. The intake house, 100 feet out in the lake, has been completed, and all of the control valves to be installed in it are in place.

◆

Organization for Train Operation, P. R. R.

The operation of trains on the Panama railroad will hereafter be under the direct management of the master of transportation, to whom will report the following: The chief dispatcher, controlling the dispatchers, operators, and station agents; the general yardmasters at Colon and Cristobal, and Panama and Balboa, with supervision over all crews; the general foremen of engine houses, having supervision over the local foremen of engine houses and their employes, and of locomotive men while at the terminals; all conductors, collectors, engineers, baggage masters, flagmen, brakemen, line switch tenders, and levermen at interlocking plants. The traveling engineer will act in an advisory capacity to the master of transportation and to the general foremen, and will have supervision of enginemen while on the road. In order better to engage in this plan, the traveling engineer will shortly move his residence to Ancon from Empire, and his office from Empire to Balboa, or Panama.

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Manufacture of Hollow Concrete Blocks.

The plant at Corozal for the manufacture of hollow concrete blocks, for use in the walls of buildings in the same manner as hollow terra cotta tile, is turning out about 2,300 finished blocks in every shift of eight hours. Three gold and 60 silver men are employed on the day shift, and two gold and 52 silver men on the night shift. The blocks are being shipped to Balboa for the permanent administration building and permanent quarters, and to Gatun for the construction of the new transformer substation. In an average day's run of eight hours, the plant consumes about 270 bags of cement, 15 cubic yards of sand, and 20 cubic yards of screenings, the three components being mixed in the proportions, 3:4½:6. The labor cost in the manufacture, under the present system, is less than the cost of materials; the total unit cost, including all the various items of administrative expense, labor, material, and plant arbitrary, averages about $.068 per block. Up to the morning of February 22 approximately 295,365 blocks had been made.

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Red Cross Finances.

The financial statement of the Canal Zone Chapter, American National Red Cross, for the month of January, 1914, follows:

RECEIPTS,

January	1 On hand	$3,791.29	
	23 Received account of Red Cross ball.	2.00	
	31 Received during month account of sale of Christmas seals	522.11	
	31 Refund by commisary for unused ribbon	53.36	
	31 Interest credited at bank	18.18	
	31 Membership dues	8.00	
			$4,394.94

DISBURSEMENTS.

January	2 Relief of aged destitute American, Colon Hospital	$5.00	
	8 Relief of family of ex-employe who died at Ancon Hospital	20.00	
	10 Deportation of Spaniard and family	33.90	
	21 Relief of family of ex-employe who died in Ancon Hospital	15.00	
	21 Relief of employe ill at Ancon Hospital	3.00	
	21 Relief of destitute American family, Gatun	8.80	
	28 Expenses in connection with deportation of family of exemploye (above)	20.00	
	30 Deportation of family from Chiriqui.	40.00	
	30 Postage used by secretary in connection with Christmas seals and ballots	20.00	
			165.70
January 31	Balance on hand		$4,229.24

JOHN L. PHILLIPS,
Treasurer.

Approved:
EDW. SCHILDHAUER,
Chairman.

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LOST—Hotel coupon book No. 345461, in Panama, on February 19. Finder will please return to Aldrich Barton, Box 231, Ancon.

CLASSIFIED EXPENDITURES—ISTHMIAN CANAL COMMISSION.

A statement of classified expenditures of the Isthmian Canal Commission to December 31, 1913, follows:

PERIODS.	Department of Civil Administration.	Department of Law.	Department of Sanitation.	Department of Construction and Engineering	General Items.	Fortifications.	Total.
Total to June 30, 1909	3,427,090.29	....	9,673,539.28	69,622,561.42	78,022,606.10	....	160,745,797.09
Total—Fiscal year, 1910	709,351.37	....	1,803,040.95	26,300,167.05	2,863,088.83	....	31,675,648.20
Total—Fiscal year, 1911	755,079.44	....	1,717,792.62	27,477,776.19	3,097,959.72	....	33,048,607.97
Total—Fiscal year, 1912	820,398.57	24,729.16	1,620,391.12	28,897,738.10	2,819,926.53	1,212,881.66	35,396,065.14
Total—Fiscal year, 1913	681,389.06	20,253.11	1,435,400.96	33,017,852.99	1,063,322.52	1,901,475.86	38,119,694.50
July, 1913	61,472.81	1,597.91	121,487.47	2,138,540.39	237,534.13	131,333.71	2,691,966.42
August, 1913	57,950.95	1,469.10	112,802.29	2,299,554.75	244,860.32	150,364.19	2,867,001.60
September, 1913	63,469.40	1,835.57	106,731.16	2,276,467.78	242,779.94	149,735.89	2,841,019.74
October, 1913	66,063.85	1,502.47	107,280.12	2,154,953.40	413,883.03	147,589.32	2,891,272.24
November, 1913	58,728.48	1,387.60	85,696.96	1,774,974.81	160,575.73	113,307.35	2,194,670.93
December, 1913	63,433.93	1,781.65	91,197.00	1,787,820.21	136,525.07	174,216.04	2,254,973.90
Grand total	6,764,428.15	54,556.57	16,875,359.93	197,748,407.09	89,303,051.97	3,980,901.02	314,726,717.73

SOCIAL LIFE OF THE ZONE.

Formation of Woman's Club at Pedro Miguel.

The woman's meeting for the discussion of the formation of a club, which was held in the clubhouse at Pedro Miguel on Friday afternoon, February 20, brought together a number of Pedro Miguel women who were interested in the promotion of club life in the community. There were present a delegation from the Cristobal Woman's Club, including its president, Mrs. Thomas E. Brown, Jr., and a delegation from the Ancon Study Club. The meeting was opened with informal discussion as to the advisability of forming a club at once, or waiting until the permanent residents were settled in the village. The women decided unanimously in favor of the former, and Mrs. L. P. Evans was made provisional chairman. Informal discussion as to the meetings, programs, and other essential matters resulted in the appointment of a committee of four, delegated to draw up by-laws and present a tentative program to cover the ensuing three months period. The women will meet again on Friday afternoon, February 27, when the organization will be perfected. Refreshments were served by a committee of women volunteering for the purpose, and the session ended with a social hour.

Cristobal Woman's Club.

Book reviews formed the topic of the program at the meeting of the Cristobal Woman's Club on Wednesday afternoon, February 18, when the following recent works of fiction were discussed: "Laddie," by Gene Stratton Porter, reviewer, Mrs. Bradney; "Camp Fire Girls," a juvenile work, reviewer, Mrs. Waid; "T. Tembarom," Mrs. Frances Hodgson Burnett, reviewer, Mrs. Verner. Next month's program will deal with the political life of the United States. Judge Thomas E. Brown, Jr., will deliver an address at the meeting on March 4, on the Government of the United States; on March 18, the club will discuss political parties.

Federation for Christian Work.

Plans for the first convention of the Panama Federation of Societies of Women for Christian work, to be held at Empire on Friday afternoon, March 4, are about completed. The program will consist of two addresses, several musical numbers, short reports reviewing the work of each society, and a short business meeting. The Empire auxiliary will serve lunch on the arrival of the noon train, which will bring the delegates and representatives from Cristobal and Panama and intermediate points. There are nearly 200 women holding membership in the five societies federated, and it is expected that the attendance will be a representative one. Letters of congratulation have been received on the formation of the Federation. It is said to be the second federation of such societies to be organized, the first being in Providence, Rhode Island.

Empire and Ancon High Schools Consolidated.

Owing to the reduction in the enrollment of pupils in the Empire branch of the Canal Zone high school, the branch was transferred to Ancon at the beginning of the second semester, which was on Monday, February 23. The completion of some of the year's work and the beginning of new studies make the change desirable at this time. The pupils will have more advantages at Ancon, the school being larger, better equipped and organized, special teachers for the different subjects making more effective work possible.

The Ancon high school hours are from 8.30 to 11.30 a. m., and from 1 to 2.30 p. m. The pupils will leave Las Cascadas at 7.16 a. m., Empire at 7.22, and Culebra at 7.28. They will be met at the station in Panama by the school brake and conveyed to the school. They will be chaperoned on the train and in the brake by Miss Hine, one of the high school faculty. They will have a luncheon period of one hour and a half, which time will be spent in the schoolhouse under the supervision of a teacher. The afternoon session will be dismissed at 2.30 o'clock, and the pupils will leave the Panama railroad station at 2.45, arriving at Culebra at 3.22, at Empire at 3.28, and at Las Cascadas at 3.34.

Notable Collection of Specimens.

As a result of the interest of Canal employes in the different species of animal life of the Isthmus of Panama, various collections of native animals, birds, fish, and butterflies have been made. One of the largest and most systematically arranged of these collections has been made by Mr. L. Beckstedt of Cristobal. The collection contains more than 1,500 species, mounted and arranged for exhibition. Among the specimens are the following: Large man eating shark captured off Colon, boa constrictor, armadillo, wild hog, porcupine fish, whip fish, flying fish, land and sea turtles, tarantulas, black panther, tapir, various specimens of monkeys, pelicans, ox-billed turtle, sloths, toucan bird, giant lizards, iguana, giant grasshoppers, some measuring 12 inches across the wings, and a large variety of moths, butterflies, and insects. The collection was exhibited at Watertown, N. Y., in the summer of 1913.

Kappa Sigma Fraternity.

All members of Kappa Sigma fraternity on the Isthmus are requested to communicate with E. G. Porter, Paraiso.

I. B. of S. S. and D. M.

A regular meeting of Local No. 19, International Brotherhood of Steamshovel and Dredge Men, will be held at Ancon Lodge hall on Sunday, March 1, at 1.30 p. m. All members are urgently requested to attend.

J. I. MAJOR,
Secretary-Treasurer.

ANCON, C. Z., February 18, 1914.

University of Illinois.

It is desired that all persons who have ever enrolled in the University of Illinois, whether recipients of degrees or not, communicate their names and addresses to the undersigned. If the names of others are known, they may be inserted on the same card.

JAMES ZETEK.

ANCON, C. Z., February 14, 1914.

Order of Isthmian Conductors.

A regular meeting of the Order of Isthmian Conductors will be held at Ancon lodge hall on Sunday, March 1, at 9.30 a. m.

GEORGE B. ALLEN, *Secretary.*

COROZAL, C. Z., February 24, 1914.

The National Surety Company, of New York, has withdrawn its agent from the Canal Zone and discontinued local business; and of the officials formerly bonded by it, none remains in the Canal service at present. Authority has, accordingly, been given the Canal Zone Government to return to the company the $10,000 security which it had deposited with the Government at the time it began business on the Canal Zone.

PERSONAL.

Mr. Edgar S. Garrison, district judge at Empire, resigned, effective Friday, February 20, and on Tuesday, February 24, he sailed on the Royal Mail Steam Packet Company's steamship *Trent* for Trinidad, where he goes to investigate some cocoa plantations. He was appointed a clerk in the Canal service on the Isthmus on August 8, 1905, and was assigned to the Department of Construction and Engineering. On February 1, 1906, he was transferred to the office of the prosecuting attorney in the old department of Government and Sanitation, and, effective December 1, 1907, he was appointed district judge at Empire.

Accidental Deaths.

Ernest M. Nessler, an American employed in the First Division, with residence at Pedro Miguel, was found dead in the transformer room at Pedro Miguel Lock on Thursday morning, February 19. He was last seen alive at about 4.30 p. m., on the previous day, when he went into the transformer room, telling a helper he would soon be back. The coroner's verdict was that he came to his death unavoidably, by means of an electric shock. He was 24 years of age, unmarried, and had been on the Isthmus five months. His father, Luis Nessler, resides at No. 1034 Tacoma avenue, Indianapolis, Ind.

Willard Deemer, the 15-year old son of Mr. and Mrs. J. A. Deemer, living at Gatun, was drowned at about 2.25 p. m., on Friday, February 20, while bathing in Gatun Lake at a point about 200 feet south of the concrete dock, and 40 feet out from the Panama railroad embankment. His body lodged on the bottom, but was recovered by a diving crew at 10 a. m., on the following day.

Obituary.

Mrs. Emma Hall, wife of Mr. Peter A. Hall, living at Empire, died on Sunday, February 22. She was born at Sheboygan, Wisconsin, 44 years ago, and had been on the Isthmus five years. Her husband and two daughters, one 12, and the other seven years of age, survive her. Her mother, a brother, and a sister, reside in Milwaukee. The funeral was held Tuesday forenoon, February 24, at Ancon.

Marvin, the 4-year old son of Mr. and Mrs. Marvin L. French, living at Ancon, died at Ancon Hospital on Thursday, February 12.

Metal Joints for Discharge Pipes of Dredges.

The trial of six ball and socket, flexible steel couplings, as a substitute for the rubber sleeves used for connections between lengths of discharge pipe from pipeline suction dredges, referred to in THE CANAL RECORD of October 29, 1913, has shown them so satisfactory that a requisition for 50 more of the couplings has been made. These couplings are used on the parts of the discharge pipe which are supported on pontoons, and subjected to considerable flexure; on land, the joints are made beneath steel bands and drawn tightly together with twisted wire, or by means of small wooden wedges.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The schedule for moving pictures for the week March 2 to 7 is, as follows: Monday, Corozal; Tuesday, Pedro Miguel and Balboa; Wednesday, Empire; Thursday, Cristobal; Friday, Gatun; Saturday, Culebra.

BALBOA.

The all-Isthmian vaudeville company gave an entertainment in the hall on Friday evening, February 20. The attendance was the largest since the Balboa clubhouse was opened.

Twenty men have entered in the pool tournament that has just been started.

New material for the pool tables has arrived. All the tables will be put in good condition during the next few weeks.

COROZAL.

The following scores of 100, and over, were recorded in bowling for the week ending February 21: Davis, 107, 102, 111; Parkis, 107; King, 100, 109; Steele, 100, 105; McDonald, 104; Beall, 103; Seebt, 100; Sommer, 100.

Special moving pictures will be shown on Thursday evening, February 26, consisting of Ivanhoe in three reels and Tigris in four reels. The regular pictures are scheduled for Saturday, the 28th.

PEDRO MIGUEL.

The membership is steadily increasing, the number now reaching 133, thirteen of this number are boy members.

There are nearly 700 books in the general fiction library, and many more will soon be ordered from the United States. Members are asked to assist by suggesting the names of good books. Leave the title and author's name at the desk, so that it will be in the new order.

Fourteen people attended the first lesson in the Spanish class on Thursday evening, February 19. It was taught by Mr. Fred Renauld of Corozal. The next lesson will be on Thursday evening of the present week, and all desiring to learn Spanish are invited to join the class. The dues for the lessons are $2 per month, payable in advance.

A class in first aid to the injured will be started about the first of the coming month, if enough members manifest an interest in the subject to make the class a success. The class will be under the leadership of Dr. Gibson and will be held once a week, from 7 to 8 p. m. Persons interested are requested to hand their names in at the desk and try to interest some one else to join also. This class will be free to all members.

Some interest has been manifested in the formation of a choral club. Those interested in singing are requested to let the secretary know of it, as a meeting will be held in the near future to organize such a club. This club will be for the men and ladies of Pedro Miguel and Paraiso, and will be under the direction of Mr. Frank Gill of Paraiso. All interested, are invited to join.

Any one interested in Sunday school work can help by volunteering to teach a class of boys or girls. About 50 children have already enrolled.

Several writing tables have been arranged in the reading room on the second floor for the use of the members of the clubhouse. Writing material can always be found on these tables.

The barber can be found in the barber shop on Tuesdays, Thursdays, and Saturdays. Prices are the same as at the other clubhouses.

The Culebra chess club played the Pedro Miguel club on Friday evening, February 20. Scores were, as follows:

Culebra.	*W.*	*L.*	*Pedro Miguel.*	*W.*	*L.*
Dubois, Wm	1	1	Shropshire, J. B	1	1
McClure, A. E	1	1	Wilson, L. D	1	1
Warner, J. F	2	0	Capwell, J. S	0	2
Totals	4	2		2	4

CULEBRA.

High scores in duckpins for the week are, as follows: Perkins, 111, 103; Case, 109, 108, 102, 100; Koperski, R., 103, 100; Start, 100, 106; Chadbourne, 115, 100, 100, 107, 108; Koperski, 106; Brown, 105, 108; Seeley, 101.

On Sunday evening, the life and character of Washington was discussed by Messrs. Warner, Higgins, and Weaver.

A handicap billiard tournament is being arranged. All interested are requested to hand their names to Mr. Cook, as the tournament will start in a few days.

GATUN.

A program has been arranged for the celebration of the fourth anniversary of the Gatun Y. M. C. A. On Wednesday evening, March 4, a "Smoker" will be held for men only, when a program of vaudeville numbers will be given. On Thursday evening, March 5, the formal exercises will be held, with Lieutenant-Colonel Sibert presiding. There will be several musical numbers, and an address by a prominent speaker. A reception will follow, with refreshments, music, games, and a photographic exhibition. On Friday evening, March 6, there will be an evening of music and motion pictures. On Saturday night, March 7, there will be a gymnastic exhibition, followed by a basketball game, Empire versus Gatun. These entertainments are open, not only to the members of the association, but all of the people of Gatun and former residents, as well.

The glee club will meet on Friday evening, February 27.

Two hundred and twenty-five people attended the performance of magic and contortion given by Arenilla, the Mexican boy, on Thursday, February 19.

The all-Isthmian vaudeville company appeared at the clubhouse on Thursday evening, February 26.

CRISTOBAL.

Sixteen entries have been received in the handball tournament in the young men's class. Following are the results of games played during the week of February 16: Wehmeier and Hagan won two games out of three from Kaunitz and Wechsler; scores, 21–17, 21–13, 10–21. Barcroft and W. Fraser won two games out of three from Kaunitz; scores, 21–15, 18–21, 21–20. Hughes and Farrell won two straight games from Winters and Cousineau; scores, 21–18, 21–20. Wehmeier and Hagan won two games out of three from A. Fraser and Nash; scores, 21–15, 21–8, 10–21.

The "Secret seven" defeated "House 83" in an indoor baseball game on Monday evening, February 16, by the score of 21 to 18.

A handball tournament in the boys' gymnasium class will be started on Saturday, February 28.

The men's gymnasium class, which was started a few weeks ago, is meeting with success. About 18 men are now enrolled. This class is intended for men of mature years who do not care for the more strenuous calisthenic exercises.

Mr. Edward Schildhauer gave an address before the discussion club on Thursday night, February 19. He explained the manner of operating the gates, the emergency dam, the towing locomotives, the chain fenders, the various valves etc. Judge Frank Feuille will speak before the discussion club, on Thursday, March 5 on "Some differences between American and Spanish jurisprudence."

Three hundred and twenty attended the all-Isthmian vaudeville entertainment on Wednesday, February 18. This is the largest attendance this season at any entertainment, at the local clubhouse, at similar prices.

Mr. William J. Price, American Minister to Panama, will address the monthly Sunday afternoon meeting, on March 8. Subject, "This one thing." Mr. Max Thompson, manager of the Hotel Washington will sing. Other musical numbers will be provided.

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Married.

BARTLETT–WHISTON—At St. Luke's Episcopal Church, Ancon, on February 14, Miss Minnie Bailey Whiston of Philadelphia, Pa., to Emir C. Bartlett of St. Louis, Mo., the Rev. Mr. Carson officiating. Canal Zone residence, Pedro Miguel.

FEY–TRAUTMAN—On Monday afternoon, February 16, at Gulfport, Miss., Miss Anna Dora Trautman of Long Beach, Miss., to Mr. William L. Fey of Savannah, Ga. Canal Zone residence, Pedro Miguel.

CLARDY–HENKEN—In Ancon chapel, February 21, 1914, Miss Alice Henken of Mobile, Ala., to Mr. Albert Basil Clardy of Anniston, Ala., the Rev. Harry Compton officiating. Canal Zone residence, Empire.

◆

Misdirected Letters,

ANCON, C. Z., February 21, 1914.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be procured upon request of the addressees:

Boyle, Harry W.
Brown, J. W.
Buckford, Miss Ada
Coil, Andrew W.
Curson, Edward
Freeman, O. J.
Hamburger, Abe
Holmes, F.
Hughes, Capt. H. J.
Logan, John
Lyon, Louis E. (3)
Monteverde, Mrs. H.
O'Brien, Miss Helen
Neeson, T. P.
Sargent, Mrs. E. M.
Smalley, Geo. W.
Spinks, J.
Straub, Hiram
Stromberg, Knut
Van Siclen, W. A.
Wilson, Ralph
Zimmerman, Mrs. Willie
McCormick, J.

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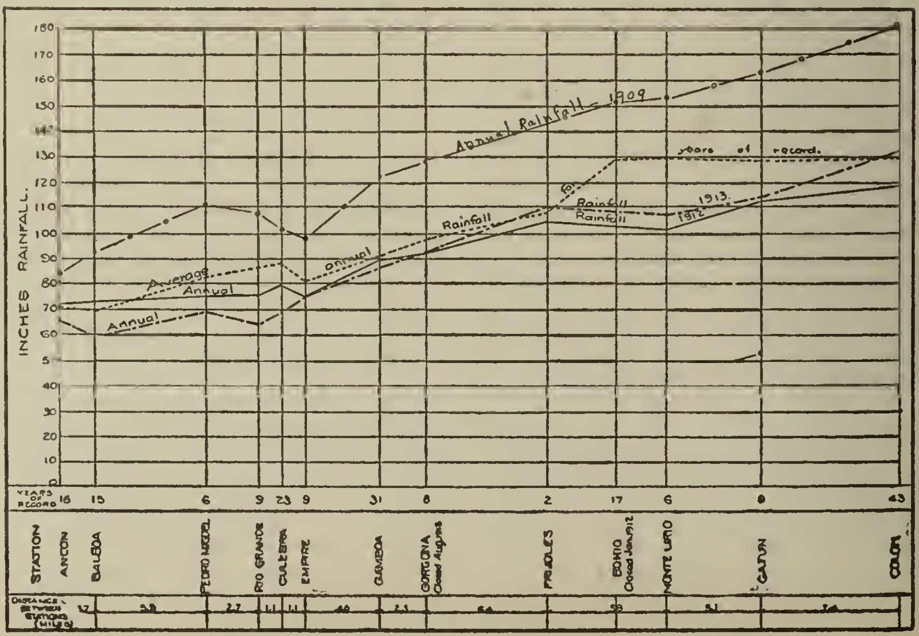
Rainfall, Feb. 1 to Feb. 21, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	.01	16	.01
Balboa	......	......	......
*Miraflores	......	......	......
Pedro Miguel	.04	16	.04
Rio Grande	.04	16 & 17	.09
Central Section—			
Culebra	.04	16	.07
*Camacho	.05	4 & 17	.13
Empire	.04	16 & 17	.14
Gamboa	.03	21	.05
*Juan Mina	.04	21	.09
Alhajuela	.02	17	.04
*El Vigia	.15	17	.30
Frijoles	.61	1	1 25
*Monte Lirio	.85	1	1.55
Atlantic Section—			
Gatun	.49	1	.94
*Brazos Brook	.20	16	.85
Colon	.65	1	1 31
†Porto Bello	.58	1	1.20

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight. †To 5 p. m., March 20.

DISTRIBUTION OF RAINFALL, CANAL ZONE, CALENDAR YEAR 1913.



OFFICIAL CIRCULARS.

Accounting for Material and Supplies.

Circular No. 54, Revised:

In order to carry out the provisions of Chairman's Circular No. 520, the following details of procedure, to govern the accounting for the material and supplies, are given for the information of all concerned:

1. Material ordered by a division on regular requisitions and not on foremen's orders will be invoiced by the storekeeper. One copy of each invoice will be sent to the Examiner of Accounts as issued and a sufficient number sent to the division for its record and accomplishment. The division receiving the material will accomplish the original of each invoice, note on one copy the proper costkeeping account number, and forward both the original and copy to the Examiner of Accounts.

2. Material ordered on foreman's order, which for any reason cannot be charged to the department or division from that foreman's order, will be invoiced. This applies to any case where the order can be filled immediately in part only and the order is not retained until complete delivery is made, or where material is ordered which must be delivered in nonexpendable containers, etc.

3. The Examiner of Accounts will transmit priced and totaled copies of foremen's orders, shipment tickets, inspection calls, and invoices, accompanied by adding machine lists, to division costkeeping accountants, or to the costkeeping accountant of the Chairman's office, as desired.

4. The accomplishment of invoices covering transfers of stock between storehouses will not be necessary, but any exceptions as to quantity, weight, or unit price must be reported to the invoicing store and adjusted, and any changes reported to the Examiner of Accounts. Storekeepers will be charged with the value of material as invoiced unless exceptions are taken and reported to the Examiner of Accounts within five days from date of invoice.

5. When serviceable material is returned to stores, invoice showing the costkeeping account number will be prepared to cover, one copy being sent immediately to the Examiner of Accounts. The storekeeper will insert the prices and class numbers on the original and one copy of the invoice, and forward same to the Examiner of Accounts, who, after making extensions, will forward the copy to the proper costkeeping accountant. (See Paragraph 8 for nonexpendable property).

6. Second-hand material, tools, and equipment returned to stock for repair and reissue will be invoiced without charge by the division returning same. The cost of repairs will be charged against the division returning the material, etc., if it can be located. If the division cannot be located, the charge for repairs will be made against the Chairman's office and prorated to divisions. The division making the repairs will invoice the material, etc., without prices, to the receiving store as soon as the repairs are completed and articles delivered, sending one copy of the invoice immediately to the Examiner of Accounts. The storekeeper will insert prices and class numbers and send the original and one copy to the Examiner of Accounts, who will send the copy to the proper costkeeping accountant for credit to division accounts. This is not intended to cover cases where articles are turned in on survey requests.

7. For use in ordering nonexpendable property only, a revised form of foreman's order (Form X-234) is being printed and will be placed in stock at Mount Hope depot. Divisions and departments should secure a supply of these forms as soon as possible. The quadruplicate copy of the foreman's order will be sent by the issuing storekeeper direct to the official for whose account the property is drawn, to be used as a debit voucher to his property return. Deliveries on this form will not be covered by invoice, but storekeepers will invoice all nonexpendable property issued on regular requisitions.

8. When nonexpendable property is returned to stores it shall be invoiced, one copy of the invoice being sent immediately to the Examiner of Accounts. The storekeeper will insert prices and class numbers, and send the original and one copy to the Examiner of Accounts, one accomplished copy being returned to the division to support the invoicing official's property return. The Examiner of Accounts will make extensions and send one copy to the proper costkeeping accountant for credit to division accounts.

9. When nonexpendable property is transferred from one division to another, the procedure at present in force will be followed, and copies of accomplished invoices will be attached to all returns until otherwise provided.

10. Issuing storekeepers shall make financial and physical charge for oil drums, cement sacks, and other containers at a price which will be determined by the Chief Quartermaster. The division returning such containers or cement sacks to stores will invoice them in the manner provided for other property which is returned to stores. Divisions will take up on invoices all containers and cement sacks on hand January 1, 1914, and send original and one copy of invoice to the Examiner of Accounts. Charges have been made against divisions for all containers delivered during January. Divisions must send to the Examiner of Accounts two copies of invoices covering containers returned to stores and invoices for January for physical accounting only.

11 All scrap material and equipment will be taken up by the store at a price to be fixed by the Chief Quartermaster, and the original and one copy of invoice forwarded to the Examiner of Accounts. When material is sold, credit will be given storehouse and proper adjustment made. Scrap transferred from one division, or from one storehouse to another, will be invoiced at a price to be fixed by the Chief Quartermaster and invoices disposed of as provided for other material.

12. All foremen's orders or other receipts for stock material and supplies issued to contractors, other departments of the United States Government, or to other individuals and companies, against whom bills for such material and supplies are to be rendered, will be forwarded in duplicate, immediately upon issue, to the Examiner of Accounts, who will prepare the bills.

13. Material transferred between departments, or from one division of the Department of Construction and Engineering to another, shall be invoiced, one copy of the invoice being sent immediately to the Examiner of Accounts. The invoicing official will insert prices, costkeeping account number if credit is to be given to cost accounts, forward to the receiving official, who will accomplish, indicating the costkeeping account numbers to be charged, and forward the original and two copies to the Examiner of Accounts. One copy will be forwarded by the Examiner of Accounts to the costkeeping accountant of the invoicing division for credit, and one copy to the costkeeping accountant of the receiving division for debit.

14. Material covered by inspection call will not be invoiced. One copy for each inspection call will be sent to the Examiner of Accounts as issued, and a sufficient number to the receiving store or division for record and accomplishment. The official receiving the material will accomplish the original and one copy (the division will note on the copy the proper costkeeping account number; the store will note the class number) and return both to the Chief Quartermaster for transmittal to the Depot Quartermaster for certification of the dealer's bill. The copy of the inspection call, when received by the Examiner of Accounts with the certified bill, will be detached and transmitted to the proper costkeeping accountant for charge. Nonexpendable property covered by inspection call will be invoiced by the Depot Quartermaster for physical accountability only.

15. The rendition of bills for repair work performed by the Mechanical Division for outside parties must be expedited. To accomplish this, the following procedure will govern the issue of material on foremen's orders for outside work, effective February 16, 1914. The Mechanical Division will stamp, or, until rubber stamp is received, write clearly on each copy of foremen's orders or material for job orders for outside parties: "Special—work for I. and C." The issuing store will handle "Special" by pricing and extending both originals and duplicates and returning duplicates direct to the Mechanical Division not later than the day following the issue, sending originals, with adding machine tape, to the Examiner of Accounts, who will charge the Mechanical Division.

16. Include in one invoice material of one class only, unless impracticable in any case.

H. A. A. Smith,
Examiner of Accounts.

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Cows for Sale.

Ancon Hospital,
Ancon, C. Z., February 10, 1913.

For sale at the Ancon Hospital dairy, four cows suitable for butchering. May be seen at the dairy any afternoon from 3 to 5 o'clock, and can be sold at private sale.

Chas. F. Mason,
Superintendent.

◆

Reduced Rates to Employes on United Fruit Company's Steamships to New Orleans and New York.

United Fruit Company,
Colon R. P., February 11, 1914.

Effective at once, arrangements have been made to honor Isthmian Canal Commission and Panama Railroad Company reduced rate requests at rate of $40 from Colon to New Orleans, and $56.25 from Colon to New York.

Employes holding such requests will be assigned to minimum priced rooms, and in the event that same are not available, they will be assigned to berths in higher priced rooms without additional charge. This, of course, does not apply to rooms with private baths, or suites, for which the usual additional charge will be made.

H. R. Wilford,
General Agent.

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Hotel Aspinwall, Taboga.

Department of Sanitation,
Office of Chief Sanitary Officer,
Ancon, C. Z., February 6, 1914.

To all District Physicians:

The Hotel Aspinwall, formerly Taboga Sanitarium, now under the control of the Subsistence Department, will be glad to receive any Commission employes and members of their families, at the following rates:

	Per day.
Bed and board	$2.25
Breakfast	.50
Lunch	.75
Dinner	1.00

The launch *Louise* leaves the dredge landing at 9 o'clock on Tuesdays, Thursdays, and Saturdays.

Commission and Panama railroad employes whose time is to be covered on account of sickness, will have to be sent, as formerly, to Ancon and Colon Hospitals.

John L. Phillips,
Acting Chief Sanitary Officer.

◆

Derail on Gravel Pit Track.

Panama Railroad Company,
Office of General Superintendent,
Colon, R. P., January 31, 1914.

G. S. Bulletin No. 44:

All concerned.—A pipe connected derail operated from the switch stand will be put in service at 12 o'clock noon, on Tuesday, February 3, on the gravel pit track at old Tower R.

F. Mears,
General Superintendent.

◆

Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes, for the week ending midnight, Saturday, February 21, 1914. All heights are in feet above mean sealevel.

Day and Date.	Stations.					
	Vigia.	Alhajuela	Gamboa	Frijoles	Gatun Lake	Miraflores Lake
Sun., Feb. 15 ..	125.2	91.7	84.9	.....	84.9	51.9
Mon., Feb. 16..	125.2	91.7	84.9	.....	84.9	51.8
Tues., Feb. 17 ..	125.2	91.6	84.9	.....	84.9	51.8
Wed., Feb. 18 ..	125.6	92.2	84.9	.....	84.9	51.7
Thurs., Feb. 19.	125.5	92.2	85.0	.....	85.0	51.7
Fri., Feb. 20....	125.3	91.8	85.0	.....	85.0	51.7
Sat., Feb. 21...	125.1	91.6	84.9	.....	85.0	52.6
Height of low water, nearest ft...	125.0	91.0				

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Tide Table.

The following table shows the time of high and low tide at Panama for the week ending March 7, 1914:

Date.	Low	High	Low	High
	A.M.	A.M.	P.M.	P.M.
March 1...........	12.24	6.21	12.36	6.34
March 2..............	12.57	6.48	1.06	7.02
March 3..............	1.29	7.18	1.36	7.33
March 4............	2.05	7.52	2.12	8.11
March 5..............	2.51	8.38	3.01	9.00
March 6..............	3.50	9.41	4.11	10.08
March 7.........	5.01	11.03	5.38	11.33

75th meridian time.

◆

Port Movements at Balboa.

The following vessels arrived at, or departed from, the port of Balboa from February 7 to 21, 1914:

Arrivals—February 8, *Pleiades*, from San Francisco; February 9, *Mantaro*, from Callao; February 11, *Huasco*, from Valparaiso; February 15, *Manavi*, from intermediate ports; February 16, *San Juan*, from San Francisco; February 16, *Guatemala*, from intermediate ports; February 16, *Chile*, from Guayaquil.

Departures—February 9, *Ucayali*, to Callao; February 9, *Peru*, to Guayaquil; February 9, *Quito*, to intermediate ports; February 10, *Ecuador*, to Guayaquil; February 11, *Newport*, to San Francisco; February 14, *Aroline*, to Seattle; February 16, *Mantaro*, to Callao; February 16, *Huasco*, to Valparaiso.

◆

Missing Man.

Information is requested as to the whereabouts of Juan Gomez Hernandez, by his mother, living in Barcelona, Spain. Address Office of the Chairman.

COMMISSARY DEPARTMENT.

The commissary stores are open during the following hours:

Cristobal, 8 a. m. to 12.30 p. m., and 2 to 7 p. m.

Balboa, 8 a. m. to 12.30 p. m., and 2.30 to 7 p. m.

Ancon, 8 a. m. to 1 p. m., and 3 to 6 p. m.

All others, 8 a. m. to 1 p. m., and 3 to 7 p. m.

Retail prices of cold storage provisions for the week beginning February 21, 1914:

FRESH MEATS.

	Price.
Mutton—Stewing, per pound	7
Shoulder, neck trimmed off (4 pounds and over), per pound	9
Entire forequarter (not trimmed, 10 pounds and over), per pound	8
Legs (8 to 10 pounds), per pound	17
Cutlets, per pound	18
Short cut chops, per pound	20
Lamb—Stewing, per pound	8
Entire forequarter, neck trimmed off, per pound	10
Legs (5 to 8 pounds), per pound	20
Chops, per pound	24
Cutlets, per pound	24
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	17
Chops, per pound	26
Loin, for roasting, per pound	26
Cutlets, per pound	30
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	8
Plate, per pound	9
Corned, No. 1, per pound	14
Corned, No. 2, per pound	12
Chuck roast, (3 lbs., and over,) per pound.	12
Rib roast, second cut (not under 3½ pounds), per pound	16
Rib roast, first cut (not under 3 pounds), per pound	18
Pot roast, per pound	19
Rump roast, per pound	19
Porterhouse roast, per pound	20
Steak, chuck, per pound	12½
Round, per pound	13
Rib, per pound	18
Sirloin, per pound	19
Rump, per pound	19
Porterhouse (not less than 1½ pounds), per pound	20
Tenderloin (Western), per pound.	30
Pork—Hams, fresh, per pound	§20
Loin chops or roast, per pound	19
Shoulders, fresh, per pound	§17
Spare ribs, per pound	15
Backbones, per pound	15
Pigs' feet, each	7
Pigs' heads, whole	60
Pigs' heads, ½-head	30
Sausage, home made, per pound	20

MISCELLANEOUS.

Livers—Beef, per pound	11
Calf, each	60
Half, each	30
Steak, Hamburger, package	13
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Devonshire Farm, per pound	†22
Sweetbread, beef, per pound	25
Eggs, fresh, per dozen	*38
per ½-dozen	*19
Bluefish, per pound	11
Halibut, fresh, per pound	*10
Salmon, per pound	*10
Roe shad, each	75
Shad roes, per pair	40
Oysters, per quart	28

POULTRY AND GAME.

Chickens—Fancy roasting, milk fed, large, each.	1.40
Fancy roasting, milk fed, med., each.	1.10
Fancy roasting, corn fed, about 5½ pounds, each	1.25
Fancy roasting, corn fed, about 4½ pounds, each	1.00
Fowls, each ††60, 70, 80, 90, and	1.00
Ducks, Western (about 4½ pounds), each	1.25
Capons, about 8½ pounds, each	3.00
Broilers, milk fed, each	70
Broilers, corn fed, each	60
Turkeys, per pound	25
Squabs, each	50
Ducks, Teal	40
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30

CURED AND PICKLED MEATS.

	Price.
Ham—Real York and Cumberland, per pound.	37
Genuine Westphalia, per pound	40
Sugar cured, per pound	20
Sliced, per pound	22
Half, (for boiling), per pound	21
Boiled, per pound	28
Hocks, per pound	‡8
Beef, salt, family, per pound	12
Bacon, breakfast, whole piece, per pound	25
Sliced, per pound	26
Ham, lunch, per pound	32
Pork, salt, family, per pound	14
Ox tongues, each	1.00
Pigs' feet, per pound	7
Tongues, per pound	18

DAIRY PRODUCTS.

Butter—Creamery special, per pound	*37
Sheffield Farms, extra fancy, per lb	46
Cheese—Philadelphia cream, cake	10
Roquefort, per pound	35
Young America, per pound	22
Swiss, per pound	28
Edam, each	75
Edam, tin	25
Parmesan, per pound	35
Gouda, per pound	30
Snappy, per cake	10
Milk (certified), per bottle	**20
Fer-mil-lac, per bottle	**20
Ice cream, quart	‡25
½-gallon	‡50
Cream (certified), per pint bottle	45

VEGETABLES AND FRUITS.

Beets, per pound	3
Celery, per head	9
Cabbage, per pound	3½
Cucumbers, per pound	†12
Carrots, per pound	3
Cauliflower	7
Green onions, per pound	8
Lettuce, per pound	6
Onions, per pound	3½
Potatoes, white, per pound	3
Potatoes, sweet, tropical per pound	2
Yams, per pound	3
Parsley, per bunch	4
Parsnips, per pound	3½
Squash, per pound	5
Turnips, per pound	3
Tomatoes, per pound	†9
Spinach, per pound	*8
Apples, per pound	6
Cranberries, per pound	9
Grape fruit, American, each	†8
Tropical, each	4
Lemons, per dozen	15
Limes, per hundred	80
Pineapples, Cuban, each	10
Oranges, Jamaican, per dozen	12
Tangerines, each	2

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*Indicates reduction from last list.

**Indicates five cents allowed for return of bottle.

†Indicates advance on last list.

††Fowls weigh each, about, as follows: 3, 3½, 4, 4½, and 5 pounds. Prices are based accordingly; when size ordered is not in stock, next lightest weight is supplied and refund note sent for difference.

‡Sold only from commissaries, no orders taken for delivery.

§Not less than half of a fresh ham or shoulder will be sold.

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Supplies for the Canal.

The following steamers, with supplies for the Isthmian Canal Commission and Panama Railroad Company, arrived at the ports of Colon, Balboa, and Cristobal during the week ending February 14:

Caroline, February 7, from Seattle, with 550 pieces untreated Douglas fir piling, for Atlantic Division; 183,223 board feet, yellow pine lumber, for stock.

Cartago, February 9, from New Orleans, with 1,102 bales timothy hay, 3,000 kegs white lead, 40 boxes varnish, 167 bales cotton waste, 1,298 pieces cast iron water pipe, 19,135 board feet, yellow pine flooring, for stock.

Prinz August Wilhelm, February 9, from New York, with 44 cases water coolers, for stock.

Pleiades, February 9, from San Francisco, with 15 bales rubber dredging sleeves, for Dredging Division; 64 bales rubber hose, for stock.

Zacapa, February 11, from New York, with 663 pieces structural steel, six cases electrical material, for Mechanical Division; 42 boxes number plates, 885 pieces structural steel, for First Division; 118 kegs nuts, bolts, and washers, 23 cases files, 1,576 pieces steel bars and beams, for stock.

Californian, February 12, from Liverpool, with 10 dredge buckets, for Dredging Division; 155 barrels crude carbolic acid, 20 pieces dipper teeth, for stock.

Carrillo, February 13, from Boston, with two cases sheaves and chains, for Mechanical Division; one box diving dress, for Dredging Division.

Advance, February 13, from New York, with 111 rolls mesh reinforcement, 31 cases woodwork, 137 bundles reinforcing steel, for permanent buildings; 28 cases battery renewals, two reels insulated cable, 146 pieces structural steel, for Panama Railroad Company; 159 bundles reinforcing steel, nine cases electrical machinery, for First Division; 32 cases steel doors, eight crates varnish, for Mechanical Division; 124 packages castings and brass goods, 90 crates roofing tile, for Division of Municipal Engineering; 97 pieces pipe and fittings, 25 packages pipe and fittings, 82 cases plumbing material, 70 cases varnish, 19 bales belting, 19 bundles picks, 60 cases toilet paper, 12 boxes copper tacks, 14 crates paint, 881 sacks oats, for stock; and a miscellaneous cargo, the whole consisting of 2,372 pieces, weighing 120 tons.

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.

		Sails.	Arrives.
*Colon	P. R. R.	Feb. 24	Mar. 2
*Advance	P. R. R.	Mar. 2	Mar. 9
*Panama	P. R. R.	Mar. 9	Mar. 15
*Allianca	P. R. R.	Mar. 14	Mar. 20
*Colon	P. R. R.	Mar. 20	Mar. 26
*Advance	P. R. R.	Mar. 26	April 2
*Panama	P. R. R.	April 2	April 8
*Colon	P. R. R.	April 14	April 20
*Advance	P. R. R.	April 20	April 27
CRISTOBAL TO NEW YORK.			
†Allianca	P. R. R.	Mar. 2	Mar. 8
†Colon	P. R. R.	Mar. 8	Mar. 14
†Advance	P. R. R.	Mar. 14	Mar. 21
†Panama	P. R. R.	Mar. 21	Mar. 27
†Allianca	P. R. R.	Mar. 26	April 1
†Colon	P. R. R.	April 1	April 7
†Advance	P. R. R.	April 7	April 14
†Panama	P. R. R.	April 14	April 20
†Allianca	P. R. R.	April 20	April 26
NEW YORK TO COLON.			
Santa Marta	U. F. C.	Feb. 18	Feb. 25
*Tenadores	U. F. C.	Feb. 21	Feb. 28
Prinz Eitel Friedrich	H.-A.	Feb. 21	Mar. 3
*Metapan	U. F. C.	Feb. 25	Mar. 4
Orotava	R. M.	Feb. 28	Mar. 9
Prinz Aug. Wilhelm	H.-A.	Feb. 28	Mar. 9
*Calamares	U. F. C.	Feb. 28	Mar. 7
*Zacapa	U. F. C.	Mar. 4	Mar. 11
Prinz Sigismund	H.-A.	Mar. 7	Mar. 17
*Pastores	U. F. C.	Mar. 7	Mar. 14
*Almirante	U. F. C.	Mar. 11	Mar. 18
Tenadores	U. F. C.	Mar. 14	Mar. 21
Prinz Joachim	H. -A.	Mar. 14	Mar. 23
COLON TO NEW YORK.			
Almirante	U. F. C.	Feb. 26	Mar. 5
Tenadores	U. F. C.	Mar. 1	Mar. 11
Prince Joachim	H.-A.	Mar. 3	Mar. 11
Danube	R. M.	Mar. 3	Mar. 11
Santa Marta	U. F. C.	Mar. 5	Mar. 12
Calamares	U. F. C.	Mar. 8	Mar. 18
Prinz Eitel Friedrich	H.-A.	Mar. 9	Mar. 18
Metapan	U. F. C.	Mar. 12	Mar. 19
Pastores	U. F. C.	Mar. 15	Mar. 25
Prinz Aug. Wilhelm	H.-A.	Mar. 17	Mar. 25
Tagus	R. M.	Mar. 17	Mar. 25
NEW ORLEANS TO COLON.			
*Turrialba	U. F. C.	Feb. 21	Feb. 26
Cartago	U. F. C.	Feb. 25	Mar. 6
*Abangarez	U. F. C.	Feb. 28	Mar. 5
*Heredia	U. F. C.	Mar. 4	Mar. 9
COLON TO NEW ORLEANS.			
‡Atenas	U. F. C.	Feb. 26	Mar. 3
‡Parismina	U. F. C.	Feb. 28	Mar. 5
‡Turrialba	U. F. C.	Mar. 5	Mar. 10
‡Cartago	U. F. C.	Mar. 7	Mar. 13
‡Abangarez	U. F. C.	Mar. 12	Mar. 17
BOSTON TO COLON.			
Sixaola	U. F. C.	Feb. 19	Feb. 27
Carrillo	U. F. C.	Feb. 26	Mar. 6
Tivives	U. F. C.	Mar. 5	Mar. 13
COLON TO BOSTON.			
Sixaola	U. F. C.	Mar. 1	Mar. 9
Carrilio	U. F. C.	Mar. 8	Mar. 16
Tivives	U. F. C.	Mar. 15	Mar. 23

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 2 p. m.; for Southampton, on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays and Saturdays at 3 p. m.: ships for New York, via Kingston, on Thursdays at 2 p. m.; for New York, via Limon and Havana, on Sundays at 5 p. m.; for Limon and Bocas del Toro, on Tuesdays at 3 p. m.; for Bocas del Toro direct, on Mondays at 5 p. m.; and for Boston, on Sundays at 3 p. m.

Hamburg-American steamers sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays; the *Prinz August Wilhelm* and *Prinz Joachim* at 10 a. m.; the *Prinz Sigismund* and *Prinz Eitel Friedrich*, at 2 p. m.

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LOST—Small, round class pin, on February 18, either in Panama, Ancon Hospital, or on Panama railroad train. The pin had initials "W. J. S. N., 1905" on one side, and "E" on the other. A reward is offered for its return to Mrs. Edith B. Kirkpatrick, Pedro Miguel.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, MARCH 4, 1914. No. 28.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

The Situation at Cucaracha Slide.

Approximately one million cubic yards of material have been dredged from the base of Cucaracha slide since the dredges began operations there, on October 26, 1913. The channel past it has now a minimum width of about 190 feet, with minimum draft of 20 feet, at the present level of Gatun Lake, but the removal of large quantities of spoil has resulted in a marked lowering of the masses of material beyond and above, which have heretofore kept thrusting rock and earth forward almost as rapidly as material in the channel was taken out.

A summary of excavation by the dredges at the slide, by months, follows: October (five days), 3,805 cubic yards; November, 68,979 cubic yards; December, 321,193 cubic yards; January, 291,574 cubic yards; February, 287,223 cubic yards; March (one day), 10,150 cubic yards; total, 982,924 cubic yards.

Pipeline suction dredges *No. 4* and *No. 82*, the former excavating earth, and the latter pumping water for the monitors which have been sluicing material down from the south side, have been withdrawn temporarily for repairs at Paraiso. Pipeline suction dredge *No. 86* is excavating near the south side of the slide and the dipper dredges *Chagres*, *Cardenas*, and *Mindi* are working near the north side and center, advancing toward the south.

Purchase of Asphalt Mixing Plant.

Award has been made to the Pittsburgh Amiesite Company of Pittsburgh, Pa., for an asphalt mixing plant for use in street work at the new Balboa townsite, and in the other permanent towns of the Canal Zone. The plant is similar to the one in use by the State of Pennsylvania, is to cost, complete, about $4,650, and consists principally of a drum or furnace for heating 2-inch crusher run stone to between 275 and 375 degrees, Fahrenheit, and a mixer for mixing the stone with from five to eight per cent of melted asphalt, the asphalt being heated in a separate receptacle. Roadmaking by the asphaltic concrete method is accomplished by first placing a 4 or 5-inch layer of No. 1 large broken stone, and after rolling, to spread on it a 2-inch layer of hot mixture, composed of asphalt, sand, and broken stone, prepared in the manner above referred to. Prompt shipment of the equipment has been requested, as it is desired to get this work well under way before the advent of the rainy season. Two hundred tons of asphalt were shipped to the Isthmus from San Francisco on the steamer *Luckenbach*, on February 14.

Payment of Accrued Leave.

The President has authorized payment of accrued leave at the rate of 3½ days for monthly, and 2⅓ days for hourly men, in the case of those employes who on March 31 shall have served less than six months for which no leave has been granted, where such employes are transferred to the new organization and accept employment therein, subject to such rules and regulations as the Chairman may prescribe.

Dredge "Corozal" to be Dry Docked.

The ladder dredge *Corozal*, which has been at work in Culebra Cut excavating in slides on the east and west banks at Culebra village, was locked down at Gatun on Tuesday forenoon, March 3, and will be dry docked at the Cristobal marine shops for repairs. Chief among these are the repairing of the bottom tumbler on the ladder; renewal of the 4-inch armor plate of the bottom hopper, which has been in service for one year and six months, and is badly worn, due to the handling of heavy rock; renewal of the wooden guards, which have become badly splintered; removal of the doors to the hopper, which will be left off on account of the spilling of material from the chute into the storage compartment, necessitating frequent stoppages to empty; installation of new gears and clutches in various parts of the machinery, and such other work, including cleaning and repainting of the hull, as may be necessary at this time. On account of the draft of the dredge, the dry dock will be taxed to about its capacity to accommodate the vessel. In order to have the repairs to the dredge completed as early as possible, the work will be carried forward day and night.

Colon Water Works.

The new water purification plant and electric pump station constructed at Mount Hope was placed in service on February 24, and is now furnishing filtered water to all points north.

Work on this plant was begun in the latter part of October, 1912, and was practically completed on the first of January, 1914. Owing to the delay in the receipt of certain electrical equipment it was not possible to put the plant in service until the above date.

The raw water is delivered by gravity from Brazos Brook reservoir to the aeration chamber, through two 20-inch mains. During the dry season months, the Brazos Brook watershed furnishes only a small portion of the total amount of water required, and this shortage is made up out of the water from Gatun Lake, which flows under automatic control into the Brazos Brook reservoir through a 20-inch main laid in a tunnel driven through the ridge separating Gatun Lake from the reservoir.

Installation of Towing Locomotives.

No. 641, the first towing locomotive of the 40 on order, which arrived on the Isthmus on January 27, has been installed on the west side of the center wall at Gatun Locks, and, beginning with Monday, February 16, tests of the machine have been conducted each week day, consisting principally of operating it back and forth along the rack rail, including the inclines. A second machine, No. 643, has been received, and was unloaded at Gatun Locks last week. Under the schedule of deliveries, one locomotive was to have been received from the factory on January 15, and four are to be delivered on or about the 15th of each month thereafter until all deliveries have been effected. A schedule has been prepared by the First Division for the installation of the locomotives, as follows:

No. of Shipment.	*Date.*	*Destination.*	*Locomotive Nos.*
1	1-15-14	Gatun	641
2	2-15-14	Gatun	642 to 644
	2-15-14	Miraflores	681
3	3-15-14	Pedro Miguel	666 to 669
4	4-15-14	Miraflores	682 to 685
5	5-15-14	Gatun	645 to 648
6	6-15-14	Pedro Miguel	670 to 673
7	7-15-14	Miraflores	686 to 689
8	8-15-14	Gatun	649 to 652
9	9-15-14	Miraflores	690 to 693
10	10-15-14	Gatun	653 to 656
11	11-15-14	Miraflores	694 to 696

The numbers were chosen in the 600 series in the general numbering system of all machines, float wells, transformer rooms, and other equipment.

New Gasoline Launches in Service.

The third of the three new motor launches for inspection service in the Dredging Division arrived from the United States on February 18. It was launched overboard from the vessel on which it was shipped, and raised to Gatun Lake on February 22. This launch has been named the *Pioneer*. It, and the *Patrol*, which is used by the superintendent of dredging at the Atlantic entrance, are 40 feet in length; the *Search*, used in Culebra Cut, is 45 feet long. All three are equipped with 6-cylinder motors, capable of developing from 45 to 65 horsepower, according to the speed at which they are driven. The *Search* and *Patrol* ordinarily attain a maximum speed of 14 miles an hour; the *Pioneer* makes about 15 miles per hour.

The gasoline tug, or dock tender, for which award was made to Welin Marine Equipment Company, builder of the three inspection launches, last October, arrived at Colon on February 7, was transferred to Balboa on a flat car, and was launched on February 23. This vessel is 40 feet long, 10 feet wide, and has a draft of three feet. It is equipped with a 4-cylinder heavy duty motor, developing between 45 and 50 horsepower, and will be used for light towing service in Balboa harbor.

Installation of Chain Fender Machines.

The installation of the chain fender machines at the locks of the Canal has been delayed by the nonarrival of the material from the contractor. Complete delivery of the first group of four machines was due on September 5, 1913. The first shipment arrived September 28; complete delivery was not effected until December 17, for the machines of this group at Gatun Locks, and January 7, 1914, for those to be installed at Pedro Miguel. Delivery of all material for the 24 machines is now about 20 per cent complete.

Machines No. 814 and 815, for the fender chain to guard the west upper approach at Gatun, and Nos. 820, 821, 822, and 823, for the two chains of the upper approaches at Pedro Miguel, are almost completely installed. The girders and struts, eye-bars and yokes, the main upper and lower cylinders, with caps, the upper and lower sheaves, the hawse pipe sheaves, bearings, intermediate upper and lower cylinders, with caps, the plungers, crossheads, glands, and liners for these machines are in place, but the piping for machines Nos. 820 and 823 only has arrived. The plungers for all the machines at Gatun, the plunger bases for all at Gatun and Pedro Miguel, and for one pair at Miraflores Locks, have arrived. Various small parts for the machines at Miraflores are at hand.

A part of the chains for the fenders are being manufactured at the Boston Navy Yard. They are made from 3-inch diameter iron; the links are 17 inches long by 10¾ inches wide. Twenty-four chains are required of an average length of 427 feet, weighing 85 pounds to the foot. The first chain is practically completed, and shipment is expected at an early date.

A description of the chain fender operating devices was published in THE CANAL RECORD of October 4, 1911.

Charge for Boats Using Gatun Dock.

Effective Sunday, March 1, all small vessels, except those of the United States Government and the Panama railroad, mooring at the boat landing at Gatun, will be required to obtain a permit from the station agent, for which a charge will be made of 50 cents, U. S. currency, per day, or fraction thereof.

Warning Against Eating Native Oysters.

It has been determined that the origin of several cases of typhoid fever, now under treatment at Ancon Hospital, and in Panama, is directly traceable to the native oysters sold in the city of Panama. Examination of these oysters at the Ancon Hospital laboratory has shown them to be badly contaminated with sewage matter, the shells as well as the meat. A notice has been issued by the Health Officer of Panama warning all persons from partaking of these oysters, as they are dangerous to the public health.

The captain of the port of Panama, Mr. Carlos de Diego, on February 27, issued instructions prohibiting the placing of oysters in that part of the bay of Panama lying between Punta Paitilla and the island group to the west, called Las Tres Hermanas.

Progress on Empire-Gamboa Highway.

About 31 per cent of the new Empire-Gamboa road has been completed, under the direction of the Division of Municipal Engineering, or as far south as Obispo Junction. Municipal prisoners are now at work subgrading west of the Panama railroad, from the valley of the Sardinilla River to the intersection of the highway with the Las Cascadas plantation road, leaving a gap of about 1,500 feet between the two points, where no work has been done. It was only recently that a decision was arrived at in regard to the crossing of the Panama railroad main line, which is included in the gap above referred to. The original plan provided for a grade crossing, but in June of last year, it was decided to install a concrete-lined tunnel beneath the track, thereby eliminating all danger from train accidents. In view of the extra cost this tunnel would entail, and the fact that the Panama railroad has agreed to establish and maintain suitable automatic protective devices to safeguard traffic over the crossing, it has been decided to revert to the original plan and make it at grade. The new road when completed, will furnish connection, via the suspension bridge, with Empire and other towns on the west bank of the Canal, and with Panama by way of the Canal Zone highway through Pedro Miguel and Corozal.

Panama Railroad Watchman Service.

The watchman service of the Panama railroad was reorganized, effective March 1, according to the following general provisions: The position of chief inspector was abolished, and the watchmen were placed under the immediate orders of the company's representatives at the various points. Those at the Panama freight station and in the Panama yard are in charge of the local agent at Panama. The watchmen at the company's piers in Colon have been placed under the receiving and forwarding agent for that port; the guarding of the docks in Cristobal is in charge of the Division of Police and Prisons. This division also took over the patrol of the wharves at Balboa and, as it did several months ago while in temporary charge, assigned to this work nine colored policemen. This provided continuously a gateman and a patrolman on the steel pier and annex, and a patrolman on the new concrete wharf.

Extension of E Street, Panama.

An extension of West E street, lying in the Santa Ana district of the city of Panama, has recently been authorized and will be begun shortly by forces of the Division of Municipal Engineering. This involves building a macadam street, with the necessary curb and gutters, 16 feet wide, a distance of 324 feet, connecting Sixteenth and Seventeenth streets. A 4-inch water line and a 6-inch sewer pipe will be laid, and the total cost of the work is estimated at approximately $2,300.

ORDINANCE.

[Amending Section 8 of Ordinance No. 24, "Providing for the Licensing of Chauffeurs for Automobiles."]

Be it enacted by the Isthmian Canal Commission, that Section 8 of the ordinance adopted by the Isthmian Canal Commission at its 160th meeting held on April 15, 1911, and approved by the Secretary of War on April 26, 1911, providing for the licensing of chauffeurs for automobiles, be, and the same hereby is, amended to read, as follows:

> "The Head of the Department of Civil Administration is authorized to revoke for cause any license issued under the authority of this ordinance."

Enacted by the Isthmian Canal Commission, February 3, 1914.

Approved by the Secretary of War, February 14, 1914.

Procedure in Case of Fire.

In order that residents of the Canal Zone may acquaint themselves with the location of the fire alarm box closest to their residence, or to their place of employment, so that no time will be lost in submitting an alarm of fire, the following information is published:

If no alarm box is convenient, the nearest telephone should be used to notify the fire station. The location of fire alarm boxes may be learned from the notices posted in each town. If this source of information is not available, an inquiry of the district fire station will elicit all necessary information as to the location of fire boxes.

Fire alarm boxes are installed at Balboa, Ancon, Corozal, Culebra, Empire, Gatun, and Cristobal in the Canal Zone, and near property of the United States in the cities of Panama and Colon.

No alarm boxes are installed at Pedro Miguel, Paraiso, Las Cascadas, and the smaller settlements in the Zone. Alarms from these places should be sent in by telephone.

To send in an alarm from a *street fire alarm box*, break the small glass in the front of the box in order to secure the key; turn the key to the *right* and open the door; then grasp the small hook near the center of the box, pull it down *once*, and release it. By listening intently at the box, one can hear the alarm sounding.

To send in an alarm from one of the *small auxiliary fire alarm boxes* installed in the Tivoli Hotel, in the commissary at Cristobal, on the docks at Colon, and in several other buildings, break the glass, pull the small hook down, and *hold it down about five seconds*.

After sending in an alarm, remain at the fire box and inform the firemen of the location of the fire.

Appointment of Notary at Corozal.

Upon the suggestion of the surveying officer that Corozal should be provided with some one authorized to perform the functions of a notary, Mr. Geo. E. LeMire, the postmaster there, has been appointed a notary public in and for the First Judicial Circuit of the Canal Zone for the term of three years from February 11, 1914.

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On account of the desire of an increasing number of persons to visit the site of operations at Caño saddle, at which the rim of Gatun Lake is being raised by means of an embankment of borrowed spoil, it has been decided that in the future the launch *Balboa*, plying between Gatun and the saddle, with supplies for the work, will carry no passengers except those whose duties require them to be carried.

SOCIAL LIFE OF THE ZONE.

Woman's Work.

Two coming events of interest to American women in Panama and the Canal Zone are the first convention of the Panama federation of societies of women for Christian work, which is to be held in Empire on Friday afternoon, March 6; and the forming of the Panama auxiliary to the woman's board of the Panama-Pacific International Exposition, as outlined in THE CANAL RECORD of February 11. These two events are expected to call forth a large attendance of the women interested in public work and the forward movements of the day.

A program of interest has been prepared for the federation convention. Societies are requested to send as many of their members as possible.

Church Notes.

The newly completed Roman Catholic church building in Corozal was opened on Sunday morning, February 22. The hour for mass has been fixed at 8 a. m., in order to allow church members in the neighboring villages, where there are no churches, time to attend. Masses are said in the church of St. Mary, Star of the Sea, at Balboa, on Sundays at 9 a. m., at Corozal at 8 a. m., at St. Rita's, Gatun, at 8 a. m.; at New Gatun at 10 a. m., and at Cristobal at 7 and 9.30 a. m.

Salvation Army Notes.

Colonel Rothwell, the chief officer of the Salvation Army in the West Indies and Panama, will be a visitor to the Isthmus this month. In connection with his visit, arrangements have been made for him to deliver two lectures on the life and works of the late General Booth, founder and commanding officer of the Salvation Army. The first lecture will be held in the Wesleyan church, in Panama city, on Monday evening, March 9, at 8 o'clock. Seats will be reserved for visitors for this occasion and the public is invited to attend. Judge H. A. Gudger will preside. The second lecture will be delivered at the Commission clubhouse, in Cristobal, on Wednesday evening, March 11.

During the present month, the members of the Salvation Army on the Isthmus are making their annual selfdenial collections. Moneys raised by freewill offerings are devoted to the army's missionary and social work.

Visit of Bishop Knight Postponed.

The visit of Bishop Knight of the Episcopal church, who was expected to arrive on the Isthmus in February, has been postponed until July of this year. Bishop Knight will probably be accompanied by the Rt. Rev. Arthur S. Lloyd, D. D., president of the board of missions of the Episcopal church.

Installation of Officers by Rebekahs.

At the meeting of the Isthmian Canal Rebekah Lodge, Empire, No. 1, I. O. O. F., held in the lodge hall at Empire on Saturday evening, February 24, the following officers were installed: Noble grand, Ida Johnson; vice-grand, Grace Jarvis; recording secretary, Annie Calvit; financial secretary, Jeanette Martin; treasurer, Marie Vickery; chaplain, Marion Beetham, right supporter of the noble grand, Mary McCann; left supporter of the noble grand, Henry Lotz; right supporter of the vice-grand, Molly Perry; left supporter of the vice-grand, J. W. Jarvis; conductor, Luna King; warden, Charles Hopkins; inside guardian, Louis Perry; outside guardian, Richard Stoddard; past noble grand Clara Rhodes. The installing officer was Deputy Grand Sire B. F. Sisson of Gatun.

Library for St. Luke's Hospital Chapel.

The Sunday school of St. Luke's Hospital chapel has received a collection of books from the traveling library of the Isthmian Sunday School Association for the use of its scholars. The books have been placed in the choir room of the chapel, and will be distributed to those entitled to the use of the library, on Wednesday afternoons, at 4.30 o'clock. The chaplain of St. Luke's church will be in charge of this extension work, with Mrs. Edward L. Luce assisting. Books will be available to members of the Sunday school only, as the supply is limited.

Seventh Day Adventists.

The Seventh Day Adventist Conference for Panama and the Canal Zone is building a small church for the accommodation of its congregation in New Gatun. The structure is a frame building capable of seating about 50 persons. The Seventh Day Adventists have churches in Panama, Empire, New Gatun, Mount Hope, and at Cristobal, the headquarters of the organization. The building now occupied by the superintendent of the Conference was erected to take the place of the one destroyed by fire on March 23, 1911. The building contains apartments for the superintendent and his family, and the secretary of the conference, on the second floor, and the church and offices on the ground floor. Supplies are furnished at the office prepared in conformity with the tenets of the church. These include the sale of canned goods put up at the sanitarium operated by the Seventh Day Adventists in Tennessee. Books and periodicals of the conference are sold at headquarters. The printing plant, which was formerly located in the building in Colon, has been removed to Jamaica. The Conference church has been established in Panama and the Canal Zone since 1907. There are about 250 adherents.

PERSONAL.

Brigadier-General C. A. Devol, former Chief Quartermaster of the Isthmian Canal Commission, arrived on the Isthmus on March 1, accompanied by Mrs. Devol. His visit is in conformance with Special Orders No. 19 of the Chief of Staff, directing General Devol, Capt. Pegram Whitworth of the Tenth Infantry, and Capt. R. E. Wood, present Chief Quartermaster, to constitute a board to report on the surplus furniture in possession of the Canal Commission.

Representative J. Henry Goeke of the Fourth Congressional District, Wapakoneta, Ohio, a member of the House Committee on Interstate and Foreign Commerce, accompanied by his family, arrived on the *Cristobal*, which docked on Sunday, March 1.

Dr. W. E. Deeks, chief of medical clinic at Ancon Hospital, has resigned, effective at the close of business on February 28. He was appointed to the position on August 17, 1906, and arrived on the Isthmus on August 24. He was born at Morrisburg, province of Ontario, Dominion of Canada, about 48 years ago, and obtained his earlier education at the Morrisburg schools, and the Kingston Collegiate Institute. He then entered McGill University at Montreal, and after receiving the degree of B. A. in 1889, he took up the study of medicine in that institution, was graduated with the degree of M. D. C. M., in 1893, and won the master's degree in 1896. On leaving McGill University, he studied for a time in Europe, and later became an instructor in anatomy and lecturer in zoology in McGill University. Later, he went to New York City, where he was lecturer in electrotherapeutics, X-ray work, and internal medicine at the New York Post Graduate Medical School. Besides his work as chief of medical clinic at Ancon Hospital, he has written several articles on various medical conditions on the Isthmus, among them being publications on pneumonia, gastric ulcer, pellagra, infant feeding, the carbohydrate diathesis, 6-day fever, malaria, amœbic dysentery, and, with Dr. W. M. James, a monograph on hemoglobinuric fever. He sailed on March 1 for a short visit to Costa Rica, after which he expects to spend some time in travel and research work.

Knights of Columbus.

Permission has been granted by the Supreme Master of the Fourth Degree, of the Knights of Columbus, Mr. John H. Reddin, to exemplify the fourth degree in Cristobal, on March 29. A degree team from New Orleans will officiate. On the same date, the honors of the third degree will be given to a large class. As soon as arrangements have been completed the entire membership will be notified through council secretaries.

Results in Tennis Tournament.

Following are the results of the all comers' singles tournament in tennis, held at Ancon on February 22-23:

Preliminaries—Bartholomew defeated Stewart, 4-6; 6-4; 6-4. Earhart defeated Crenshaw, 7-5; 6-4. Wells defeated Pearman, 3-6; 6-3; 6-4. Runyan defeated Shropshire, 6-2; 6-0. Ohlson defeated Poltrino, 6-3; 6-3. Wecksler defeated Cross, 6-4; 6-3.

Second round—Nevius defeated Kalar, 6-0; 6-0. Poole defeated Swartz, 8-6; 6-4; Fechtig defeated Bartholomew, 5-3; 6-2. Wells defeated Earhart, 6-3; 4-6; 6-4. Runyan defeated Ohlson, 6-1; 6-4. Wecksler defeated Edwards, 6-0; 6-4. Drennan defeated Fessler, 6-2; 5-7; 6-4. Neely defeated Erbe, 6-1; 6-0.

Third round—Nevius defeated Poole, 6-3; 6-3. Fechtig defeated Wells, 3-6; 6-2; 6-1. Runyan defeated Wecksler, 6-2; 2-6; 6-1. Neely defeated Drennan, 6-4; 6-3.

Semifinals—Nevius defeated Fechtig, 2-6; 7-5; 6-4. Neely defeated Runyan, 6-2; 10-8.

Finals—Nevius defeated Neely, 8-6; 6-2.

The Commission photographer has prepared and mailed to the New York State Education Department 12 negatives for lantern slides, showing recent conditions on the Canal, principally at Gold Hill and Cucaracha slide, Pedro Miguel Lock, and Gatun Dam. These are to supplement a collection of about 80 slides of Isthmian views which the department has been circulating for exhibition at various schools.

TRANSMISSION LINE WORK.

Foundations for Track-Span Bridges Installed Between Mount Hope and Diablo.

Foundations for the track-span bridges of the high tension transmission line have been installed between Mount Hope and Diablo, and their installation is now advancing south of Diablo, along the right-of-way of what will be made the permanent main line of the Panama railroad, running into Balboa. About 20 foundations are yet to be placed. At Corozal, their placing required the moving of two crossovers, the shifting of the spur leading to the commissary building, and throwing the temporary track south of Corozal, known as the sand line, to the west, placing it on a center of 19 feet six inches from the southbound main of the Panama railroad. At Gamboa bridge, across the Chagres River, the placing of foundations is delayed by the work of erecting brackets, which are also to support the highway and foot bridge being erected by the Panama railroad on the east side of the bridge. Two foundations, caught in small local slides near Radio Station, are being reset.

The erection of the track-span bridges is following closely the completion of foundations. The bridges are in place between Mindi and Pedro Miguel, with the exception of seven at Gamboa bridge, five at Frijoles, and two or three others which cannot be erected at present on account of some local interference.

The one ground-wire and three power wires which are suspended on each side of the track, have been strung between Radio Station and Pedro Miguel, with the exception of the gap at the Chagres River. The insulators are placed at about the same time the bridges are erected.

The steel work for the transformer substation at Gatun has been completed and erection of the walls of hollow concrete block has begun. The steel work at the Miraflores substation is practically completed. Filling for the site of the substation at Cristobal, east of Camp Bierd and opposite the proposed Atlantic entrance coaling plant, is in progress, and the Panama railroad is making preparations for driving the piles to support the building. Bed rock beneath this area lies from 35 to 45 feet below sealevel, and the station will be supported on about 600 timber piles. Part of the foundation steel has been delivered at the site, in readiness for the beginning of building operations.

Oiling of Streets and Roads.

The oiling of streets and roads in the Canal Zone, and in Panama, has been considerably extended in scope during the present dry season. The efforts in this direction during the past two seasons have been, in a measure, experimental; the results were such as to encourage the continuance of the practice and to enlarge the field. The coating of oil applied during the dry season is worn off to some extent by the heavy rains of the wet period, but it has been demonstrated that a fresh coat can be applied at less expense than the first one.

All of the macadamized streets in Panama are being oiled for the first time by forces of the southern district of the Division of Municipal Engineering, thus doing away with the necessity for street sprinkling. It is estimated that the cost of sprinkling the macadamized streets in Panama is about one and one-half cents a square yard a week, while the cost of applying the coat of oil is estimated at about two cents a square yard. The effect of the water sprinkled on the streets is lost within two or three hours after the sprinkler has passed, while one coat of oil will, it is believed, suffice to prevent most of the dust until the advent of the rainy season, in addition to providing a foundation for next year's treatment. About half a gallon of crude oil is used to the square yard of street surface. The method followed is to make, first, necessary surface repairs to the macadam and roll thoroughly, then to sweep the street free of loose dirt, next to apply the coat of oil, and lastly, to spread over the oiled surface a light coat of sand. Two wagons are employed by the Division of Municipal Engineering in this work, each carrying two 50-gallon tanks, pipe-connected. On Friday, February 27, over 11,000 linear feet of street and road surface were oiled during the working day of nine hours.

Oiling already accomplished in the southern district comprises the new wagon road to Corozal, the boundary road between Ancon post-office and the old Balboa road; the driveways in Ancon; the macadamized streets in the districts of Guachapali and Marañon in Panama city, Avenue B, some of the side streets east of Central avenue, and the streets in the vicinity of Santo Tomas Hospital, and in the Chorrillo district. The Calidonia and Las Sabanas roads will be treated also, the latter probably as far as the Canal Zone police station.

Passenger Station for New Town of Balboa.

The Quartermaster's Department has begun the preparation of plans for a new passenger station of the Panama railroad, to be erected in the permanent residential and administrative town of Balboa. The construction of the building will be performed by the subdivision of building construction of the Quartermaster's Department. The station will be situated on the west side of the town, near and south of the toe of Ancon Hill on which the permanent administration building has been erected.

Ancon Crusher.

DATE.	Hours worked.	Cubic yards.
February 23	Holiday	Holiday
February 24	8.35	2,616
February 25	8.00	2,819
February 26	8.30	2,237
February 27	7.40	2,608
February 28	7.45	2,654
Total	40.30	12,934

Drowning of a Policeman.

First-class Policeman Erno Story of the Canal Zone Police Department was drowned while swimming in Miraflores Lake, at the south end of Pedro Miguel Lock, Tuesday forenoon, March 2. His plight was first noticed by a negro employe, who called the attention of George H. Schutt, an American electrician employed at the lock, to it. Both went to Story's assistance, and after diving three times, Schutt found the body in an upright position with the feet resting on the bottom. It was taken to Pedro Miguel dispensary, and although there were some signs of life at first, all efforts at resuscitation proved unavailing. It is estimated that he was under water from six to eight minutes. Story was appointed to the police service on October 5, 1912. He was born at Little Cypress, Ky., was about 25 years of age, and unmarried. His father, John A. Story, lives at Calvert City, Ky., and a cousin, Mrs. Dennis F. Reeder, resides at Ancon.

Red Cross Finances.

The financial statement of the Canal Zone Chapter, American National Red Cross, for the month of February, follows:

RECEIPTS.

February	1	On hand	$4,229.24	
	17	Collection by Disbursing Officer account of Red Cross ball	2.00	
	17	From sale of Christmas seals	29.82	
	17	Donation by employes of First Division	31.64	
	18	Collections by Panama railroad account of Red Cross ball	174.00	
	18	Refund of money advanced exemploye	2.00	
	18	Interest for October	4.80	
	27	Membership dues	37.65	
	28	Interest, January	7.17	
	28	Refund, account of error	3.00	
				$4,521.32

DISBURSEMENTS.

February	2	Deportation of American woman	$85.00	
	16	Disbursing Officer, printing	3.03	
	18	Relief of patient, Ancon Hospital	3.00	
	19	Relief of Jamaican families burned out at Haut Obispo	10.00	
	21	Relief of prisoner deported, Ancon	10.00	
	28	Relief of patient at Colon Hospital, deported	5.00	
		Relief of Zone prisoner, deported from Colon	10.00	
				$126.03
February	28	Balance on hand		$4,395.29

JOHN L. PHILLIPS,
Treasurer.

Approved:
EDW. SCHILDHAUER,
Chairman.

Change in New Orleans Steamship Connections.

Beginning with the sailing on March 4, vessels of the United Fruit Company sailing from New Orleans on Wednesdays will call at Havana on the way to Colon. Instead of arriving on Monday, as heretofore, they will arrive on Wednesday. They will sail on the day after, Thursday, via Port Limon and Bocas del Toro, for New Orleans, arriving in that port on the following Thursday. They will not regularly carry mail between the United States and the Canal Zone, either way, and the $40 rate allowed to employes of the Isthmian Canal Commission and Panama railroad from New Orleans will not apply to this trip; it will remain valid on the sailings from New Orleans, for Colon direct, on Saturdays.

The schedule of vessels sailing from New Orleans on Saturdays will not be changed; they will arrive at Colon on the following Thursday, make a side trip to Bocas del Toro and back, and sail for New Orleans direct on Thursday, a week after their arrival at Colon from New Orleans. These vessels will continue to carry United States mail on both outward and homeward voyages.

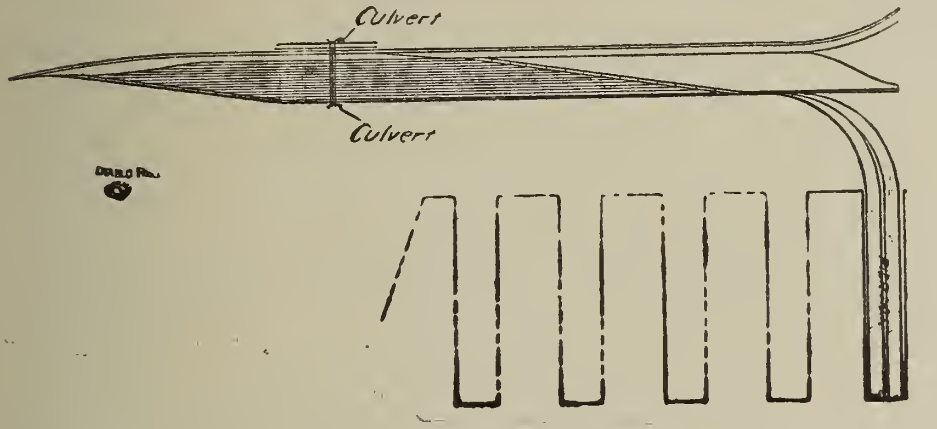
Trips of the "Louise" to Taboga Island.

The steam launch *Louise* leaves the landing at Balboa for Taboga Island at 9.50 a. m., on Tuesdays, Thursdays, and Saturdays, and returns from there as soon as possible after the unloading and delivering of supplies.

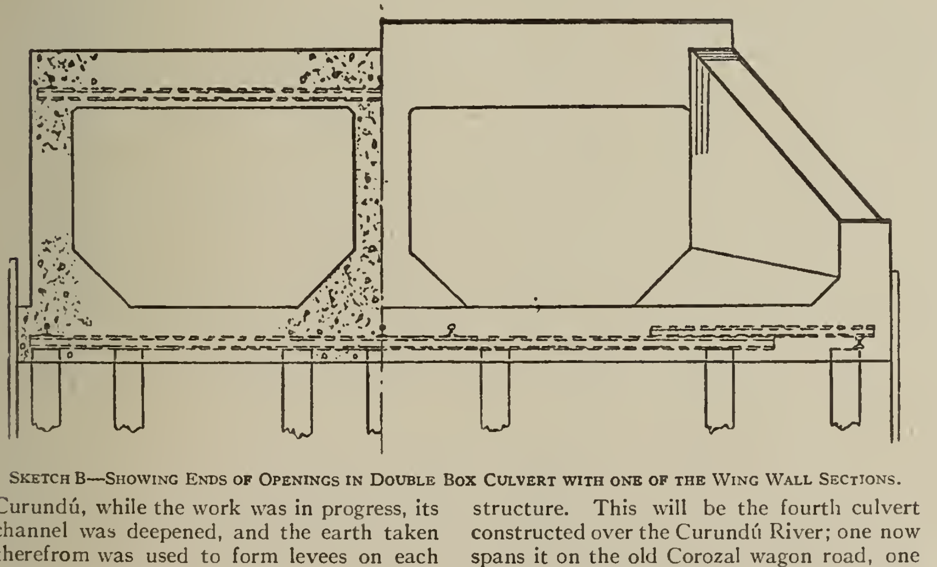
CULVERT OVER CURUNDU.

Reinforced Concrete Structure for 18 Tracks.—Will Have Tidal Gates.

The diversion of the main line tracks of the Panama railroad to serve the new town of Balboa, and the construction of a number of yard tracks in connection with the new pier, have made necessary a suitable crossing over the Curundú River at the point indicated in the attached sketch (A). The Curundú is a small stream that drains the meadows lying east of the present Panama railroad main line, a section of the district of San Miguel in the city of Panama, and the greater part of the swampy area between Ancon and Diablo Hills. Its discharge, except after heavy rains, is insignificant; at the present time it amounts to almost nothing; but it is subject to a tidal flow along its entire winding course through the swamp, and as far back as the railroad crossing above referred to. A part of the swamp has been filled with material pumped by suction dredge in excavating the inner harbor at Balboa, and to avoid blocking the Curundú, while the work was in progress, its channel was deepened, and the earth taken therefrom was used to form levees on each bank.



Sketch A—Showing Culvert over Curundu River, and Railroad Track Layout in Relation to new Balboa Pier.



Sketch B—Showing Ends of Openings in Double Box Culvert with one of the Wing Wall Sections.

The adopted plan for the new crossing of this stream provides for a box culvert, with two openings, which, on account of the numerous tracks to be laid over it, will have a length of 307½ feet, between portals. Each opening will be 10 feet wide, and seven feet high, square at the top, but with the corners cut off at the bottom. The wall between the openings will be two feet thick, the outside walls one and one-half feet thick, while the floor and roof will be two feet thick. On each side there will be an apron nine feet wide between wing walls. The entire structure will be of concrete, heavily reinforced, and founded on about 600 piles penetrating to rock. The piles have been driven, and about 100 feet of culvert have already been finished. The floor of the bridge will be at elevation plus three feet above mean sealevel, and not much work is required in excavating the pit for it. The ground at this point is very soft, and to prevent caving in during construction and underwashing of the finished structure, the pit (with a width of 25 feet) is entirely enclosed in sheet piling. The culvert is designed to support a wagon road of standard width, two tracks of the Panama railroad main line, and 16 yard tracks. The tracks and road will cross the culvert at right angles, as shown in Sketch A, and will be placed on a 2½-foot fill of earth to be made over the roof of the structure. This will be the fourth culvert constructed over the Curundú River; one now spans it on the old Corozal wagon road, one on the new Corozal road, and another for the present railroad crossing.

In order to prevent the tidal flow from ascending the river east of the new culvert, automatic tidal gates will be installed at the west end of the bridge, one to cover each opening. These gates will be constructed of 4-inch timber, heavily bolted and braced, to be hinged to the upper edge of the opening. Their operation will be entirely controlled by the tidal rise and fall. When the tide rises above the water level in the swamps, the beginning flow will serve to close the gates against the culvert openings, and when it falls below that level, the accumulation of the natural flow of the stream on the other side of the gates will push them open, allowing the water to escape. This device will prevent the inundation of the low parts of the swamp twice every 24 hours, as now, and will prevent also wearing of the bed of the Curundú by rapid currents caused by the tidal flow.

Postage Due Stamps.

In accordance with the "Taft Agreement," the Canal Zone Government purchases all of its stamps for use on mail matter originating in the Canal Zone, from the Panama Government, at 40 per cent of their face value. Heretofore, it has been the practice to use these stamps on letters arriving from abroad on which the full amount of postage has not been paid. During the last fiscal year, it is estimated that this class of postage amounted to about $4,000 in value. Most of the mail matter from the United States comes fully prepaid, but in the case of mail from the West Indies, and to some extent from Europe, the postage is only partly paid, or in some cases not paid at all, as under the Rome Convention, letters for points abroad may be accepted at the home post-offices without prepayment of postage. In view of the fact that this class of postage does not come under the Treaty with Panama, a supply of stamps for this purpose has been ordered from the United States Government, which will be furnished at the cost of the printing. They will be surcharged "Canal Zone" in the same manner as the Panamanian stamps, and, on receipt, will be used on all letters received at Canal Zone post-offices on which postage may be due.

Sailing Vessels from Ecuador.

As a result of representations from the quarantine service, the captain of the port of Panama, will, in future, as a precaution against the introduction of plague, compel masters of sailing vessels from Ecuadorian ports to submit to medical inspection before permitting his passengers and crews to land. Also, vessels must anchor well out from shore. Heretofore, in view of the time consumed by sailing vessels in making the trip to Panama from Ecuadorian ports, the above precaution has not been regarded as necessary, but as recent reports show that the plague is gradually creeping up the coast of Ecuador, and is now prevalent in towns much nearer Panama, it has been decided to apply the regulations to all vessels.

Sailing vessels arriving from Ecuadorian and Colombian ports will be remanded to the quarantine station for inspection and such treatment as may be required.

Fire Protection Changes at Cristobal.

Recent changes for increased fire protection in the Cristobal-Colon district include the installation of a 2-way standpipe near the main office on Dock 13, connected with the 6-inch main recently laid for the purpose of filling barges with water, to be hauled to Toro Point; improving the road between the north entrance to Mount Hope storehouse and dry dock shops; filling the space between the railroad tracks along the south approach to the Mount Hope dry dock and the carpenter shop to the level of the track, to allow the automobile fire engine to be driven to the water's edge in case its use should be required for fire fighting or for pumping out vessels; the placing of sufficient standpipes and 600 feet of fire hose at a central location at Coco Solo Point in connection with which a flat car, equipped with skids so as to be ready for hauling the automobile fire engine to the point, will be spotted on the siding south of the Cristobal corral; a new cement culvert and fill in place of a condemned wooden bridge across the drainage ditch back of the nurses' quarters, Colon Hospital, in the road leading to the wireless and quarantine stations; the repair of roads and crossings generally; and the repair of small hose houses at Mount Hope.

The water pressure in case of fire has been greatly improved by the two 300-horsepower, electrically driven fire pumps in the new Mount Hope pumping station.

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American Institute of Electrical Engineers.

The next regular meeting of the Panama section of the American Institute of Electrical Engineers, will be held in the Commission clubhouse in Gatun on Tuesday evening, March 10, at 7.15 p. m.

Papers will be presented on the subject of "Lock illumination of the Panama Canal," and the tests thereof. A demonstration of typical lighting will be given at the locks. It is planned to illuminate the entire upper lock, as well as a typical stretch of operating tunnel and machinery rooms.

Return train to Panama, connecting with the Bas Obispo shuttle train, will leave Gatun at 9.45 p. m.

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Obituary.

Mrs. M. A. Sherman died at the home of her daughter, Mrs. G. A. Howard, in Cristobal, on Wednesday, February 25, aged 70 years. She was a widow, was born in Eastport, Maine, and had been on the Isthmus one year and six months. Four children, Mrs. W. H. Knowles of Buckeye, Texas, Mrs. G. A. Howard of Cristobal, Mr. C. E. Sherman of Quincy, Mass., and Mr. W. C. Sherman of Lawrence, Mass., survive her. The interment will be at Eastport.

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Rainfall, Feb. 1 to Feb. 28, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	.01	16&25	.02
Balboa	......	......	......
*Miraflores	......	......	......
Pedro Miguel	.04	16	.07
Rio Grande	.16	22	.25
Central Section—			
Culebra	.13	22	.20
*Camacho	.20	22	.33
Empire	.13	22	.27
Gamboa	.18	22	.23
*Juan Mina	.29	22	.38
Alhajuela	.18	22	.22
*El Vigia	.20	22	.51
Frijoles	.61	1	1 33
*Monte Lirio	.85	1	1 55
Atlantic Section—			
Gatun	.49	1	1.07
*Brazos Brook	.20	16	.94
Colon	.65	1	1.32
Porto Bello	.58	1	2 20
†Bocas del Toro	2.62	18	5.97

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight. †Standard rain gage—readings at 8 a. m., daily.

COMMISSION CLUBHOUSES.

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Activities of the Young Men's Christian Association.

GENERAL.

The schedule for moving pictures for the week March 9 to 14 is, as follows: Monday, Pedro Miguel; Tuesday, Cristobal and Balboa; Wednesday, Culebra; Thursday, Gatun; Friday, Corozal and Porto Bello; Saturday, Empire.

Films to be shown at the clubhouses March 2 to 7 are, as follows: "Amateur lion tamer;" "Still voice" in two reels; "Stolen melody;" "Bunny's birthday surprise;" "Perilous ride;" "Cupid through keyhole." Films to be shown at the clubhouses March 9 to 14 are, as follows: "Leopard tamer;"—"Tattle battle;" "His father's deputy;" "Just gold;" "Right-of-way;" "Highbrow love;"—"Trimmer trimmed;" "Widow of Nevada;" "Counsellor Bobby."

The standing in the all-Isthmian duckpin bowling tournament is, as follows:

Team.	*Won.*	*Lost.*	*P. C.*
Empire	7	2	.778
Culebra	7	5	.583
Cristobal	3	3	.500
Pedro Miguel	4	5	.450
Gatun	4	8	.333
Corozal	3	6	.333

BALBOA.

The pool tournament will close on Saturday night, March 14. The standing of the men so far is, as follows: First, S. T. Smith; second, W. Skinner; third, H. Ashton.

A pressing club will be started for the benefit of the members on Monday, March 2, with the following rates: Two suits (inside of 30 days), $1; four suits (inside of 30 days), $1.50; single suits, nonclub rates, $1.

On Friday night, March 6, special moving pictures will be shown at the local clubhouse consisting of the feature films "Ivanhoe" in three reels, and "Tigris" in four reels. Special music will be furnished by Mr. G. A. Howard of Balboa.

COROZAL.

High scores in bowling for the week ending Saturday, February 28 were, as follows: Owens, 100, 100; Simms, 108, 103; Seebt, 100, 101; Regan, 100; Davis, 103; Steele, 100; Parkis, 101.

The first Pedro Miguel-Corozal Isthmian bowling tournament games resulted in the following scores on Wednesday, February 25:

Pedro Miguel	429	477	459
Corozal	441	452	454

The results of the "Ragtime" finals were, as follows: Two high games, Davis and Simms, 428; second two high games, Parkis and Taylor, 424; high average, Parkis, 94 for 54 games; high score, Parkis, 120.

PEDRO MIGUEL.

A number of people have already joined the Spanish classes, which are instructed by Mr. Fred Renauld of Corozal. The classes have been arranged, as follows: Beginner's class from 7.30 to 8.30 p. m.; advanced class from 8.30 to 9.30 p. m.

The total membership reported for the month of February is 136.

The attendance at Sunday school for the first Sunday in March was 46, the largest since its organization.

Several of the people of Pedro Miguel have expressed a desire to learn to swim, and as opportunity allows, lessons will be given at the regular swimming place at the lower end of the Lock. Those wishing to learn to swim can arrange with the secretary for free lessons.

Two large doors are being constructed to complete the background for the handball court in the gymnasium. As soon as these are ready, all that care to play handball are invited to come out in the evenings, or afternoons. If sufficient interest is aroused in the game, a handball league will be started.

CULEBRA.

High scores in duckpins for the week are, as follows: Cornthwaite, 101; Fitzpatrick, 105; Perkins, 103, 101; Brown, 100; Barnes, 115, 103; Case, 117.

The Culebra chess team played the Empire team on Friday, February 27, winning four games and losing two games.

On Saturday evening, March 7, the Empire basketball team will play an exhibition game with the Gatun team at Gatun.

On Saturday night, February 28, the local team won two out of three games in the all-Isthmian tournament from the Pedro Miguel team. Scores:

Pedro Miguel.				*Culebra.*			
Orr	83	84	91	DeCora	84	91	72
Whiston	96	101	107	Barnes	83	90	90
Vandeburg	97	88	86	Kiernan	122	79	91
Bartho'mew	77	95	79	Chadbourne	95	85	101
Dougherty	93	94	82	Case	93	95	107
Totals	446	462	445		477	440	461

EMPIRE.

Empire won three games of duckpins from the Gatun team on Saturday evening, February 28. Scores:

Empire.				*Gatun.*			
Barrett	90	101	91	Claherty	84	87	112
King	94	97	103	Delancey	75	70	75
Sims	89	87	97	Furlong	103	80	104
Potter	80	100	104	Walsh	81	83	94
Gustaveson	94	92	89	Dumville	86	71	78
Totals	447	477	484		429	391	463

The next tournament game will be played at Corozal on Saturday, March 7.

GATUN.

The boys' group athletic contest, which was started on January 19, ended on February 25. The boys whose names appear first and second in each group receive gold and silver medals, respectively.

Juniors.	
Griffith, Essex	920
Hansen, Paul	888
Sisson, Franklin	709
Midgets.	
Loulan, Francis	980½
Christian, Wm	851⅓
Claherty, Chas	831¾
Pentz, David	757⅓
Neville, David	720
Kuller, John	709½
Twitchell, James	658¾
Stevenson, Branson	652
Cucuel, Alfred	618
Carkeet, John	557
Witt, Morris	556¾

Culebra won three straight games from Gatun on the latter's alleys. On Wednesday evening, February 25, Gatun's totals were 420, 453, 438. Culebra's totals were 485, 482, 455.

Mr. B. B. Dumville and Mr. J. T. Smith have been appointed members of the executive council of the Gatun association.

Motion pictures of the gymnasium activities of the clubhouse were taken on February 28.

The last four nights of this week will be devoted to the celebration of the fourth anniversary of the Gatun Y. M. C. A.

CRISTOBAL.

The single folks bowling tournament held on Monday, February 23, resulted in the following scores:

G. R. Farr and Miss C. Mathews	496
W. Russell and Miss M. Stevens	481
W. Scheid and Miss B. Larcom	466
D. Raymond and Miss E. Mathews	448
E. H. Nash and Miss R. Farrell	432
J. Gill and Miss L. Cotton	431
Ernest Cotton and Miss Ida May Glawson	429
A. Gibson and Miss A. Larson	412
N. Drew and Miss E. Bevington	398

About 40 men attended the discussion club meeting on Thursday night, February 26, to hear Mr. E. M. Keyser talk on volcanoes and earthquakes. Mr. Keyser had prepared charts to illustrate his address. He mentioned particularly the San Francisco, Messina, and local earthquakes. He also explained the manner of recording earth tremors by the seismograph instruments at Ancon. Owing to the moving pictures on Thursday night, Judge Feuille addressed the discussion club on Tuesday, March 3.

Colonel Rothwell of the Salvation Army will deliver a lecture on General Booth, on Wednesday, March 11. No admission will be charged. The general public is invited to attend.

A "Father and son" supper will be given to members of the boys' department, and all other boys of Cristobal and Colon Beach who attend, on Friday night, March 13. No boy can attend without his father; no father can attend without his son. After the fathers and sons have been given an opportunity to entertain, Mr. Richard L. Metcalfe, Head of the Department of Civil Administration, will give a talk to the boys.

The members of the boys' and girls' gymnasium classes, about 70 in all, gave an exhibition in marches, races, folk dances, etc., to permit of a motion picture being taken, on Saturday afternoon, February 28.

PORTO BELLO.

The final standing in the pool tournament is, as follows:

Name.	*Won.*	*Lost.*	*P. C.*
Baker	8	1	.888
Colberg	7	2	.777
King	7	2	.777
Thompson	5	3	.744
Ransbottom	5	4	.555
Doyle	4	5	.444
Bradberry	4	5	.444
Woolworth	3	6	.333
Chase	1	8	.111
Cummings	0	9	.000

Baker won the gold medal, while Colberg and King tied for second place. On the playoff, King defeated Colberg and won the silver medal.

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Married.

DECORA-LAMBERT—On Sunday, February 15, 1914, at Hot Springs, Ark., Miss Estelle Gaines Lambert of Hot Springs, Ark., to Mr. J. Guy DeCora of Plattsburg, N. Y. Canal Zone residence, Culebra.

OFFICIAL CIRCULARS.

Conduct and Efficiency Ratings.

CULEBRA, C. Z., February 25, 1914.

CIRCULAR No. 309-S:

In order that the service record of an employe may show a conduct and efficiency rating for each position he has occupied, or each class of work performed, it is directed that "General conduct" and "General workmanship" be shown on each transfer slip (C. E. 277-1) and each application for increase of pay or change of rating (C. E. 160-1) issued henceforth.

On the "Transfer slip" (form C. E. 277-1), it should be shown under the caption "Remarks."

On "Application for increase of pay" (form C. E. 160-1), it should be shown in the blank space immediately under the name of the employe in those cases where the rating or designation of the employe is to be changed, or his pay increased.

H. F. HODGES,
Acting Chairman.

Chief Clerk, Commissary-Subsistence Department.

CRISTOBAL, C. Z., March 1, 1914.

CIRCULAR No. 501:

To chief stewards, commissary storekeepers, and office employes—Effective March 1, 1914, Mr. C. M. Bullard is appointed chief clerk of the Commissary-Subsistence Department, vice Mr. W. F. Shipley, resigned.

F. O. WHITLOCK,
Acting Subsistence Officer.

Assistant Chief Clerk, Commissary-Subsistence Department.

CRISTOBAL, C. Z., March 2, 1914.

CIRCULAR No. 502:

To chief stewards, commissary storekeepers, and office employes—Effective March 1, 1914, Mr. Homer W. McCally is appointed assistant chief clerk of the Commissary-Subsistence Department.

F. O. WHITLOCK,
Acting Subsistence Officer.

Board of Local Inspectors.

ANCON, C. Z., March 3, 1914.

The Board of Local Inspectors will conduct examinations at the Administration Building, Ancon, on Wednesday, March 11. 1914, beginning promptly at 2 p. m., for persons desiring to secure the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for license must procure from the Executive Office, Ancon, forms of application and information respecting the filling out of same, not later than the day previous to the examination. In addition, all persons desiring chauffeurs' licenses must provide themselves with automobiles with which to demonstrate their ability to properly operate the same.

NOTE—The demonstration test for applicants for chauffeurs' licenses will be given on Tuesday, the day preceding the regular examination, at 2 p. m., at the Administration Building, Ancon; on Wednesday, the day of the regular examination, for out-of-town applicants, at 2 p. m., at the Administration Building, Ancon. No demonstration tests will be given at Cristobal, except by appointment.

HUGH RODMAN,
Chairman, Board of Local Inspectors.

Interlocking Plant at Summit Out of Service.

PANAMA RAILROAD COMPANY,
COLON, R. P., February 27, 1914.

G. S. BULLETIN No. 49:

All concerned—The interlocking plant at Summit will be placed out of service at 8 a. m., on Monday, March 2, 1914, and the south end of double track moved 90 feet farther north and controlled by a main line switch until such time as the interlocking is rebuilt and put in service.

F. MEARS,
General Superintendent.

Signal Change at Paraiso Cabin.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., March 3, 1914.

G. S. BULLETIN No. 52:

All concerned—The manual block signals at Paraiso cabin will be placed out of service at 6.30 a. m., Wednesday, March 4, 1914, and changed to upper quadrant. During the time changes are being made, the operator will display red and yellow flags in lieu of the usual signal aspects.

F. MEARS,
General Superintendent.

Signal Changes at Bridge 57½, P. R. R.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., March 3, 1914.

G. S. BULLETIN No. 51:

All concerned—Beginning at 6.30 a. m., Thursday, March 5, 1914, the home and manual block signals at Bridge 57½ will be changed to upper quadrant.

During the time changes are being made, the operator will display red and yellow flags in lieu of usual manual block signal aspects, and all trains entering the interlocked limits will be governed by proceed hand signals, while fixed signals are inoperative; these to be given with a yellow flag in accordance with rule No. 330.

F. MEARS,
General Superintendent.

Interlocking Plant, West Leg, Balboa Wye.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., March 3, 1914.

G. S. BULLETIN No. 50:

All concerned—The interlocking plant at west leg, Balboa wye will be placed in service at 10 a. m., Sunday, March 8, 1914.

All routes will be controlled by home and dwarf signals and all conflicting points protected by derails.

F. MEARS,
General Superintendent.

Balboa-Frijoles Labor Train.

BALBOA, C. Z., February 25, 1914.

TRANSPORTATION BULLETIN No. 62:

Effective Friday, February 27, 1914, the schedule of the Balboa-Gamboa labor train, Nos. 102 and 123, will be extended to Frijoles, No. 102 arriving at Frijoles at 6.50 a. m., and No. 123 leaving there at 4.30 p. m., making the necessary stops between Frijoles and Gamboa cabin to accommodate the transmission line employes.

W. J. HOLMES,
Superintendent of Transportation.

Sale of Launch Hull.

OFFICE OF CHIEF QUARTERMASTER,
CULEBRA, C. Z., March 2, 1914.

Sealed proposals will be received at this office until 3 p. m., Tuesday, March 17, and then opened, for the purchase of the hull of the launch *La Zona*. Full information relative to size and condition can be secured upon application to the storekeeper at Balboa, at which point the launch is open for inspection. Proposals must be accompanied by certified check, postal money order, or cash for five per cent of the amount bid. Proposals should be marked "Proposals for purchase of launch hull", and addressed to Capt. R. E. Wood, Chief Quartermaster. Culebra, C. Z.

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Supplies for the Canal.

The following steamers, with supplies for the Isthmian Canal Commission and Panama Railroad Company, arrived at the ports of Colon and Cristobal during the two weeks ending February 28, 1914:

Ancon, February 15, from New York, with 17 cases rolling steel shutters, five boxes and 11 reels copper wire, 10 reels copper cable, for Mechanical Division; 40 bundles steel angles, for administration building, Balboa; 13 kegs bolts, 123 pieces structural steel, 37 cases valves, four kegs bolts and rivets, 61 pieces pipe and fittings, three cases electrical material, 93 crates roofing tile and cement, for Division of Municipal Engineering; 25 boxes structural steel, for Panama Railroad Company; 41 packages chain fender material, one towing locomotive, 246 cases electrical material, for First Division; 22 packages crane material, 14 packages armament, for fortifications; 15 crates oars, 250 kegs wire nails, 14 bales rubber packing, 1,824 bales hay, 13 cases paint, 125,988 bags cement, for stock; and a miscellaneous cargo, the whole consisting of 1,270,225 packages, weighing 6,495 tons.

Heredia, February 16, from New Orleans, with 241 pieces untreated piling, 34 pieces treated piling, 126 packages wheelbarrows, 41 bales waste, 251 bales hay, eight packages tires, for stock.

Emil L. Boas, February 16, from New York, with 24 bales Jamaican hay, for stock.

Abangarez, February 16, from New Orleans, with 125 pieces oak lumber, for Mechanical Division; 748 bales hay, for stock.

Panama, February 18, from New York, with 250 crates roofing tile, 94 cases electrical material, 146 pieces structural steel, for First Division; 15 boxes drugs, for Sanitary Department; 400 boxes paint, for Panama Railroad Company; four reels copper cable, 51 cases electrical material, 23 boxes electrical material, for Mechanical Division; 54 packages structural material, 41 pieces structural steel, for Division of Municipal Engineering; 110 bundles reinforcing bars, for fortifications; 17 pieces pipe, for Dredging Division; 20 bundles tire wire, 926 crates fire brick, 25 crates lead pipe, 120 cases signal oil, 25 cases paint, 378 kegs and 62 boxes bolts and nuts, 92 drums lubricating oil, 201 barrels brick, for stock; and a miscellaneous cargo, the whole consisting of 3,525 pieces, weighing 378 tons.

Almirante, February 18, from New York, with 66 rolls wire cloth, for permanent buildings; 22 cases steel shutters, for Mechanical Division; one motor boat, for Dredging Division; 15 cases varnish, 31 boxes hose, for stock.

Tivives, February 20, from Boston, with one package diving apparatus, one box electrical material, for First Division; one box electrical material, for Mechanica' Division.

Pastores, February 21, from New York, with 370 packages electrical material, for First Division; 35 rolls wire cloth, for permanent buildings; 34 cases paint, 2,200 kegs wire nails, for stock.

Parismina, February 23, from New Orleans, with 301 pieces untreated piling, for stock.

Orubian, February 23, from Liverpool, with four pieces dredge buckets, for Dredging Division.

Prinz Joachim, February 23, from New York, with 29 kegs sherardized bolts, for First Division; 58 kegs rivets, 100 kegs boat spikes, for stock.

Allianca, February 24, from New York, with 325 bags sawdust, 75 barrels plaster, for permanent buildings, Balboa; 90 crates roofing tile, 15 crates valves, 41 pieces structural steel, for Division of Municipal Engineering; four reels cable, 32 cases steel shutters, 25 pieces castings, for Mechanical Division; 15 cases electrical machinery, 90 crates roofing tile, for First Division; six cases pumping machinery for Atlantic Division; 174 barrels brick, 20 kegs chalk, 13 reels cable, 270 pieces steel angles, bars, and plates, 210 pieces steel angles, bars, etc., 12 boxes bronze rods, 200 cases lubricating oil, 20 packages plumbing material, 45 packages galvanized boilers, 30 packages paint, for stock; and a miscellaneous cargo, the whole consisting of 1,975 pieces, weighing 238 tons.

Aztec, February 24, from San Francisco, with five packages machinery, 15 bales rubber dredge sleeves for Dredging Division; one box cardboard mounts for Fourth Division.

Santa Marta, February 26, from New York, with 30 barrels wall tile, 75 barrels wall tile, for permanent buildings, Balboa; 12 bales rubber hose, 29 bales life preservers, 29 bales wool waste, for stock.

Turrialba, February 26, from New York, with 37 pieces oak lumber, 248 pieces yellow pine car lumber, 12 boxes electrical material, for Mechanical Division; 14 boxes shot trucks (armament), for fortifications; 370 sacks dairy feed, eight packages paint, 248 pieces untreated piling, 48 pieces oak lumber, 87 rolls cotton duck, 596 pieces pipe and fittings, for stock.

Sixaola, February 27, from Boston, with one box diving apparatus, one box electrical motor parts, for First Division.

Tenadores, February 28, from New York, with six boxes erection material, 72 boxes chain fender material, for First Division; eight crates steel pulleys, for Mechanical Division; 15 bundles plain wire, for Division of Municipal Engineering; five bundles wire, for permanent buildings, Balboa; 126 bundles galvanized pipe, for stock.

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Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes, for the week ending midnight, Saturday, February 28, 1914. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.				
	Vigia	Alhajuela	Gamboa.	Gatun Lake	Miraflores Lake
Sun., Feb. 22	125.2	91.6	84.9	84.9	52.4
Mon., Feb. 23	125.4	91.9	84.8	84.9	52.3
Tues., Feb. 24	125.2	91.7	84.7	84.8	52.2
Wed., Feb. 25	125.1	91.5	84.8	84.8	52.2
Thurs., Feb. 26	125.1	91.6	84.8	84.8	52.1
Fri., Feb. 27	125.0	91.5	84.8	84.8	52.1
Sat., Feb. 28	125.0	91.0	84.8	84.8	52.0
Height of low water, to nearest feet	125.0	91 .	44.0		

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Tide Table.

The following table shows the time of high and low tides at Panama for the week ending March 14, 1914:

DATE.	High	Low	High	Low
	A.M.	A.M.	P.M.	P.M.
March 8	......	6.17	12.28	6.52
March 9	12.54	7.23	1.34	7.52
March 10	1.57	8.18	2.28	8.45
March 11	2.50	9.08	3.14	9.32
March 12	3.37	9.53	4.00	10.16
March 13	4 21	10.37	4.42	11.00
March 14	5.04	11.20	5.23	11.43

75th meridian time.

COMMISSARY DEPARTMENT.

The commissary stores are open during the following hours:

Cristobal, 8 a. m., to 12.30 p. m., and 2 to 7 p. m.
Balboa, 8 a. m. to 12.30 p. m., and 2.30 to 7 p. m.
Ancon, 8 a. m. to 1 p. m., and 3 to 6 p. m.
All others, 8 a. m. to 1 p. m., and 3 to 7 p. m.

Retail prices of cold storage provisions for the week beginning March 1, 1914:

FRESH MEATS.

	Price.
Mutton—Stewing, per pound	7
Shoulder, neck trimmed off (4 pounds and over), per pound	9
Entire forequarter (not trimmed, 10 pounds and over), per pound	8
Legs (8 to 10 pounds), per pound	17
Cutlets, per pound	18
Short cut chops, per pound	20
Lamb—Stewing, per pound	8
Entire forequarter, neck trimmed off, per pound	10
Legs (5 to 8 pounds), per pound	20
Chops, per pound	24
Cutlets, per pound	24
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	17
Chops, per pound	26
Loin, for roasting, per pound	26
Cutlets, per pound	30
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	8
Plate, per pound	9
Corned, No. 1, per pound	14
Corned, No. 2, per pound	12
Chuck roast, (3 lbs., and over), per pound	12
Rib roast, second cut (not under 3½ pounds), per pound	16
Rib roast, first cut (not under 3 pounds), per pound	18
Pot roast, per pound	19
Rump roast, per pound	19
Porterhouse roast, per pound	20
Steak, chuck, per pound	12½
Round, per pound	13
Rib, per pound	18
Sirloin, per pound	19
Rump, per pound	19
Porterhouse (not less than 1½ pounds), per pound	20
Tenderloin (Western), per pound	30
Pork—Hams, fresh, per pound	§20
Loin chops or roast, per pound	19
Shoulders, fresh, per pound	§17
Spare ribs, per pound	15
Backbones, per pound	15
Pigs' feet, each	7
Pigs' heads, whole	60
Pigs' heads, ½-head	30
Sausage, home made, per pound	20

MISCELLANEOUS.

Livers—Beef, per pound	11
Calf, each	60
Half, each	30
Steak, Hamburger, package	13
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Devonshire Farm, per pound	22
Sweetbread, beef, per pound	25
Eggs, fresh, per dozen	*34
per ½-dozen	*17
Bluefish, per pound	*10
Halibut, fresh, per pound	10
Salmon, per pound	10
Roe shad, each	75
Shad roes, per pair	40
Oysters, per quart	28

POULTRY AND GAME.

Chickens—Fancy roasting, milk fed, large, each	1.40
Fancy roasting, milk fed, med., each	1.10
Fancy roasting, corn fed, about 5½ pounds, each	1.25
Fancy roasting, corn fed, about 4½ pounds, each	1.00
Fowls, each	††60, 70, 80, 90, and 1.00
Ducks, Western (about 4½ pounds), each	1.25
Capons, about 8½ pounds, each	3.00
Broilers, milk fed, each	70
Broilers, corn fed, each	60
Turkeys, per pound	25
Squabs, each	50
Ducks, Teal, each	40
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30

CURED AND PICKLED MEATS.

	Price.
Ham—Real York and Cumberland, per pound	37
Genuine Westphalia, per pound	40
Sugar cured, per pound	20
Sliced, per pound	22
Half, (for boiling), per pound	21
Boiled, per pound	28
Hocks, per pound	18
Beef, salt, family, per pound	12
Bacon, breakfast, whole piece, per pound	25
Sliced, per pound	26
Ham, lunch, per pound	32
Pork, salt, family, per pound	14
Ox tongues, each	1.00
Pigs' feet, per pound	7
Tongues, per pound	18

DAIRY PRODUCTS.

Butter—Creamery special, per pound	*36
Sheffield Farms, extra fancy, per lb.	46
Cheese—Philadelphia cream, cake	10
Roquefort, per pound	35
Young America, per pound	22
Swiss, per pound	28
Edam, each	75
Edam, tin	25
Parmesan, per pound	35
Gouda, per pound	30
Snappy, per cake	10
Milk (certified), per bottle	**20
Fer-mil-lac, per bottle	**20
Ice cream, quart	‡25
½-gallon	‡50
Cream (certified), per pint bottle	45

VEGETABLES AND FRUITS.

Beets, per pound	3
Celery, per head	9
Cabbage, per pound	3½
Cucumbers, per pound	12
Carrots, per pound	3
Cauliflower	7
Green onions, per pound	8
Lettuce, per pound	6
Onions, per pound	†4
Potatoes, white, per pound	3
Potatoes, sweet, tropical, per pound	2
Yams, per pound	3
Parsley, per bunch	4
Parsnips, per pound	3½
Squash, per pound	5
Turnips, per pound	*2½
Tomatoes, per pound	†10
Spinach, per pound	8
Apples, per pound	6
Cranberries, per pound	9
Grape fruit, American, each	8
Tropical, each	4
Lemons, per dozen	15
Limes, per hundred	80
Pineapples, Cuban, each	10
Oranges, Jamaican, per dozen	12
Tangerines, each	2

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*Indicates reduction from last list.

**Indicates five cents allowed for return of bottle.

†Indicates advance on last list.

††Fowls weigh each, about, as follows: 3, 3½, 4, 4½, and 5 pounds. Prices are based accordingly; when size ordered is not in stock, next lightest weight is supplied and refund note sent for difference.

‡Sold only from commissaries; no orders taken for delivery.

§Not less than half of a fresh ham or shoulder will be sold.

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Misdirected Letters.

Ancon, C. Z., March 2, 1914.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressees:

Bernard, A.
Bourne, E. F.
Brennan, Thomas L.
Bryan, Samuel H.
Colburn, C. R.
Cole, C. B.
Cummings, Chas. A.
Cunningham, Henry H.
Damon, Mrs. Jessie F.
Edwards, E.
Francis, G. H.
Glaze, H.
Gilmour, Wm. D.
Girroir, Miss Alice
Green, Alfred
Green, R.
Henry, J. J.
Hickox, Mrs. A. B.
Jackson, Mrs. A. B.
Jacobs, A.
Kerruish, M. L.
Landraham, H. B.
Logan, Frank
Lovell, Cassius
McLaughlin, Mrs. E. J.
McLean, Miss Annie
Mardon, W. M. C.
Million, George
Nicholson, M. J.
Peterson, Harley
Protsman, William
Socz, Walter A.
Stanley, A. M.
Stewart, V. A.
Storm, C. M.
Travers, Chas. E.
Turboville, F. B.
Whitaker, Mrs. Lydia

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Movement of Vessels, Port of Balboa.

The following ships arrived at, or departed from, the port of Balboa during the week ending February 28:

Arrivals—February 23, *Pachitea*, from Callao; February 25, *Aztec*, from San Francisco; February 25, *Aysen*, from Valparaiso.

Departures—February 22, *Pleiades*, to San Francisco; February 23, *Huallaga*, to Callao; February 23, *Manavi*, to intermediate ports; February 23, *San Juan*, to San Francisco; February 23, *Guatemala*, to Callao.

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Cows for Sale.

Ancon Hospital,
Ancon, C. Z., February 10, 1914

For sale at the Ancon Hospital dairy, four cows suitable for butchering. May be seen at the dairy any afternoon from 3 to 5 o'clock, and can be sold at private sale.

Chas. F. Mason,
Superintendent

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.

		Sails.	*Arrives.*
*Advance	P. R. R.	Mar. 2	Mar. 9
*Panama	P. R. R.	Mar. 9	Mar. 15
*Allianca	P. R. R.	Mar. 14	Mar. 20
*Colon	P. R. R.	Mar. 20	Mar. 26
*Advance	P. R. R.	Mar. 26	April 2
*Panama	P. R. R.	April 2	April 8
*Colon	P. R. R.	April 14	April 20
*Advance	P. R. R.	April 20	April 27

CRISTOBAL TO NEW YORK.

†Colon	P. R. R.	Mar. 8	Mar. 14
†Advance	P. R. R.	Mar. 14	Mar. 21
†Panama	P. R. R.	Mar. 21	Mar. 27.
†Allianca	P. R. R.	Mar. 26	April 1
†Colon	P. R. R.	April 1	April 7
†Advance	P. R. R.	April 7	April 14
†Panama	P. R. R.	April 14	April 20
†Allianca	P. R. R.	April 20	April 26

NEW YORK TO COLON.

*Metapan	U. F. C.	Feb. 25	Mar. 4
Orotava	R. M.	Feb. 28	Mar. 9
Prinz Aug. Wilhelm	H.-A.	Feb. 28	Mar. 9
*Calamares	U. F. C.	Feb. 28	Mar. 7
*Zacapa	U. F. C.	Mar. 4	Mar. 11
Prinz Sigismund	H.-A.	Mar. 7	Mar. 17
*Pastores	U. F. C.	Mar. 7	Mar. 14
*Almirante	U. F. C.	Mar. 11	Mar. 18
Tenadores	U. F. C.	Mar. 14	Mar. 21
Prinz Joachim	H.-A.	Mar. 14	Mar. 23
*Santa Marta	U. F. C.	Mar. 18	Mar. 25
Prinz Eitel Friedrich	H.-A.	Mar. 21	Mar. 31
Calamares	U. F. C.	Mar. 21	Mar. 28
*Metapan	U. F. C.	Mar. 25	April 1
*Pastores	U. F. C.	Mar. 28	April 4
Prinz Aug. Wilhelm	H.-A.	Mar. 28	April 6
Tagus	R. M.	Mar. 28	April 6

COLON TO NEW YORK.

Santa Marta	U. F. C.	Mar. 5	Mar. 12
Calamares	U. F. C.	Mar. 8	Mar. 18
Prinz Eitel Friedrich	H.-A.	Mar. 9	Mar. 18
Metapan	U. F. C.	Mar. 12	Mar. 19
Pastores	U. F. C.	Mar. 15	Mar. 25
Prinz Aug. Wilhelm	H.-A.	Mar. 17	Mar. 25
Tagus	R. M.	Mar. 17	Mar. 25
Tenadores	U. F. C.	Mar. 22	April 1
Prinz Sigismund	H.-A.	Mar. 23	April 1
Almirante	U. F. C.	Mar. 26	April 2
Calamares	U. F. C.	Mar. 29	April 8
Magdalena	R. M.	Mar. 31	April 7

NEW ORLEANS TO COLON.

*Turrialba	U. F. C.	Feb. 21	Feb. 26
Cartago	U. F. C.	Feb. 25	Mar. 6
*Abangarez	U. F. C.	Feb. 28	Mar. 5
Heredia	U. F. C.	Mar. 4	Mar. 9
*Atenas	U. F. C.	Mar. 7	Mar. 12
Parismina	U. F. C.	Mar. 11	Mar. 18

COLON TO NEW ORLEANS.

‡Turrialba	U. F. C.	Mar. 5	Mar. 10
‡Cartago	U. F. C.	Mar. 7	Mar. 13
‡Abangarez	U. F. C.	Mar. 12	Mar. 17
Heredia	U. F. C.	Mar. 12	Mar. 19

BOSTON TO COLON.

Sixaola	U. F. C.	Feb. 19	Feb. 27
Carrillo	U. F. C.	Feb. 26	Mar. 6
Tivives	U. F. C.	Mar. 5	Mar. 13
Sixaola	U. F. C.	Mar. 12	Mar. 18

COLON TO BOSTON.

Carrillo	U. F. C.	Mar. 8	Mar. 16
Tivives	U. F. C.	Mar. 15	Mar. 23
Sixaola	U. F. C.	Mar. 22	Mar. 30

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 2 p. m.; for Southampton, on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays and Saturdays at 3 p. m.; ships for New York, via Kingston, on Thursdays at 2 p. m.; for New York, via Limon and Havana, on Sundays at 5 p. m.; for Limon and Bocas del Toro, on Tuesdays at 3 p. m.; for Bocas del Toro direct, on Mondays at 5 p. m.; and for Boston, on Sundays at 3 p. m.

Hamburg-American steamers sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays; the *Prinz August Wilhelm* and *Prinz Joachim* at 10 a. m.; the *Prinz Sigismund* and *Prinz Eitel Friedrich*, at 2 p. m.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, MARCH 11, 1914. No. 29.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each, to all gold employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

"Miraflores Locks" Flag Station.

The committee of representatives of the Panama railroad, the Division of Municipal Engineering, the First Division, and the landscape architect, which met at Miraflores passenger station on February 25 to consider the location of an alighting platform and the abandonment of the present station, has recommended that an alighting platform for both north and southbound trains be constructed at a point about 1,000 feet south of Miraflores tunnel, or approximately 1,800 feet from the present station. This point is opposite the Miraflores power plant, and affords the readiest access of passengers to the power plant, Miraflores Locks and spillway, and the new purification plant on the hill overlooking the spillway. The pumping station on the edge of Miraflores Lake, just east of the present station, can be reached by a walk of from 10 to 15 minutes.

The recommendations of the committee have been approved, and the construction of alighting platforms on both sides of the double track, each six feet wide by 300 feet long, has been begun by forces of the Panama railroad. This point will be a regular stop for labor trains, and a flag stop for all passenger trains. A signboard, reading "Miraflores Locks," is to be erected alongside. The alighting platform will be made a stop, and the Miraflores passenger station abandoned, when the new platforms are ready.

Moving into Balboa Shops.

The office and drafting forces of the Mechanical Division completed their moving from Empire to Balboa shops on February 24 and 25; the moving of the shops proper, and of employes and machines, has been a gradual consolidation since the abandonment of Gorgona shops, and is still under way. At the time of the reoccupation of Empire shops, beginning in August, 1913, two steam hammers. a flue rattler, and certain milling machines planers, air brake equipment, and locomotive cranes were transferred there from Gorgona shops; the rest of the Gorgona equipment was transferred direct to Balboa shops, or placed in storage. Most of the machinery now at Balboa shops was so handled, or is new; relatively little of that recently in use at Empire shops has yet been moved. The car and locomotive shops and the instrument repair shop are still at Empire.

On January 31, there were 277 gold employes of the Mechanical Division at Empire shops, and 274 at Balboa; on March 9, there were 350 gold employes at Balboa shops, and 205 at Empire. Practically all of the force from the Cristobal car and paint shops has been transferred recently to Balboa, about 35 gold employes having moved to date. The roundhouse and engine shops at Cristobal are yet in operation for the benefit of locomotives of the Panama railroad, to handle hostling and minor repairs.

Collier "Cecil" Overdue.

The collier *Cecil*, sailing under the Norwegian flag, and chartered by the Earn Line, which sailed from Norfolk, or Newport News, Va., on February 23, at 3 p. m., with 5,400 tons of coal consigned to the Panama Railroad Company, had not been heard from up to Wednesday afternoon, March 11, at which time the vessel was considerably overdue. It has been making trips to the Isthmus for some time past, and its run usually takes from eight and one-half to nine days.

Word from the "Gamboa."

Word has been received that the tug, with the new dipper dredge *Gamboa* in tow, left Guantanamo, Cuba, where it had put in to coal, on Sunday, March 8. Providing the vessels encounter fair sailing weather, they should arrive at Cristobal about March 14, or 15. So far as known, Charleston, S. C. was the only other stop made, besides Guantanamo.

Must Purchase Their Own Tools.

A ruling was placed in effect on February 1, requiring all linemen and wiremen in the Mechanical Division employed at a rating of 44 cents an hour, or greater, to purchase their own tools on and after that date. It was made optional with them either to purchase the Canal Commission tools then in their possession, or to obtain them elsewhere. The ruling applies to tools of the two employments, as follows:

Wiremen—One tool bag; one set wood bits; one ratchet brace; one 2-pound soldering copper; one claw hammer; one pair pliers, gas; two pairs pliers, S. C., 6 and 8-inch; one 6-inch rule; three screwdrivers, 3, 6, and 10-inch; one blow torch; one 8-inch monkey wrench; and one 14-inch pipe wrench.

Linemen—One tool bag; one belt; one ratchet brace; one 2-inch wood chisel, firmer socket; one splicing clamp; one Haven's clamp; one pair climbers; one hacksaw frame; one ball pein hammer; one claw hammer; one pair pliers, S. C., 8-inch; one 6-inch rule; one hand saw, crosscut; two screwdrivers, 6 and 10-inch; one carpenter's square; one safety strap; one Howe's tool, or jack strap; one lag screw wrench; and one monkey wrench.

Site for Station at Paraiso Selected.

Anticipating the use of the pontoon barge, now under construction, in place of bridge No. 57½ as the means of crossing the Canal at Paraiso, a committee selected on March 5 a site for a station for the village of Paraiso. Access to the east abutment of the pontoon crossing is through a cut, and it was decided that the most desirable situation was the level ground at the south end of this cut. This is approximately opposite the Paraiso machine shop. The committee consisted of the heads of the Panama railroad, the Dredging Division, the Quartermaster's Department, and the Division of Posts, Customs, and Revenues.

Camp Bierd Swamp Reclamation Completed.

The reclamation of the swamp east of Camp Bierd, on the north limit of Cristobal, was finished on March 10, and pipeline suction dredge *No. 83* is now discharging all its spoil in the fill for the Atlantic entrance coaling plant. The driving of piles to support the foundation of the Cristobal transformer substation, to be situated on the Camp Bierd fill, has begun, and materials are at hand for the advancement of the work of construction. It is anticipated that more fill will be pumped into the area after the substation erection is under way.

Submarines in Dry Dock in Gatun Locks.

The submarines *C-1*, *C-2*, *C-3*, *C-4*, and *C-5*, comprising the First Division of the submarine flotilla of the United States Navy, which has been stationed at Cristobal since December 12, 1913, were placed in dry dock in the east chamber of the upper level of Gatun Locks on Monday, March 9.

The five vessels, each 105 feet long by 16 feet in maximum beam, were lashed together in one rank, side by side, and handled in a group. The movements of the group were controlled by means of four towing lines, two attached forward and two aft, each line being handled by from 10 to 12 seamen of the division, walking on the lock walls.

The draft of the vessels in salt water is 14 feet. The floor of the intermediate level of Gatun Locks is 13⅔ feet below sealevel, and the chambers may be filled to that depth with sea water. In order to avoid unnecessary operations of gates and valves, the lower gate of the middle level was thrown open directly after the operating gate at the lower end of the lower level was closed, making one chamber, 2,000 feet long; this was filled a few feet and the vessels were towed into the intermediate level. The lower gate of this chamber was then closed, and the chamber was filled to a level sufficient to float the vessels into the upper level and in place over the cradles which had been prepared on the floor. The lower gate of the upper level was then closed and the water was let out slowly through the culverts under the floor, allowing the vessels to settle into place in their respective cradles. In the upper east chamber, the shorter, or 400-foot section, was used.

The tender *Severn*, on which the crews of the submarines mess and sleep, was lifted to Gatun Lake and moored along the east side of the upper approach wall of the locks on Sunday, March 8. Being without motive power, it was handled by the tug *Porto Bello*, which towed dredge *No. 4* on the return trip through the locks. The dredge was placed in the Cristobal dry dock on Wednesday, March 11.

Pleasure Trips on Gatun Lake.

A daily sightseeing and pleasure trip is made by the motor boat *Louise* from Gamboa to Gatun in the forenoon, and from Gatun to Gamboa in the afternoon, every day except Sundays.

The boat leaves Gamboa station at 8.40 a. m., arriving at Gatun in three hours. On the return trip, it leaves Gatun station at 2 p. m., arriving at Gamboa, three hours later.

For the morning trip take the 7.30 a. m. trains, either from Colon or Panama, to Gamboa.

For the afternoon trip take the 11 a. m. trains, either from Colon or Panama, to Gatun, get lunch at Gatun, and take the boat at 2 p. m., arriving at Gamboa in time to connect with the afternoon trains north and south.

The trip covers one of the most picturesque parts of the Canal, and this part of the waterway has been spoken of as the "Hudson of the tropics."

The *Louise* carries 25 passengers with comfort, and the number of tickets is accordingly limited to that number for each trip.

The cabin and after deck are shaded and cool; ice water is provided, comfortable wicker and folding chairs, and a toilet; this boat is Government licensed, and inspected, and carries the safeguards required by law.

Tickets should be procured in advance at the Panama railroad stations at Panama or Colon, or may be obtained at Gamboa or Gatun station, if trip is not sold out. Tickets, $1.50, U. S. currency, each,

Lock Illumination.

Nearly 100 people were in attendance at the meeting of the Panama Section of the American Institute of Electrical Engineers, held at the Commission club in Gatun, on Tuesday evening, March 10. An interesting paper was read by Mr. F. C. Clark, assistant superintendent of erection, on the subject of the lock illumination of the Panama Canal. He was followed by Mr. S. H. Grauten, testing engineer at Gatun Locks, who, with the aid of a series of diagrams, explained recent tests made to determine illuminative values of the lamps on Gatun Locks. At the conclusion of the meeting, at 8.30, the audience under the guidance of the chairman of the section, Mr. Edward Schildhauer, was taken to the locks, where the control house was visited, and a practical demonstration made of the operating of the lighting system from the lighting control board, which is situated in the same room with the control board for operating the locks. The visitors were next conducted through a section of the operating tunnel and some of the machinery rooms in the west wall. The control house, central and west lock walls, a typical stretch of the operating tunnel, and the west emergency dam, were all especially illuminated for the occasion. The members and visitors from the line left for home on a special train at 9.45 p. m.

Civil Service Examinations.

Examinations for the following-named positions are scheduled to be held, probably on April 19: Agricultural inspector, Philippine Service; aid, Lighthouse Service; assistant observer, Weather Bureau; cadet engineer, cadet officer, Lighthouse Service; civil engineer and draftsman; copyist ship draftsman, ship draftsman; Navy Department; mechanical draftsman, topographic draftsman, Isthmian Canal Service; engineer, Indian Service (steam engineering, heating, etc.); junior engineer (mining), Bureau of Mines; junior engineer (civil), junior engineer (mechanical or electrical), Engineer Department at Large; scientific assistant, Department of Agriculture; teacher, Indian Service; trained nurse, all services; wireman, nonapportioned Departmental Service.

Applications for the abovenamed examinations will not be received in this office after March 25; this date may be changed if necessary. Applications should be secured from and filed with this office. In requesting information, the kind of examination desired should be specifically mentioned.

Women will be admitted to examinations for scientific assistant, teacher, and trained nurse.

The examinations will be held, probably at Empire, in the Commission clubhouse, but the place of examination, and also the date, should be omitted in application forms.

A card of admission will be sent to those found eligible to be admitted, just before the examination.

In answer to questions as to residence, applicants must show residence in a State or Territory of the United States, and county thereof, up to the time of filing application.

ISTHMIAN CIVIL SERVICE BOARD.

CULEBRA, C. Z., March 7, 1914.

Civil Service Examinations.

In a letter dated February 25, the Civil Service Commission has advised this office that, owing to the lack of funds for printing, it has been unable to prepare papers for the spring examinations. The examinations announced to be held next Sunday, March 15, will, therefore, not be held. As soon as the papers for those examinations are received in this office, cards of admission will be sent to those found eligible to be admitted.

ISTHMIAN CIVIL SERVICE BOARD.

CULEBRA, C. Z., March 9, 1914.

Society of the Chagres.

On account of the resignation from the Isthmian Canal Commission service of Mr. W. F. Shipley, secretary-treasurer of the Society of the Chagres, Mr. Homer W. McCalley, whose address is Subsistence Department, Cristobal, is hereby temporarily appointed acting secretary-treasurer of the Society of the Chagres, and as such all mail should be addressed, it being understood in this connection that in case Mr. Shipley remains on the Isthmus, he will retain his position of secretary-treasurer of the society; but to facilitate business until arrangements are made, Mr. McCalley will act as temporary secretary-treasurer.

R. E. WOOD, *President.*

CULEBRA, C. Z., March 7, 1914.

Dedication of Baptist Church.

On Sunday and Monday, March 15 and 16, the newly completed Baptist church building in Guachapali will be dedicated, and a series of services held, at which there will be special speakers. The speaker on Sunday afternoon, March 15, will be Chief Justice Gudger; the meeting will be at 3 o'clock. In the evening, at 7.15, the Rev. Mr. Hardwick, superintendent of the Wesleyan Methodist missions in the Canal Zone and Panama, will preach.

Steamshovel Operations by the Fourth Division in February.

During the month of February, the total amount of material excavated by the Fourth Division in Culebra Cut, and in the Miraflores spillway, was 152,695 cubic yards. All of this amount was primary excavation for the Canal; 60,478 cubic yards were classified as earth excavation, and 92,217 cubic yards as rock excavation. In addition thereto, the Fourth Division excavated at Cocoli Hill 20.570 cubic yards for backfilling at Miraflores Locks.

All the yardage handled by this division was excavated by steamshovels.

Postal Savings Bank Transactions.

A statement of postal savings transactions at Canal Zone post-offices for the month of February, follows:

OFFICE.	Amount issued.	Amount paid.
Ancon	$14,528.00	$ 9,761 00
Balboa	17,903.00	12,217.00
Bas Obispo	....	160 00
Corozal	25,087 00	20,090 00
Cristobal	12,430 00	10,247.00
Culebra	5,294 00	5,309 00
Empire	12.007.00	10.057.00
Gatun	14,048 00	9,967.00
Las Cascadas	2,225.00	1,098.00
Paraiso	8,482.00	4,758 00
Pedro Miguel	6,816 00	5,273 00
Cristobal, Station A	1,633.00	126 00
Cristobal, Station B	1,383.00	725.00
Total	$121,836.00	$89,788 00
Balance on hand, February 1, 1914	$563,728 00	
Deposited during month	121,836.00	
Withdrawn during month	....	89,788 00
Balance on hand, March 1, 1914	....	595,776.00
	$685,564.00	$685,564.00

Ancon Crusher.

Following is a statement of rock crushed at Ancon quarry during the week ending March 7:

DATE.	Hours worked.	Cubic yards.
March 2	0.40	200
March 3	6.50	2,552
March 4	8.25	2,548
March 5	8.20	2,725
March 6	8.05	2,347
March 7	8.25	2,161
Total	38.45	12,533

The regular dance of the Cristobal Dancing Club will be held on Saturday, March 14, at the Commission clubhouse.

CONVENTION OF WOMEN.

Meeting of Federation of Societies for Christian Work in the Canal Zone.

About 50 women attended the first convention of the Panama federation of societies of women for Christian work, which was held in the Commission chapel at Empire, on Friday afternoon, March 6, the ladies' auxiliary to the Empire Christian League acting as the hostess organization. Five societies were represented, as follows: The Women's Foreign Missionary Society of the Methodist Episcopal Church at Panama, the Fidelity Bible Class of Empire, the ladies' aid of the Union Church, Cristobal, the ladies' auxiliary to the Empire Christian League, and the altar guilds of Christ Church, Colon, and St. Luke's Hospital chapel, Ancon.

On the arrival of the train, at 1.03 p. m., the visitors were served with a luncheon in the chapel, and at 1.45, the meeting was called to order by the president of the federation, Mrs. J. H. Stokoe. An address of welcome was delivered by the chairman, in which she outlined the purpose of the meeting, and asked the earnest attention of those present to the papers to follow.

An interesting feature of the program was the part devoted to the reports of the five federated societies, a brief summary of which is given herewith.

The Cristobal Ladies' Aid, represented by Mrs. Butters, was organized in 1909, and has been active in connection with the work of the Union Church since that time. Its object is to aid in the work of the Cristobal Union Church, to unite the women of Cristobal and Colon for Christian work, to further the spirit among the women of the church by meetings, and to keep in touch with the missionary and social work that is being carried on in the Christian churches throughout the world. The meetings for the year have been devoted to the study of missionary work in Japan, China, Mexico, Hawaii, and the Philippines. During the meeting at which China was the subject, the society was addressed by two young Chinese merchants of the city of Colon. The society has forwarded two boxes to Miss Annie Coope, the American missionary to the San Blas Indians.

Mrs. Kelley read the report of the ladies' auxiliary to the Empire Christian League. The general outline of the work of this society shows it to be an active factor in the lives of the members, and in the life of the community. The auxiliary was organized in January, 1911, with 12 charter members. Meetings were held until 1913 on the first and third Tuesdays in each month; the first meeting in the month was devoted to the study of missions, with lessons from a text book, and the second meeting to some special branch mission work, with Bible study and devotional exercises. Speakers from outside were present at some of the meetings, among them being Miss Blackmore, an independent missionary, who has been stationed in Nicaragua for many years; Miss Elise Keyser, deaconess in the Lutheran Church; the Rev. Harry Compton, pastor of of the Methodist Episcopal Church at Panama; and Mrs. Stephen Witt of Gatun, at one time missionary in Costa Rica. The society holds a thankoffering meeting in November each year, and special programs are given at that time. It is also a practice of the organization to hold public meetings once or twice each year. Since 1913, the auxiliary has held only one meeting monthly, owing to the fact that several of the members are also enrolled in the adult Bible class, which holds one meeting monthly. On October 25, 1912, a missionary convention was held in Empire at the call of the ladies' auxiliary, this being the first convention of women engaged in church work to be held in the Canal Zone.

The adult Bible class, organized under the title of Fidelity Bible Class, has been in existence since September 13, 1913. The class was organized on that date at the home of Mrs. Homer Smith, with 20 charter members. Officers are elected semiannually. The class conducts its studies at the regular sessions of the Union Sunday school, and holds a social meeting on the second Tuesday in each month. At these meetings, there is a program, followed by a social session, and occasionally, light refreshments. Besides the regular officers, president, vice-president, secretary, and treasurer, there is a teacher, or leader, in the work of the class and three committees, visiting, social and lookout. The class instituted a cradle roll for the Sunday school, and carried on the work for one year, when it was turned over to the management of the Sunday school. Flowers and messages are sent to the sick in their homes and in Ancon hospital by the visiting committee. A sum of money has been donated for missionary work, a gramophone has been presented to the patients in the Palo Seco leper colony, and the receipts of a Christmas sale held in the Commission clubhouse in December, 1913, were devoted to the relief of several destitute families which the lookout committee discovered in Empire. The subject of study is the women of the Bible. Mrs. Homer Smith is the leader.

Mrs. Compton, president of the Woman's Foreign Missionary Society of the Methodist Episcopal church at Panama, told of the work of that organization. The Panama society is an auxiliary to the Baltimore branch of the Woman's Foreign Missionary Society of the Methodist Episcopal Church, with which all similar societies in South America are connected. Regular meetings of the local society are held monthly at the homes of members. During the past year, the attendance at these meetings has averaged about eight. It was at the initiative of this society that the Panama federation of church societies was formed. A special effort for the year was the furnishing of playground equipment for the pupils of the mission school in the seawall church, Panama. The society expended $60 for this purpose, and also supports a scholarship in the school. The women assisted in the work of the evangelist, Mr. Taylor, who visited the Isthmus recently. In October, a lecture was given by Bishop Stuntz in the seawall church under the auspices of the society. At the meeting on October 4, Mrs. Stuntz spoke on the work of the Woman's Foreign Missionary Society in South America.

The report of St. Luke's Altar Guild, Ancon Hospital chapel, was given by Mrs. Trask. This guild was organized on December 2, 1907, by the Ven. Archdeacon Henry B. Bryan, then chaplain of Ancon Hospital and rector of St. Luke's chapel, with 15 charter members. The special work of the guild is caring for the altar and the church, and through its efforts, St. Luke's chapel, which was opened in 1908, is thoroughly furnished and equipped for the proper conduct of the services of the church. Special gifts at Christmas to Ancon Hospital, work for various charitable institutions as recommended by the chaplain, or the members, and local philanthropic work, have been some of the guild's efforts. The membership is 26. There are three charter members remaining in the organization.

Mrs. Mears, representing the altar guild of Christ Church, Colon Beach, drew attention to its unique character; it is a society of American and English women, which operates in a church, the congregation of which is composed almost exclusively of West Indians, the exception being a few English and American worshippers. The guild cares for the altar and chancel, and the vestments, as its natural function, and acts as an auxiliary to the parish priest. The corporate communion is held once a month, and following this, a business meeting is held in the vestry room of the church. The tangible results of this guild are seen in the permanent cement altar, which was consecrated by Bishop Knight at his last visitation in 1913, a credence table, and the renovation of the church interior, prior to January 1, 1913. The guild is also assisting the congregation to discharge the debt on the organ that was installed last year.

After the conclusion of the reports, Mrs. Thomas Edwin Brown, Jr., delivered the first address of the afternoon. Her subject was social service in its relation to Christian effort. Mrs. Brown quoted largely from the specific efforts along the line of hygiene and sanitation, and told of work that is being done toward relieving the crowded quarters of the poor in many of the cities.

Mrs. H. A. A. Smith, in speaking on the federation, outlined briefly the nature of the organization and expressed the hope that meetings similar to that in which the women were engaged would be held from time to time for the purpose of bringing the women together in the unity of Christian spirit.

The following is the program in full:

Welcome to visitors.......Mrs. Stokoe, chairman of the federation.
Hymn..........................The congregation
Devotional exercises ....Mrs. Stephen Witt
Solo...."Nearer my God to Thee," Mrs. E. M. Keyser
Business—
Report of the secretary.
Announcements.
Reports of societies—
  Cristobal ladies' aid..................Mrs. Butters
  Empire auxiliary.....................Mrs. Kelley
  Empire Fidelity Bible Class........... Mrs. Ash
  Panama W. F. M. S.................Mrs. Compton
  Ancon St. Luke's Altar Guild...........Mrs. Trask
  Colon Christ Church Altar Guild.......Mrs. Mears
Solo...........................Mrs. W. J. Keenan
Character recitation, "A Chinese mother-in-law"..... Mrs. Goolsby
Address, "Social service"..Mrs. Thomas E. Brown, Jr.
Solo, "Perfect day"..............Mrs. Frank Roberts
Address—"The federation......Mrs. H. A. A. Smith
Report of the resolutions committee ....
Hymn..........................The congregation
Benediction ....Mrs. E. H. Sobey

A resolution was adopted extending thanks to the Empire auxiliary, and the Fidelity Bible Class, for their entertainment; to the singers and speakers who assisted in the program, and to the Panama Railroad Company for granting transportation to the societies for the convention.

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The building formerly used as a garage for the motor car assigned to the Atlantic Division has been turned over to the Mechanical Division for use as an electrical repair shop. This building is situated on the east backfill of Gatun Locks, near the station of the Panama railroad, and is to be removed in June, or July, in the progress of the landscape work for beautifying the vicinity of the locks.

BALBOA PUBLIC BUILDINGS.

Sites for Most of Them have been Selected and are now Available.

The committee, consisting of Civil Engineer H. H. Rousseau, chairman; Capt. R. E. Wood, Lieut. Frederick Mears, and Mr. W. L. Phillips, appointed to consider sites for the proposed permanent public buildings at the new town of Balboa, has submitted its report and recommendations. As a basis, the committee took the layout of the streets and roads that has received general approval, with the main axis of the town passing through the center of the administration building site on the north, and the location tentatively recommended for the new clubhouse on the old Balboa road, on the south. The following groups, or classes of groups, will be served by the buildings considered by the committee:

(a) Employes quartered on Ancon Hill in the rear of the administration building.

(b) Employes in the administration building.

(c) Employes in the present Commission settlement, east of Balboa.

(d) Employes to be quartered on the slopes of Ancon Hill.

(e) Employes connected with Balboa shops and piers.

(f) Employes that may be quartered on the flat between Ancon and Sosa Hills.

(g) Passengers arriving and departing from the railroad station at the foot of the administration building.

(h) Silver employes, living at La Boca, to be served by the commissary and post-office.

Clubhouse Plaza was considered the central point most convenient to serve the foregoing, and the adoption of a central axis along Balboa Prado was recommended. The grouping of the public or semipublic buildings along this axis will, it was believed, result in economy of operation by reducing foot and team travel to a minimum.

Certain locations are not available as building sites at the present time. In general, these are in the area filled in hydraulically, the material in which has not yet hardened sufficiently, and certain areas at present occupied by yard or construction tracks, which cannot be moved for several months to come. Blocks B, H, and I fall under this head, and for the above reason, these blocks were tentatively recommended by the committee for assignment as general athletic and recreation grounds, as it was considered that this was the best use that could be made of them.

The following building sites were considered by the committee, all of them being free of tracks, with the exception of the site for the proposed schoolhouse in Block E:

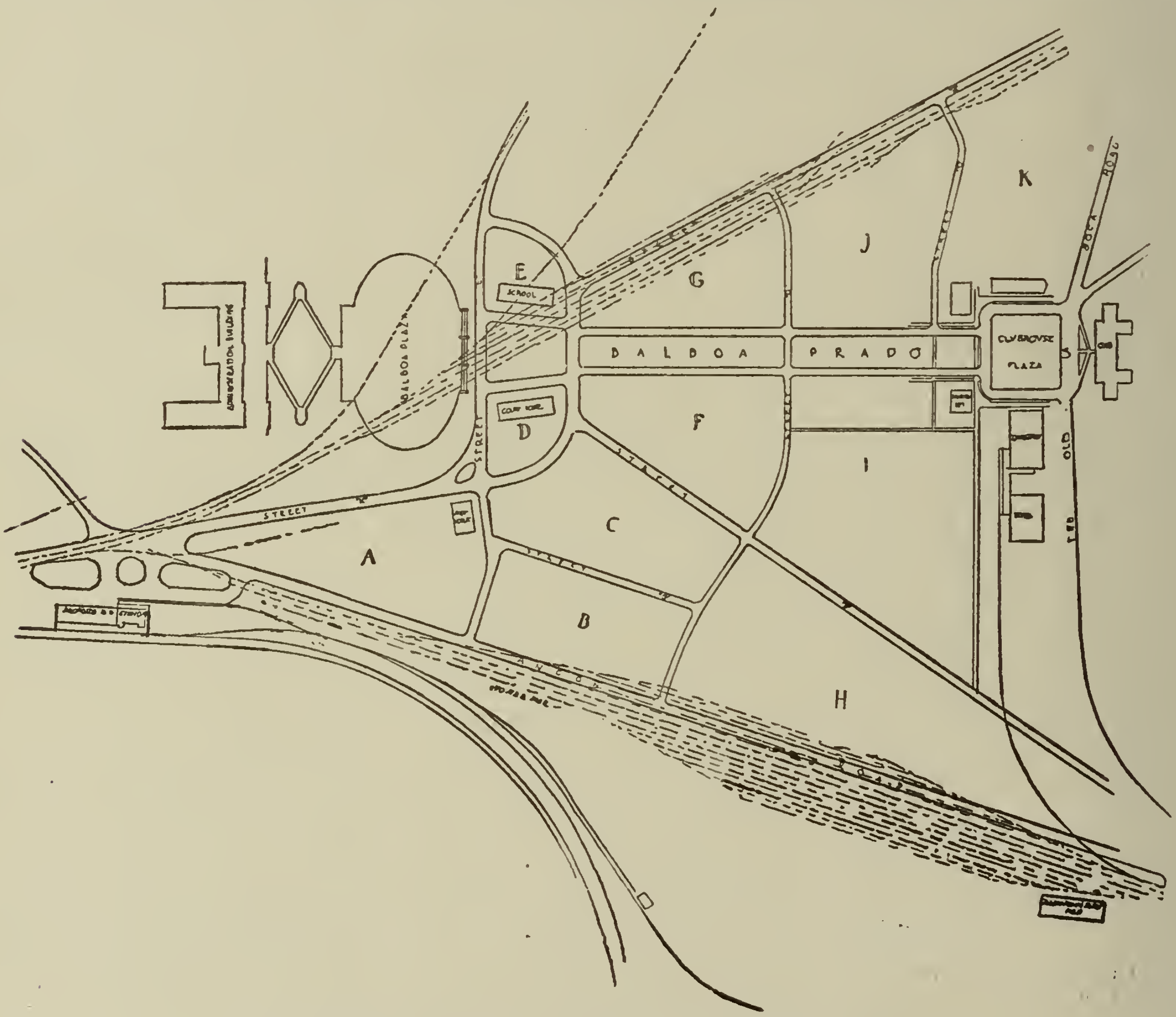
The recommended site for the Balboa railroad station is at the foot of Administration Hill, situated so that the passenger platform will not be on the curve. The main line tracks with reference to the roundhouse and the roundhouse tracks are fixed, so that work on this building can be started at any time.

The site for the permanent fire station is in Block A. This brings it near the quarters on Ancon Hill, which will consist largely of frame buildings reerected from along the line. Work on the new station may be begun at any time.

The site of the courthouse for the combined use of the magistrate's court and police station is in Block D, and erection of the building can be proceeded with.

The schoolhouse for children of gold employes is to be situated in Block E. If desired, ground may be had in the rear of the schoolhouse for recreation purposes. Work on this building cannot be started until the yard and construction tracks at present on the site are removed, which will be, probably, within a few weeks.

The Sanitary Department recommended that the building for use of the sanitary inspector be located in Block I, adjoining Clubhouse Plaza, and that the building to be used as a dispensary and as an office for the district physician be located in Block K, also adjoin-



Plan of Balboa Townsite, Showing Location of Public and Semipublic Buildings.

ing Clubhouse Plaza. The committee endorsed this recommendation, and both sites are immediately available.

The site recommended for a permanent post-office building adjoins Clubhouse Plaza, in Block K. The site is ready, but it is intended to use the present post-office at Balboa as long as possible.

The proposed site for the clubhouse adjoins Clubhouse Plaza, on the south side of the Balboa road; it is ready for building on at any time.

Two locations were considered for the hotel and the commissary, which, it was recognized, should be in fairly close proximity, and should be served by a track in the rear. The site suggested by the Subsistence Department is on the old La Boca road, adjoining Clubhouse Plaza, and is available at once. It is in the vicinity of the post-office and clubhouse, and about equally distant from the new shops, railroad station, and administration building; in case quarters are built along Balboa Prado, the site will be especially convenient to them. The sole objection to this location is the fact that the track serving the buildings must cross the old La Boca road and Street B. Upon the completion of quarry operations at Sosa Hill, however, the road may be cut back considerably to enable the direction of Street B, or the old La Boca road, or both, to be so shifted as to have them intersect in one railroad crossing, which will reduce the objection one-half. The alternative location considered is in the vicinity of the railroad station, i. e., in Block, A, or between Block A and the railroad station, but the first-mentioned site was regarded by the committee as the most advantageous.

Blocks F, G, J, and C are considered to be especially adapted to any additional bachelor quarters that may be required.

The location of the buildings as recommended by the committee, makes it desirable, in its opinion, that Ancon road, Street K, and Street A, as being main lines of traffic, should be of the same width as the old La Boca road, namely 24 feet. The recommendations of the committee, in general, have been approved by the Chairman and Chief Engineer.

Order of Isthmian Conductors.

The next regular meeting of the Order of Isthmian Conductors will be held in Ancon lodge hall on Sunday, March 15, at 9.30 a. m. All members are requested to be present as matters of importance will be brought up for final disposition.

PERSONAL.

Lieut.-Col. Tracy C. Dickson, Ordnance Department, U. S. Army, has resigned from the position of inspector of shops, effective March 6, 1914, to enable him to comply with orders from the War Department detaching him from duty with the Isthmian Canal Commission, and assigning him to the command of the Sandy Hook Proving Ground at Sandy Hook, N. J. He sailed for the United States on the United Fruit Company's steamer *Cartago* on Saturday, March 7.

He entered the Military Academy in June, 1888, from what is at present the Twelfth Congressional District of the State of Texas, and was graduated in 1892. Upon graduation, he was assigned to the Second Regiment of Artillery, and, in 1894, won an appointment in the Ordnance Department as a result of a competitive examination. He served at the Springfield Armory, Springfield, Mass., at the Rock Island Arsenal, Rock Island, Ill., as assistant to the Chief of Ordnance in his office in Washington, D. C., at the Sandy Hook Proving Ground, and as a member of the Ordnance Board.

When he assumed the duties of inspector of shops, the Pacific Division was operating its own shops at Balboa and Cocoli; the Central Division was operating the Empire shops and making field repairs to steam-shovels; the Atlantic Division was operating the dry dock and shops at Mount Hope, and the repair shop at Gatun; the Quartermaster's Department was operating the planing mill at Lirio, and the Panama Railroad Company was operating the railroad shops and roundhouse in Cristobal, and the engine house in the railroad yard at Panama. In pursuance of the policy of concentration for economic reasons adopted in 1908 by Colonel Goethals, Chairman and Chief Engineer, some of the shops operated by the various departments and divisions were closed, and the remaining shops were transferred to the Mechanical Division, which has since operated all shops and maintained in operating condition all mechanical equipment, with the exception of the Panama railroad roundhouse at Cristobal and the engine house at Panama, which are also to be transferred to the Mechanical Division on April 1. He consolidated all mechanical work in connection with the construction of the Canal, under the Mechanical Division, with the exception of the small shops at Toro Point and Porto Bello.

In addition to his jurisdiction over all shops and mechanical equipment, Lieut.-Col. Dickson, under the direction of Mr. H. H. Rousseau, Assistant to the Chief Engineer, laid out the Balboa shops, and was charged with the designing work connected therewith. The foundry, planing mill, carpenter shop, and pattern shop were transferred last August from Gorgona to Balboa shops, and the construction of the buildings and installation of the machines, power systems, etc., had reached a stage of completion that permitted the transfer of work from the Empire shops, and from the car shops at Cristobal, to the Balboa shops to be begun on March 2.

Fourth Degree, Knights of Columbus.

The fourth degree of the Knights of Columbus will be exemplified in Cristobal, on Saturday, March 28. Brothers who have not already signified their intention of taking this degree must communicate at once with the undersigned. All notices and instructions in connection with this degree will be mailed direct to applicants.

J. L. Kerr,
Temporary Master, Fourth Degree.

Cristobal, C. Z., March 9, 1914.

Record of Recent Seismic Disturbances.

Slight seismic disturbances were recorded on the Ancon seismographs on February 24. The first lasted from 1.07 to 1.11 p. m.; the distance was indeterminate, the amplitude recorded, .2 millimeter. A second lasted from 4.34:10 to 4.52 p. m.; the epicenter was at a distance of 565 miles, in an indeterminate direction from the instrument, and the amplitude of the record was three millimeters on the north-south, and two millimeters on the east-west component.

In all, there were recorded at Ancon during February, 22 distinct seismic disturbances. All except two of these shocks were of slight intensity. Movements recorded on the 7th and 10th were of sufficient intensity to be generally felt over the Isthmus. (Intensity II or III, Rossi-Forel scale). Fourteen of the 22 shocks recorded during the month seemed to originate approximately 115 miles southwest of Ancon, in the vicinity of the province of Los Santos.

Knights of Columbus.

A first and second degree is announced by Panama Council for Sunday, March 22, at 9.30 a. m., in the Ancon lodge hall. Candidates from Cristobal Council may take the degrees by arranging with the financial secretary, Mr. J. V. Delgado, not later than Saturday, March 21. The third degree will be exemplified in Cristobal on March 29. A banquet in honor of the visiting degree team will be given by Knights and their ladies on Sunday, March 29. A special return train will be provided for members coming from line points.

Bachelor Quarters in Tivoli Annex.

Two of the four annex buildings of the Hotel Tivoli have been turned over to the Quartermaster's Department, effective March 1, for 90 days, for use in quartering bachelors transferred from Empire, in connection with the transfer of force and equipment from Empire shops to Balboa shops, now in progress.

Consistory Masons.

Cable advice just received from Gus D. Levy, Grand Master of the Kadosh, Grand Consistory of Louisiana, states that a reunion of Ancient and Accepted Rite Masons will be held on the Isthmus, beginning March 26, 1914, and that Grand Commander Richardson of the Supreme Council, Southern Jurisdiction of the United States at Washington, D. C., will accompany the party to the Isthmus. It is contemplated that the degrees from the fourth to the thirty-second will be conferred on upward of 100 candidates. The exact date of holding the reunion will be communicated by the general committee.

Sand Shipments.

The Punta Chamé sand service was discontinued on February 11. From the second to the 11th of the month, inclusive, 14 barge loads, containing 7,450 cubic yards of sand, were received at the Balboa wharf. The loading of cars in the sand service at Balboa was discontinued on February 13, and from the first of the month up to the latter date, 113 cars, containing 2,089 cubic yards of sand, where shipped. Sand is now obtained from the stock pile at the south end of Miraflores Locks.

Church Notes.

The ladies' auxiliary to the Empire Christian League will hold a public meeting in the chapel on Sunday morning, March 15. The subject for this meeting is "The new America," as outlined in a missionary study text book. There will be special music, and an exercise by the children of the Sunday school. The offering taken will be for special missionary work in the Canal Zone.

The weekly service on Wednesdays at 5 p. m., at St. Luke's Hospital chapel, will continue throughout Lent. The services of the church on Sundays are, as follows: On the first and third Sundays in the month, divine service, with celebration of the Holy Communion, at

10 a. m.; on the second and fourth Sundays, celebration of the Holy Communion at seven a. m., and morning prayer, with litany and sermon, at 10 a. m. Since the establishment of the church on January 3, 1908, the doors have always been open, and those desiring to spend time in private devotions are welcome to enter at any hour in the day or evening. Library hours are Wednesday afternoons from 4.30 to 5 o'clock.

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Shrine Ceremonial.

Jerusalem Temple, A. A. O. N. M. S. of New Orleans, La., has been granted a dispensation to hold a ceremonial on the Isthmus, by the imperial potentate, Noble William W. Irwin, who visited the Isthmus with Osman Temple on last Labor Day, when a shrine ceremonial was conducted in Miraflores Locks. Jerusalem Temple will hold its ceremonial soon after the closing of the consistory reunion, and full details of the ceremonial will be furnished by the general committee, which is expected to arrive on the Isthmus, March 19.

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The steam launch *Louise* leaves the landing at Balboa for Taboga Island at 9.50 a. m., on Tuesdays, Thursdays, and Saturdays, and returns from there as soon as possible after the unloading and delivering of supplies.

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Rainfall, March 1 to March 7, 1914.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	0	......	0
Balboa	0	......	0
*Miraflores	0	......	0
Pedro Miguel	0	......	0
Rio Grande	0	......	0
Central Section—			
Culebra	T	Sev. dates	T
*Camacho	0	......	0
Empire	0	......	0
Gamboa	0	......	0
*Juan Mina	0	......	0
Alhajuela	0	......	0
*El Vigia	0	......	0
Frijoles	.04	2	.07
*Monte Lirio	.21	7	.21
Atlantic Section—			
Gatun	.12	2	.23
*Brazos Brook	.18	7	.52
Colon	.11	5	.26
†Porto Bello	.09	2	.11

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—value midnight to midnight. †To 5 p. m., March 6.

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February Rainfall for Three Years.

STATIONS.	1912	1913	1914	Station Av.	Years of record	Rai'y days, '14
Pacific Section–						
Ancon	.08	.22	.02	.76	16	2
Balboa	.18	.19	.00	.51	15	0
Miraflores	.34	2.49	.00	1.52	6	0
Pedro Miguel	.22	.07	.07	.79	7	2
Rio Grande	.33	.43	.25	.61	10	4
Central Section–						
Culebra	.33	.78	.20	.55	24	4
Camacho	.65	.44	.33	.71	8	4
Empire	.34	.79	.27	.54	9	6
Gamboa	1.11	.68	.23	.82	29	3
Juan Mina	.90	.94	.38	.90	4	6
Alhajuela	.33	.22	.22	.71	15	4
El Vigia	.62	.86	.51	2.08	6	7
Frijoles	3.01	3.03	1.33	2.46	3	9
Trinidad	1.15	1.80	1.16	2.46	7	12
Monte Lirio	3.32	2.52	1.55	3.69	7	4
Atlantic Section–						
Gatun	2.38	2.92	1.07	2.32	10	12
Brazos Brook	2.26	4.20	.94	2.37	8	11
Colon	1.81	1.75	1.32	1.47	44	13
Porto Bello	1.64	2.03	2.20	3.86	7	18

OFFICIAL CIRCULARS.

◆

Charge for Wrecking Crane at Dry Dock Shops.

CULEBRA, C. Z., March 7, 1914.

CIRCULAR No. 169-S:

The following rates will be charged for the service of the wrecking crane operated by the dry dock shops at Cristobal:

	Per hour.
For departments and divisions of the Commission and the Panama Railroad Company	$3.00
For individuals and companies	4.50

The above rates to cover operation of crane and salaries of engineer and fireman. If other labor is required, it should be charged for additionally, with the following surcharges:

Departments and divisions of the Commission and the Panama railroad—Gold labor, 25 per cent; silver labor, 10 per cent.

Individuals and companies—Gold labor, 40 per cent; silver labor 15 per cent.

H. F. HODGES,
Acting Chairman and Chief Engineer.

◆

Accountable Officer for Mechanical Division.

CULEBRA, C. Z., February 28, 1914.

CIRCULAR No. 529:

Mr. D. C. Nutting, superintendent of the Mechanical Division, is hereby designated an accountable officer of the Isthmian Canal Commission, effective March 1, 1914, and as such will make return for all property of the Mechanical Division for the period ending June 30, 1914.

H. F. HODGES,
Acting Chairman and Chief Engineer.

◆

Repairs Affecting Telephone and Signals Department, P. R. R.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., March 4, 1914.

G. S. BULLETIN No. 53:

All concerned—When it becomes necessary to make any changes in track, or alignment of track, within the limits of any interlocking plants, the telephone and signals department must be notified, in order that it may take care of its apparatus.

Should it be necessary to do any emergency work in any territory protected by a signal of any type, the signal must be allowed to assume its stop aspect, and must not be tied to its proceed position under any circumstances.

In the event emergency work must be done, immediate steps should be taken to notify the telephone and signals department, in order that repairs may be made at once, or the signal covered by bulletin and placed out of service temporarily.

F. MEARS,
General Superintendent.

◆

Change in Labor Train Schedule.

BALBOA, C. Z., February 26, 1914.

TRANSPORTATION BULLETIN No. 63:

Effective Monday, March 2, 1914, labor trains Nos. 136 and 137, I. C. C. timetable No. 1, will be annulled, and effective this date until further notice, labor trains No. 135 and 142 will run through to Empire on the following schedule, entering and leaving the Panâma railroad main tracks at Corozal station, on account of moving Empire shops to Balboa:

Southbound. 135 Leave	Station.	Northbound. 142 Arrive
A. M.		*P. M.*
5.55	Empire	5.57
6.00	Culebra	5.52
6.05	Rio Grande	5.47
6.18	Paraiso Junction	5.37
6.20	Pedro Miguel	5.34
6.29	Corozal	5.25
6.40	Yard office	5.15
6.42	Building 28	5.13
6.45	Building 2	5.10

These trains will not stop at Diablo and Miraflores

Schedule of train No. 128 will be set back five minutes, leaving East Balboa at 5.20 p. m., and arriving at Empire at 6.05 p. m.

W. J. HOLMES,
Superintendent of Transportation.

◆

Labor Train out of Corozal.

BALBOA, C. Z. March 3, 1914.

All Concerned—I have arranged to restore labor train, leaving Corozal at 6.10 a. m., and arriving at Balboa terminals at 6.20 a. m., effective, March 4, 1914.

W. J. HOLMES,
Superintendent of Transportation.

◆

LOST—Membership pin, American Society of Mechanical Engineers, presumably on February 27, either in administration building, Culebra, on train between Panama and Culebra, or between Tivoli Hotel and Panama railroad station, Panama. Finder please return to F. C. Nichols, Hotel Tivoli, Ancon, C. Z.

◆

Supplies for the Canal.

The following steamers, with supplies for the Isthmian Canal Commission and Panama railroad, arrived at the ports of Colon and Cristobal during the week ending March 7:

Cristobal, March 1, from New York, with 10 steel couplers, for Dredging Division; 120 cases electrical machinery, one electric towing locomotive, for First Division; six cases electrical machinery, for Mechanical Division; 50 bars steel for Quartermaster's Department; 70 rolls fence wire, for permanent buildings; 60,020 bags cement, 88,800 pounds coke, 220,500 pounds coke, 10 rolls copper wire, 12 barrels tar, 22 packages plumbing fittings, for stock; and a miscellaneous cargo, the whole consisting of 60,374 packages, weighing approximately 3,197 tons.

Prinz Eitel Friedrich, March 2, from New York, with one case electrical material, one case hardware, for stock.

Colon, March 3, from New York, with 98 crates roofing tile, for Division of Municipal Engineering, 75 barrels plaster, 755 bags sawdust, for permanent buildings; eight cases electrical machinery, for Mechanical Division; 525 bundles roofing paper, 110 barrels pitch, for Second Division; 46 bundles steel bars, 13 barrels electrical fixtures, for fortifications; 20 bundles galvanized wire, for Sanitary Department; 360 crates roofing tile, for First Division; 12 boxes stove polish, 34 boxes graphite, 20 boxes candles, 19 crates lead pipe, 10 bales rubber hose, 80 range boilers, 408 coils rope, 1,097 bales hay, 23 packages miscellaneous material, five crates lead pipe, 22 coils lead pipe, for stock; and a miscellaneous cargo, the whole consisting of 4,267 packages, weighing 305 tons.

Metapan, March 4, from New York, with 12 crates asbestos roofing, for fortifications; 186 rolls wire reinforcement, for permanent buildings; 429 pieces bridge iron, for Division of Municipal Engineering; four manganese steel bucket lips, for Dredging Division; two reels wire rope, 14 cases magnesia boiler lagging, 100 boxes concentrated lye, for stock.

Laila, March 4, from Philadelphia, with 2,491 cases explosives, for stock.

Abangarez, March 5, from New Orleans, with 668 pieces cast iron water pipe, for Department of Municipal Engineering; two boxes electrical material, 247 pieces yellow pine car lumber, for Mechanical Division; 13 packages armament material, for fortifications; 120 bags daily feed, four pieces ash lumber, for stock.

◆

Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes, for the week ending midnight, Saturday, March 7, 1914. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.				
	Vigia	Alhajuela	Gamboa.	Gatun Lake	Miraflores Lake
Sun., March 1	125.0	91.4	84.8	84.8	52.0
Mon., March 2	125.0	91.4	84.8	84.8	51.9
Tues., March 3	124.9	91.4	84.8	84.8	51.9
Wed., March 4	125.0	91.4	84.8	84.8	51.8
Thurs., March 5	124.9	91.4	84.8	84.8	51.8
Fri., March 6	124.9	91.3	84.8	84.8	51.7
Sat., March 7	124.9	91.3	84.8	84.8	51.7
Height of low water, to nearest feet	125.0	91.0	44.0		

◆

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending March 21, 1914:

DATE.	Low	High	Low	High
	A.M.	A.M.	P.M.	P.M.
March 15	......	5.47	12.03	6.06
March 16	12.27	6.30	12.47	6.48
March 17	1.12	7.14	1.34	7.36
March 18	2.02	8.06	2.26	8.27
March 19	2.58	9.04	3.29	9.29
March 20	4.06	10.20	4.44	10.52
March 21	5.24	11.51	6.06	......

75th meridian time.

◆

LOST—By Lady Gorell, about February 23, at Colon between the Hotel Washington and the Royal Mail pier, a red leather wallet containing valuables. Any one returning same, with contents intact, to the British Consul, Colon, will be suitably rewarded.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

Moving picture dates for the week March 16 to 21 are, as follows: Monday, Cristobal; Tuesday, Gatun and Balboa; Wednesday, Corozal; Thursday, Culebra; Friday, Empire; Saturday, Pedro Miguel.

Walter Eccles and the Four College Girls are due to arrive on the steamship *Panama* on March 15. The following is a schedule of their concerts at the various clubhouses: Monday, March 16, Corozal; Tuesday, Culebra; Wednesday, Empire; Thursday, Pedro Miguel; Friday, Cristobal; Saturday, Gatun; Monday, March 23, Balboa; Tuesday, Corozal; Wednesday, Empire; Thursday, Pedro Miguel; Friday, Culebra; Saturday, Porto Bello; Monday, March 30, Cristobal; Tuesday, Gatun.

The total membership of the clubhouses on February 28 was 1,785, which is the largest since October 31, 1913, when the total reached 1,794.

Special moving picture reels showing scenes enacted during the recent visit of the Shriners are expected shortly, and will be exhibited in the clubhouses.

The standing of the bowling teams, March 7, was, as follows:

	Won	*Lost*	*P. C.*
Empire	8	4	.667
Culebra	7	5	.583
Cristobal	5	4	.556
Pedro Miguel	6	6	.500
Corozal	5	7	.417
Gatun	4	8	.333

BALBOA.

About 100 people attended the moving picture show at the clubhouse last Friday night, which consisted of "Ivanhoe" a 3-reel feature film, and "Tigris" a 4-reel feature. Schaeffer and McMahon of Corozal furnished special music during the evening. This is the largest attendance, so far, at a moving picture show at the Balboa clubhouse.

W. Skinner is leading in the pool tournament which closes next Saturday night, having won six games and lost none. S. T. Smith, who was second, having won six games and lost one, is in the hospital.

Mr. Dewey of Gatun, the expert pool player, will play an exhibition game with two of the best Balboa players on Friday night, March 13, at 8 p. m. All the men of Balboa are invited.

There will be a checker tournament on Friday, March 13. Mr. Barte of Cristobal will undertake to play six players of Balboa at one time.

New records have been received for the phonograph.

A new oil stove have been received. Coffee and sandwiches will be served every day after 2 p. m.

COROZAL.

High scores in duckpins for the past week were, as follows: Davis, 110, 111; Parkis, 102; King, 119, 101, 119, 105; Sims, 109, 112; Reagan, 110; Ruggles, 108, 101; Webb, 113.

Corozal won two of the three games rolled with the Empire team on Thursday, March 5. The results were, as follows:

Empire.				*Corozal.*			
Barrett	101	89	108	Davis	90	91	84
King	89	96	88	Steel	85	120	95
C. Sims	95	90	97	A. Sims	79	83	88
Potter	91	101	108	Lowanda	105	97	85
Gustaveson	82	104	110	Parkis	100	107	94
	458	480	511		459	498	446

CULEBRA.

The following high scores were bowled during the week: Seeley, 115, 100, 105; Barnes, 100; Kiernan, 108; Ferguson, 100, 104; Schmeck, 100, 100; Case, 111, 101.

An extra moving picture show, with "Keystone" and "Bunny" films, was held on Wednesday, March 4.

PEDRO MIGUEL.

An order for new books has just been sent to the United States. Eighteen persons have joined the library to date.

The total membership is now 142. Sixteen of these are members of the boys' department. Of this total, only 30 are residents of Paraiso. It is expected that when the brake service is instituted many more of the Paraiso residents will join the clubhouse..

The pressing club will soon be in operation, when members may have their pressing done at the rate of $1 for two suits, or $1.50 for four suits, each month. Suits will be called for and delivered by the attendant. The rates for nonmembers is $1 a suit.

The first session of the class in first aid to the injured will be held under the leadership of Doctor Gibson, the district physician, on Friday evening, March 13. The course is free to all members, and consists of lectures on anatomy, physiology, hygiene, bandaging, and elementary first aid.

Fifteen representatives from the various towns on the Isthmus met at the local clubhouse on Sunday afternoon, March 8, to discuss the work of perfecting the organization of the Union Church of the Canal Zone. Residents of Pedro Miguel desiring to know more about this organization may obtain information from the Y. M. C. A. secretary. For those residing in Paraiso, information can be obtained from Mr. I. W. Pickett. It is desired to secure enough support to the movement to warrant the employment of one or more pastors for the Zone.

A meeting will be held on Thursday evening, March 11, for men and women interested in the organization of a study club. The outline for the course of study will be drawn up at that time. The study will be along the line of evolution, and will bring in various branches of biology and nature study, later taking up the evolution of religion. All those interested are invited to join the club.

The gymnasium classes are popular with the boys and girls. Classes for men will be started as soon as sufficient interest is manifested in the work.

The local duckpin bowling team lost two out of three games on Saturday evening, to the Cristobal team.

EMPIRE.

The local duckpin bowling tournament, which has been in progress for the last month and a half, was closed on February 27. Twenty-seven men took part in the tournament, which resulted, as follows: High doubles, Gustaveson and Sims, 611; single high score, C. A. Sims, 133; high average, C. A. Sims, 94.5.

The chess match between the Empire and Culebra teams, played on February 27, took place at Empire, the Empire team winning four games, and the Culebra team two.

Reserved seats for the Walter Eccles and the Four College Girls' entertainment on March 18, will be on sale on Monday, March 16.

GATUN.

The fourth anniversary celebration of the Gatun Y. M. C. A. was celebrated by a series of four entertainments, as follows: Wednesday, March 4, "Smoker; Thursday, March 5, formal exercises; Friday, March 6, motion pictures; Saturday, March 7, gymnasium exhibition.

The program at the "Smoker" was, as follows:

Part I.

1. Opening selection	Gray's Orchestra
2. Black face sketch	"Honey Boy" Evans
3. Irish comedy	Richard Roberts
4. Piano solo	C. C. Pearsall
5. Soprano songs	Mrs. J. L. Caldwell
6. Bass solo	Louis Cantor
7. Violin solo	Signor Silla Bartocinni
8. Selection	Y. M. C. A. Glee Club

INTERMISSION.

(*Refreshments and cigars*)

Part II.

1. Pittsburgh Music	Roland Thompson
2. Trapeze and contortion acts	Arenilla
3. "Organ" selections	Prof. Kanalsonowski
4. "Stunts," wise and otherwise	Brittin and Cantor
5. "High class" music (?) etc.	Gerchow, Wright, Conkerton, Thompson.
6. Juggling	T. L. Brennan
7. Closing selection	Gray's Orchestra

The program at the formal exercises and reception, was, as follows, Lieut.-Col. Wm. L. Sibert, chairman of the executive council, presiding:

1. Opening selection	Gray's Orchestra
2. "The Winter song"	Y. M. C. A. Glee Club.
3. Violoncello solo	Signor Graniello
4. "Four years"	Secretary F. G. Smith
5. Soprano solo	Mrs. A. C. Arthur
6. "Greetings"	From old time friends
7. Address "Brotherhood"	Mr. Chas. M. Branson
8. Trio—cello, violin, and piano	Signor Graniello, Bartocinni, and Mr. Pearsall.
9. Closing selection	Gray's Orchestra

An informal reception was held at about 9.45 p. m., during which there were refreshments, music, games, and a photographic exhibition.

The program at the music and motion picture entertainment on March 6, was, as follows:

1. Pictures	First reel
2. Songs	Roland Thompson
3. Pictures	Second reel
4. Piano solo	Mrs. E. S. Randolph
5. Pictures	Third reel
6. Comedy	Thompson and Gerchow
7. Pictures	Fourth reel
8. Piano solo	Mrs. E. S. Randolph
9. Slides and pictures	Fifth reel

The program at the gymnasium exhibition and games on March 7, under the direction of Mr. Arvid N. Kjellander, physical director, were, as follows:

1. Bar bell drill	Junior gymnasium class
2. Folk dancing-" Clap dance"	Girl's gymnasium class
3. Dumb bell drill	Senior gymnasium class
4. Folk dancing-"Vasu-vienna"	Girls' gymnasium class
5. "Pyramids"	Men and boys
6. Rowe dance	High school girls
7. Fencing exhibition	Mr. Russell and Lieut. Wilbur.
8. Basketball game	Empire vs. Gatun.

The executive council of the association consists of the following: Lieut.-Col. Wm. L. Sibert, chairman, Dr. A. G. Farmer, J. T. Smith, W. C. Gayer, and B. B. Dumville. Frank Gardner Smith is secretary, and Arvid N. Kjellander, physical director, of the Gatun association.

CRISTOBAL.

Judge Frank Feuille gave comparisons between Spanish and American law before the discussion club on Tuesday night, March 5, stating that the fundamental difference is, that Spanish law is based on authority from the Crown, while American law is based on the common law of England and other additions as the American people in their experience have found necessary. This results in the Spanish-speaking people taking their laws literally, while the American people look to the spirit of the law.

Twenty-eight boys enjoyed the trip to Caño saddle on Saturday, March 7. Wrestling was the principal diversion en route, with a swim in Gatun Lake on reaching destination.

A large audience greeted Mr. W. J. Price at the second monthly Sunday afternoon meeting on March 8. Mr. Price emphasized the necessity of sympathy, application, and earnestness in the formation of character. Mr. Max Thompson, manager of the Hotel Washington, sang two numbers.

Lieutenant Edwards, in command of the submarine flotilla, will address the discussion club on Thursday, March 19.

The Culebra volleyball team plays at Cristobal on Saturday, March 21.

Mr. C. M. Bullard has resigned charge of the bowling alleys after continuous service since December 1, 1909. Messrs. W. Russell and G. R. Farr are now in charge of the alleys on alternate nights.

House 83 defeated House 84 in an indoor baseball game, by a score of 15 to 11, on Monday night, March 2.

Movement of Vessels, Port of Balboa.

The following ships arrived at, or departed from, the port of Balboa during the week ending March 7:

Arrivals—March 1, *Santa Rita*, from Port Harford, Cal.; March 2, *Ucayali*, from Callao, *Peru*, from Callao; March 4, *Quito*, from intermediate ports; March 6, *Chile*, from Guayaquil; March 7, *City of Para*, from San Francisco

Departures—March 2, *Pachitea*, to Callao, *Aysen*, to Valparaiso; March 3, *Santa Rita*, to Port Harford; March 6, *Ecuador*, to Guayaquil.

WEATHER CONDITIONS, CANAL ZONE, FEBRUARY, 1914.

Dry season weather continued throughout the month. The rainfall in the Canal Zone and vicinity was everywhere below normal. Monthly totals at the regular stations ranged from 0 at Balboa and Miraflores to 2.20 at Porto Bello. The maximum precipitation recorded in one day was .85 inch at Monte Lirio on the 1st.

The air temperature and wind movement were above the February averages at all stations, while the relative humidity, cloudiness, and atmospheric pressure were generally deficient. No fogs were observed at either coast station, and few at the interior stations. All fogs lifted, or were dissipated, by 6.30 a. m.

The following table summarizes the weather conditions for the month:

STATIONS.	Press're (reduc'd to mean of 24 hours).	Temperature.					Mean relative humidity.	Precipitation.			Wind.				
		Mean.	Maximum.	Date.	Minimum.	Date.		Total inches.	Station average.	Days of .01 inch or more.	Total movement (miles)	Prevailing direction.	Max. velocity (in miles).	Direction.	Date.
Colon	29.890	80.9	86	Feb. 7	73	Feb. 24	80	1.32	1.47	13	10,504	N.	30	N. E.	Feb. 1
Culebra	29.869	79.6	90	Feb. 3	66	Feb. 24	84	.20	.55	4	7,410	N. W.	29	N	Feb. 17
Ancon	29.852	81.8	94	Feb. 7	65	Feb. 25	80	.02	.76	2	7,364	N. W.	25	N. W.	Feb. 15

COMMISSARY DEPARTMENT.

The commissary stores are open during the following hours:

Cristobal, 8 a. m., to 12.30 p. m., and 2 to 7 p. m.
Balboa, 8 a. m. to 12.30 p. m., and 2.30 to 7 p. m.
Ancon, 8 a. m. to 1 p. m., and 3 to 6 p. m.
All others, 8 a. m. to 1 p. m., and 3 to 7 p. m.

Retail prices of cold storage provisions for the week beginning March 11, 1914:

FRESH MEATS.	*Price.*
Mutton—Stewing, per pound	7
Shoulder, neck trimmed off (4 pounds and over), per pound	9
Entire forequarter (not trimmed, 10 pounds and over), per pound	8
Legs (8 to 10 pounds), per pound	17
Cutlets, per pound	18
Short cut chops, per pound	20
Lamb—Stewing, per pound	8
Entire forequarter, neck trimmed off, per pound	10
Legs (5 to 8 pounds), per pound	20
Chops, per pound	24
Cutlets, per pound	24
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	17
Chops, per pound	26
Loin, for roasting, per pound	26
Cutlets, per pound	30
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	8
Plate, per pound	9
Corned, No. 1, per pound	14
Corned, No. 2, per pound	12
Chuck roast, (3 lbs., and over), per pound	12
Rib roast, second cut (not under 3½ pounds), per pound	16
Rib roast, first cut (not under 3 pounds), per pound	18
Pot roast, per pound	19
Rump roast, per pound	19
Porterhouse roast, per pound	20
Steak, chuck, per pound	12½
Round, per pound	13
Rib, per pound	18
Sirloin, per pound	19
Rump, per pound	19
Porterhouse (not less than 1½ pounds), per pound	20
Tenderloin (Western), per pound	30
Pork—Hams, fresh, per pound	§20
Loin chops or roast, per pound	19
Shoulders, fresh, per pound	§17
Spare ribs, per pound	15
Backbones, per pound	15
Pigs' feet, each	7
Pigs' heads, whole	60
Pigs' heads, ½-head	30
Sausage, home made, per pound	20

MISCELLANEOUS.	
Livers—Beef, per pound	11
Calf, each	60
Half, each	30
Steak, Hamburger, package	13
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Devonshire Farm, per pound	22
Sweetbread, beef, per pound	†27
Eggs, fresh, per dozen	34
per ½-dozen	17
Bluefish, per pound	10
Halibut, fresh, per pound	10
Salmon, per pound	10
Shad roes, per pair	40
Oysters, per quart	28

POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, large, each	1.40
Fancy roasting, milk fed, med., each	1.10
Fancy roasting, corn fed, about 5½ pounds, each	1.25
Fancy roasting, corn fed, about 4½ pounds, each	1.00
Fowls, each ††60, 70, 80, 90, and	1.00
Ducks, Western (about 4½ pounds), each	1.25
Capons, about 8½ pounds, each	3.00
Broilers, milk fed, each	70
Broilers, corn fed, each	60
Turkeys, per pound	25
Squabs, each	50
Ducks, Teal, each	40
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30

CURED AND PICKLED MEATS.	
Ham—Real York and Cumberland, per pound	37
Genuine Westphalia, per pound	40
Sugar cured, per pound	20
Sliced, per pound	22
Half, (for boiling), per pound	21
Boiled, per pound	28
Hocks, per pound	‡8
Beef, salt, family, per pound	12
Bacon, breakfast, whole piece, per pound	25
Sliced, per pound	26
Ham, lunch, per pound	32
Pork, salt, family, per pound	14
Ox tongues, each	1.00

	Price.
Pigs' feet, per pound	7
Tongues, per pound	18

DAIRY PRODUCTS.	
Butter—Creamery special, per pound	36
Sheffield Farms, extra fancy, per lb.	46
Cheese—Philadelphia cream, cake	10
Roquefort, per pound	35
Young America, per pound	22
Swiss, per pound	28
Edam, each	75
Edam, tin	25
Parmesan, per pound	35
Gouda, per pound	30
Snappy, per cake	10
Milk (certified), per bottle	**20
Fer-mil-lac, per bottle	**20
Ice cream, quart	‡25
½-gallon	‡50
Cream (certified), per pint bottle	45

VEGETABLES AND FRUITS.	
Beets, per pound	3
Celery, per head	9
Cabbage, per pound	3½
Cucumbers, per pound	†20
Carrots, per pound	3
Cauliflower, per pound	7
Green onions, per pound	8
Lettuce, per pound	6
Onions, per pound	4
Potatoes, white, per pound	3
Potatoes, sweet, tropical, per pound	2
Yams, per pound	3
Parsley, per bunch	4
Parsnips, per pound	3½
Squash, per pound	5
Turnips, per pound	2½
Tomatoes, per pound	10
Spinach, per pound	*3
Apples, per pound	†7
Cranberries, per pound	9
Grape fruit, American, each	8
Tropical, each	4
Lemons, per dozen	15
Pineapples, Cuban, each	†13
Oranges, Jamaican, per dozen	12
Tangerines, each	2

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*Indicates reduction from last list.

**Indicates five cents allowed for return of bottle.

†Indicates advance on last list.

††Fowls weigh each, about, as follows: 3, 3½, 4, 4½, and 5 pounds. Prices are based accordingly; when size ordered is not in stock, next lightest weight is supplied and refund note sent for difference.

‡Sold only from commissaries; no orders taken for delivery.

§Not less than half of a fresh ham or shoulder will be sold.

Misdirected Letters.

ANCON, C. Z., March 9, 1914.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressees:

Black, Chas. A. (2)
Bullowa, Ernest E. M.
Delafield, Robt. Hare
Farrington, Leonard
Hamilton, Mrs. H.
Hartfield, Joseph
Harwood, Elizabeth
Knapp, Mrs. Ed.
Lavalley, Alexander
Long, Theodore A., Jr.
Lowe, E. J.
Marrly, N.
Morris, A. K.
Murphy, Jas. J.
Omploy, Casper
Rebbeck, R. M.
Roach, John P.
Robinson, George E. (2)
Saffirstein, B.
Schwab, Wm. A.
Sheehan, Frank C.
Shiras, George
Simpson, J. H. & Co.
Vance, Ferdinand

Cows for Sale.

ANCON HOSPITAL,
ANCON, C. Z., February 10, 1914.

For sale at the Ancon Hospital dairy, four cows suitable for butchering. May be seen at the dairy any afternoon from 3 to 5 o'clock, and can be sold at private sale.

CHAS. F. MASON,
Superintendent.

Sale of Launch Hull.

OFFICE OF CHIEF QUARTERMASTER,
CULEBRA, C. Z., March 2, 1914.

Sealed proposals will be received at this office until 3 p. m., Tuesday, March 17, and then opened, for the purchase of the hull of the launch *La Zona*. Full information relative to size and condition can be secured upon application to the storekeeper at Balboa, at which point the launch is open for inspection. Proposals must be accompanied by certified check, postal money order, or cash for five per cent of the amount bid. Proposals should be marked "Proposals for purchase of launch hull", and addressed to Capt. R. E. Wood, Chief Quartermaster. Culebra, C. Z.

LOST—Waterman's fountain pen, black, selffilling, with clip-cap, on labor train between Culebra and Panama, March 5, or in Panama. Reward for return to the office of THE CANAL RECORD

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.

		Sails.	*Arrives.*
*Panama	P. R. R.	Mar. 9	Mar. 15
*Allianca	P. R. R.	Mar. 14	Mar. 20
*Colon	P. R. R.	Mar. 20	Mar. 26
*Advance	P. R. R.	Mar. 26	April 2
*Panama	P. R. R.	April 2	April 8
*Colon	P. R. R.	April 14	April 20
*Advance	P. R. R.	April 20	April 27
*Panama	P. R. R.	April 27	May 3

CRISTOBAL TO NEW YORK.

†Advance	P. R. R.	Mar. 14	Mar. 21
†Panama	P. R. R.	Mar. 21	Mar. 27
†Allianca	P. R. R.	Mar. 26	April 1
†Colon	P. R. R.	April 1	April 7
†Advance	P. R. R.	April 7	April 14
†Panama	P. R. R.	April 14	April 20
†Allianca	P. R. R.	April 20	April 26
†Colon	P. R. R.	April 26	May 2

NEW YORK TO COLON.

*Calamares	U. F. C.	Feb. 28	Mar. 7
*Zacapa	U. F. C.	Mar. 4	Mar. 11
Prinz Sigismund	H.-A.	Mar. 7	Mar. 17
*Pastores	U. F. C.	Mar. 7	Mar. 14
†Almirante	U. F. C.	Mar. 11	Mar. 18
Tenadores	U. F. C.	Mar. 14	Mar. 21
Prinz Joachim	H.-A.	Mar. 14	Mar. 23
*Santa Marta	U. F. C.	Mar. 18	Mar. 25
Prinz Eitel Friedrich	H.-A.	Mar. 21	Mar. 31
Calamares	U. F. C.	Mar. 21	Mar. 28
*Metapan	U. F. C.	Mar. 25	April 1
*Pastores	U. F. C.	Mar. 28	April 4
Prinz Aug. Wilhelm	H.-A.	Mar. 28	April 6
Tagus	R. M.	Mar. 28	April 6
*Zacapa	U. F. C.	April 1	April 8
Prinz Sigismund	H.-A.	April 4	April 14
*Tenadores	U. F. C.	April 4	April 11
*Almirante	U. F. C.	April 8	April 15

COLON TO NEW YORK.

Metapan	U. F. C.	Mar. 12	Mar. 19
Pastores	U. F. C.	Mar. 15	Mar. 25
Prinz Aug. Wilhelm	H.-A.	Mar. 17	Mar. 25
Tagus	R. M.	Mar. 17	Mar. 25
Tenadores	U. F. C.	Mar. 22	April 1
Prinz Sigismund	H.-A.	Mar. 23	April 1
Almirante	U. F. C.	Mar. 26	April 2
Calamares	U. F. C.	Mar. 29	April 8
Magdalena	R. M.	Mar. 31	April 7
Prinz Joachim	H.-A.	Mar. 31	April 8
Santa Marta	U. F. C.	April 2	April 9
Pastores	U. F. C.	April 5	April 15
Prinz Eitel Friedrich	H.-A.	April 6	April 15
Metapan	U. F. C.	April 9	April 16
Tenadores	U. F. C.	April 12	April 22

NEW ORLEANS TO COLON.

*Atenas	U. F. C.	Mar. 7	Mar. 12
Parismina	U. F. C.	Mar. 11	Mar. 18
*Turrialba	U. F. C.	Mar. 14	Mar. 19
Cartago	U. F. C.	Mar. 18	Mar. 25

COLON TO NEW ORLEANS.

‡Abangarez	U. F. C.	Mar. 12	Mar. 17
Heredia	U. F. C.	Mar. 12	Mar. 19
‡Atenas	U. F. C.	Mar. 19	Mar. 24
Parismina	U. F. C.	Mar. 19	Mar. 27

BOSTON TO COLON.

Tivives	U. F. C.	Mar. 5	Mar. 13
Sixaola	U. F. C.	Mar. 12	Mar. 18
Carrillo	U. F. C.	Mar. 19	Mar. 27

COLON TO BOSTON.

Tivives	U. F. C.	Mar. 15	Mar. 23
Sixaola	U. F. C.	Mar. 22	Mar. 30
Carrillo	U. F. C.	Mar. 29	April 6

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 2 p. m.; for Southampton, on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays at 3 p. m.; for New Orleans, via Havana, on Thursdays at 4 p. m.; ships for New York, via Kingston, on Thursdays at 2 p. m.; for New York, via Limon and Havana, on Sundays at 5 p. m.; for Limon on Saturdays at 4 p. m.; for Bocas del Toro direct, on Thursdays at 5 p. m.; and for Boston, on Sundays at 3 p. m.

Hamburg-American steamers sail for New York, via Kingston, and Fortune Island, on Tuesdays, at 10 a. m.; the *Prinz August Wilhelm* and *Prinz Joachim* call also at Santiago de Cuba.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, MARCH 18, 1914. No. 30.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

The Panama Canal Organization.

The following assignments to duty and appointments in the permanent organization of The Panama Canal have been announced, effective April 1:

WAR DEPARTMENT.

Col. Harry F. Hodges, Corps of Engineers, U. S. A., at present member of the Isthmian Canal Commission and Assistant Chief Engineer, to remain to complete the work upon which he is now engaged.

Lieut.-Col. Charles F. Mason, Medical Corps, U. S. A., at present Superintendent of Ancon Hospital, to be Chief Health Officer.

Lieut.-Col. George D. Deshon, Medical Corps, U. S. A., to be Superintendent of Ancon Hospital.

Capt. Daniel W. Harmon, Medical Corps, U. S. A., and First Lieut. Henry P. Carter, Medical Corps, U. S. A., to be health officers at Colon and Panama.

NAVY DEPARTMENT.

Civil Engineer Harry H. Rousseau, U. S. N., at present member of the Isthmian Canal Commission and Assistant to the Chief Engineer, to remain to complete the work upon which he is now engaged.

Capt. Hugh Rodman, U. S. N., at present Chairman of the Board of Local Inspectors, to be Superintendent of Transportation.

Naval Constructor Daniel C. Nutting, Jr., U. S. N., at present Superintendent of the Mechanical Division, to be Superintendent of Shops and Dry Docks.

Commander Douglas E. Dismukes, U. S. N., and Lieut. Commander H. V. Butler, U. S. N., to be captains at the terminal ports at Ancon and Cristobal.

CIVIL APPOINTMENTS.

The following appointments have been made by Col. Geo. W. Goethals, Chairman and Chief Engineer of the Isthmian Canal Commission:

Auditor—H. A A. Smith, at present Examiner of Accounts.

Paymaster—J. H. McLean, at present Disbursing Officer.

Collector—T. L. Clear, at present Assistant Examiner of Accounts.

Executive Secretary—C. A. McIlvaine, at present Chief Clerk to the Chairman and Chief Engineer.

Attorney for the Government in land claims, and to codify laws—Frank Feuille, at present Counsel and Chief Attorney.

RELIEVED FROM DUTY WITH THE CANAL COMMISSION.

Col. John L. Phillips, Medical Corps, U. S. A., Assistant Chief Sanitary Officer (now Acting Chief Sanitary Officer), is relieved from duty with the Isthmian Canal Commission, and has been directed to proceed to the United States, and report to the Adjutant General of the Army.

◆

Excavation for Miraflores Spillway Discharge Channel Completed.

Excavation of the settling basin below the ogee of Miraflores Spillway dam was completed on Thursday, March 12, and surveys are being made by the hydrographic division of the completed discharge channel to determine its theoretical capacity and the liability of flooding the Miraflores power station if all the eight gates of the spillway were opened at one time.

The new pile trestle for railway communication across the channel is advancing from the east side. As the trestle will cross the site of the present trestle, which is six feet lower, it is planned to minimize interference with traffic by building the new trestle from both sides toward the center and completing the connection over the present trestle by the use of two piledrivers in rush work on some Sunday or holiday.

One of the two steamshovels formerly engaged in the settling basin excavation has been transferred to the east side of Pedro Miguel Lock, where it is to be engaged about 10 days in reducing elevations adjacent to the backfill. The spoil in being used for raising part of the backfill, near the lower end of the lock chamber, to even grade.

◆

Abandonment of Silver Quarters, West Side of the Canal.

Placards will be printed and posted shortly, notifying silver employes that the labor train service on the west side of the Canal may be discontinued about July 1. In anticipation of this event, all silver employes residing at Las Cascadas, Empire, and Culebra, will be called upon to make other arrangements for quarters. Early notice is given, in order that the employes may have plenty of time in which to make their preparations, for while it is thought there will be about 400 apartments available for the silver force at La Boca by the end of May, these will be insufficient to take care of all of the silver men that will be employed in the Balboa shops and at nearby points at that time, and some of them will have to find quarters, temporarily at least, in Panama.

It will probably be about July 1 before the last of the gold shop employes now occupying quarters at Empire can be given assignments at Ancon, Balboa, or Corozal. The moving of the general office force at Culebra, and of the employes in the offices of the Examiner of Accounts and Disbursing Officer at Empire, will probably take place some time in June, or July, but it may be necessary to operate a labor train for the gold employes from Culebra to Balboa for a while after that date, because of the lack of sufficient gold quarters in the three American settlements near the Pacific terminus.

◆

Arrival of Dredge "Gamboa".

The new 15-cubic yard dipper dredge *Gamboa*, the first of two identical vessels for which contract was awarded in January, 1913, to the Bucyrus Company, arrived in Colon harbor in the forenoon of Sunday, March 15. It had sailed, in tow of the tug *M. E. Luckenbach* from Port Richmond, New York, on February 17. The trip consumed 26 days, and owing to the rough weather experienced during the entire passage, the tug had to proceed at greatly reduced speed, at times only enough to maintain seaway.

For safety in handling at sea, the heavier parts of the machinery were shipped knocked-down, and the boom and two dippers had been forwarded on a vessel of the Panama Railroad Steamship Line. A construction supervisor in the employ of the contractor arrived on the Isthmus on March 9, on the steamship *Advance*, to supervise the reerection of the machinery. The second dredge, the *Paraiso*, has not left the yards of the contractor. A description of these dredges was published in THE CANAL RECORD of February 5, 1913.

The dredge was given inspection on its arrival; on Tuesday evening, March 17, it was locked up to the Gatun Lake level, and on Wednesday forenoon, it was taken through the lake in tow of a tug. The tug *M. E. Luckenbach* sailed from Colon for the United States on Tuesday, March 17.

◆

Dredge "Corozal" Dry Docked at Gatun Locks.

The dredge *Corozal* was taken to Gatun Locks on Tuesday, March 17, and docked in the upper lock of the east chamber, where the submarines are now dry docked. Bilge blocks were placed on the floor of the chamber, and the hull of the vessel rests on these. This step was made necessary by damage caused by an explosion of the vessel's oil tank about 9 p. m., on Wednesday evening, March 11. The oil was nearly all drained from the tank at the time, in the work of lightening the vessel, and the accident is thought to have been due to an explosion of gas in the tank, although the latter is provided with a vent pipe.

Mr. C. W. Fisher, superintendent of erection in the Mechanical Division, has made an investigation as regards the repairs necessary.

The docking of the vessel has shown that the extent of the damage is considerably greater than was at first supposed, and that it will be necessary to remove the hopper doors from the fuel tank and completely rebuild the tank, as well as portions of the vessel immediately adjacent to it.

The *Corozal* had too great a draft to permit it to be dry docked at Cristobal, so the plan of docking it in Gatun Locks was decided on. The work of making the necessary repairs will be continued day and night until completed, and the men from the dry dock shops employed on it are working in two shifts of 12 hours each. The repairs for which the vessel was originally brought to the dry dock had been about completed at the time of the accident. Advantage will be taken of its present position to clean and repaint the hull.

Reduction in Number of Locomotive Engineers.

Effective at the close of business on March 18, the force of locomotive engineers in the Transportation Department (Second Division) of the Isthmian Canal Commission is to be reduced by 10. This follows on a reduction of steamshovel operations on the east and west sides of Miraflores Locks, and at Sosa quarry, in connection with which the work of 13 crews has been terminated. These reductions are made from the foot of the seniority list; in addition, several engineers, most of whom are well up on the list and some of whom have been in service since 1906, have signified their intention of resigning before April 1. On the morning of March 18, the number of locomotive engineers in the Second Division was 87.

Corresponding reductions in the conductors have not been made yet, on account of a shortage, due to sickness and the absence of men on vacation.

Canal Excavation in February.

The grand total of Canal excavation to March 1, 1914, was 218,392,464 cubic yards, leaving 13,960,536 cubic yards remaining to be excavated under the revised estimate of July 1, 1913.

The total excavation for the month of February was 1,430,050 cubic yards, as compared with 1,514,972 cubic yards for January. The wet excavation amounted to 1,168,671 cubic yards, and the dry excavation to 261,379 cubic yards.

In the Atlantic section, the total excavation for February was 345,123 cubic yards, all by dredges. Of this amount, 289,396 cubic yards were removed from the Atlantic entrance by the suction dredges *Caribbean* and *Culebra*, and 55,727 cubic yards were taken out at the coaling basin. The *Culebra*, formerly in the dredging service at the Pacific end, was locked through at Gatun on February 22, and set at work excavating a shoal near Mile 2 in the Atlantic channel.

Of the 795,017 cubic yards excavated in the Central section, comprising Culebra Cut and the Chagres territory, all but 115,894 cubic yards consisted of material removed by the dredges or hydraulic monitors. The dry excavation consisted of material taken out by Fourth Division steamshovels on the east bank of Culebra Cut, opposite Culebra village, in relieving the pressure as a preventive against slides. Of the wet excavation, 421,136 cubic yards were removed by dredges from Culebra Cut, including Cucaracha slide, 113,437 cubic yards were taken out of the Chagres River section, and 144.550 cubic yards were sluiced from the rear of Gold Hill, and at Cucaracha slide.

In the territory of the old Pacific Division, operations by dredges resulted in the removal of 135,150 cubic yards from the inner harbor, and 9,275 cubic yards from the Pacific entrance. Dry excavation in this section consisted of 30,668 cubic yards removed at Miraflores spillway, 104,488 cubic yards at the terminal site, 6,133 cubic yards from the Rio Grande diversion, and 4,196 cubic yards, charged to "Plant" excavation taken out in and around the terminal site.

A detailed statement of excavation, and a summary of the work on the locks and dams, follow:

ATLANTIC SECTION.

LOCALITY.	"Work" Excavation.	"Plant" Excavation.	Total Excavation.
Dry Excavation—	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
Locks, dam and spillway	....	....	....
Mindi	....	....	....
Terminal	....	....	....
Total	....	....	....
Wet excavation—			
Atlantic entrance	289,396	....	289,396
Docks, Dam and Spillway	....	....	....
Terminal	55,727	....	55,727
Total	345,123	....	345,123
Total wet and dry excavation	345,123	....	345,123

CENTRAL SECTION.

Dry excavation—			
Culebra Section	115,894	....	115,894
Total dry	115,894	....	115,894
Wet excavation—			
Chagres Section, dredges	113,437	....	113,437
Culebra Cut, dredges	421,136	....	421,136
Culebra Cut, hydraulics	144,550	....	144,550
Total wet	679,123	....	679,123
Total wet and dry excavation	795,017	....	795,017

PACIFIC SECTION.

Dry excavation—			
Locks, dams and spillways	30,668	....	30,668
Terminal	104,488	4,196	108,684
Rio Grande Diversion	6,133	....	6,133
Total	141,289	4,196	145,485
Wet excavation—			
Pacific entrance	9,275	....	9,275
Miraflores Locks	....	....	....
Diversions	....	....	....
Terminal	135,150	....	135,150
Total	144,425	....	144,425
Total wet and dry excavation	285,714	4,196	289,910

TOTAL CANAL EXCAVATION.

Dry excavation	257,183	4,196	261,379
Wet excavation	1,168,671	....	1,168,671
Total	1,425,854	4,196	1,430,050

LOCKS AND DAMS.

MATERIAL.	Atlantic	Pacific	Total
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*
Concrete placed in locks	159	3,171	3,330
Concrete placed in dams and spillways	211	....	211
Fill placed in dams	5,780	10,200	15,980

Mean rainfall along Canal (nine stations), 0.53 inches.

By "Work" excavation is meant excavation actually made for one of the constituent parts of the Canal, such as prism, diversions, locks, etc.; that is, it represents material taken from the area to be occupied by the Canal and constitutes excavation useful for the completed Canal.

By "Plant" excavation is meant excavation outside any of the constituent parts of the Canal, such as prism, diversions, locks, etc. It includes material necessary to be excavated for construction purposes only, and is chargeable against the particular plant item for which it is performed, such as prism, diversions, locks, etc.

PERSONAL.

Mr. W. W. Warwick, Mr. J. L. Baitz, and Mr. H. A. Harding, constituting the Treasury Committee on Panama Canal Accounting, sailed for the Isthmus from New York on March 13, on the steamship *Ancon*. The members of the committee are accompanied by their wives, and by a son of Mr. Warwick, and a daughter of Mr. Harding.

Dr. Roland C. Connor, formerly district physician at Cristobal, has been appointed chief of medical clinic at Ancon Hospital, effective March 1.

Wreck of the "Cecil."

Information has been received that the collier *Cecil*, reported as overdue in THE CANAL RECORD of March 11, was wrecked on Mariguana Island, one of the Bahama group, situated near the Crooked Island Passage, not far from Watling's Island. The vessel had a cargo of 5,400 tons of coal consigned to the Panama Railroad Company, and it has been reported that probably the greater part of it may be saved. The ship, according to report, will probably be a total loss. It had a gross tonnage of 3,685, and a net tonnage of 2,257. Its length was 335 feet; beam, 48 feet, and it was built at Newcastle-upon-Tyne, England, in 1901, by the Tyne Shipbuilding Company, Limited. The ship is owned by J. Christensen, registered in Bergen, Norway, and was under charter to the Earn Line.

Last Foundation for Balboa Terminal Buildings Completed.

The last pier of the foundation for the proposed office building of the Balboa terminals was completed at 4.30 p. m., Thursday, March 5. The framework of all the 27 other buildings has been completed, and the roofing is in place on all but No. 9, the galvanizing plant, and No. 14, the boiler house, where work has been deferred pending the installation of equipment. The laying of the roof on No. 14 was begun on March 12. The completion of the side walls and rolling steel doors of various shop buildings is in progress.

Five hundred and twenty-nine timber piles have been used to support the foundation of the office building. The walls of the foundation are six feet thick at the base, and stepped-in to a width of two feet at top. The superstructure will be of reinforced concrete, with walls of hollow concrete blocks, and will be three stories in height. It will be erected by the building division of the Quartermaster's Department.

For the present, the offices of the Mechanical Division, in charge of the operation of Balboa shops, are in the 2-story frame structure, formerly occupied by the superintendent of the terminal construction, the latter having vacated this building and moved his offices into the old building which formerly housed the offices of the Pacific dredging forces.

◆

It has been directed that hereafter all official stationery and stock forms printed at the Canal Commission printing plant at Mount Hope bear the imprint, "The Panama Canal, Canal Zone." All stock that may be on hand after April 1 is to be utilized to the best advantage.

SOCIAL LIFE OF THE ZONE.

Meetings of Ancon Study Club.

The headquarters of the Ancon Study Club have been removed from House 31, Ancon, to the quarters occupied by Mrs. Edward L. Luce, House 261, Ancon, near the schoolhouse. Meetings of the club have been suspended since March 12, owing to the death of Mr. Marquis White, the husband of one of the club members; they will be resumed at the new rooms on Thursday afternoon, March 26. The program will consist of papers on the social problem. The mass meeting, which was to have been held at Mrs. White's house on March 12, for the purpose of forming the Panama auxiliary to the Women's Board of the Panama-Pacific International Exposition, will be arranged for at this meeting of the study club, and notice of the date will be announced later.

Immigration Discussed by Ladies of the Empire Christian League.

The ladies' auxiliary to the Empire Christian League held its regular monthly meeting in the chapel, at 11 a. m., on Sunday, March 15. The topic discussed was immigration, or "The new America." The devotional exercises were conducted by Mrs. H. A. A. Smith, and in response to the roll call, the members read selections or references bearing on the topic. In an address of welcome, the president expressed her thanks for the loyalty of the ladies and her appreciation of the hearty cooperation of each member of the organization. Mrs. W. H. Keenan of Culebra read a paper describing the different types of immigrants that have come to America since the first English settlement in 1607, and setting forth the motives which prompted each class to emigrate to the new world. Mrs. W. E. Hoffman of Empire read a paper on "Modern immigration," telling of the work of the Bureau of Immigration under the national government, and the problem confronting the American nation in making law abiding citizens and useful members of society of the thousands of immigrants who land at Ellis Island each day. After a solo by Mrs. Keenan, an exercise was given by the children who were dressed in costumes representing the different countries from which most of the immigrants come. The society hopes to become an important factor in relieving those less fortunate in the Canal Zone, and as a whole, the organization extends an invitation to other societies to join in the effort to improve the condition of the immigrants and to make them useful members of society.

Dedication of Baptist Church in Panama.

The final exercieses in connection with the dedication of the new church building of the Baptist church, in the district of Guachapali, Panama, were carried out on Monday evening, March 16. Seated on the platform were the pastor of the church, the Rev. Mr. Thorbourne, Mr. Richard Lee Metcalfe, chairman of the meeting, the Hon. William Jennings Price, American Minister to Panama, the Hon. Ernesto T. Lefevre, Secretary of Foreign Relations, Dr. Julio Arjona, and Dr. C. A. Mendoza. The pastor gave a brief outline history of the beginning of his work here, when as missionary of the National Baptist Convention of Tennessee, he established it in 1908. The new building is located on the site of the first building which was opened in 1909, and is much larger. The auditorium occupies the second story of the building, and underneath are the schoolroom and social hall. Auxiliary organizations in connection with the church are a Sunday school association, and a Christian Endeavor society.

Church Notes.

The Woman's Altar Guild of the Episcopal Church, Gatun, has disbanded owing to the moving away of so many of its members. The money remaining in the treasury was given to the rector of Christ Church, Colon Beach, who has been chaplain of the guild since its organization. This society was organized solely for the purpose of bringing the women of the church together for corporate communion and monthly meetings, at which members were appointed for the preparation of the chapel for the celebrations of the Holy Communion.

On Easter Monday, April 13, the women of the parish of Christ Church, Colon, will hold an entertainment in the parish schoolroom.

Last Evening Session of the Rebekahs.

Isthmian Canal Rebekah Lodge, No. 1, will hold its last evening meeting in the lodge hall, Empire, on Saturday, March 28. Invitations have been extended to all Odd Fellows and their wives, and all Rebekahs and their husbands. There will be a program, and refreshments will be served, a social hour following. The program will begin at 9 o'clock. The entertainment committee consists of Mrs. S. E. Calvit, Mrs. Janet Martin, and Mrs. Clara Rhodes.

Farewell Entertainments for Colonel Sibert.

The Washington Cotillion Club will give a reception and dance in honor of Colonel and Mrs. Sibert at the Hotel Washington, Colon, on Saturday evening, March 21.

A farewell banquet will be tendered Colonel Sibert and family at the Hotel Washington, on Thursday evening, March 26. The committee in charge invites all friends and acquaintances of Colonel Sibert to be present. The banquet will not be confined to men; ladies also are invited. Tickets, including transportation on special train, may be obtained at any of the Y. M. C. A. clubhouses.

Ancon High School Reception.

The Ancon high school has issued invitations for a reception to be given to the parents and patrons of the high school on Friday afternoon, March 20, from 2.30 to 4.40 o'clock. There will be a musical program, and a one-act play, by the pupils. Refreshments will be served by the school at the close of the program. The Gatun high school has been invited to attend.

Knights of Columbus.

The first and second degrees will be exemplified in Ancon lodge hall, at 9.30 a. m., Sunday, March 22, Panama Council conferring the first, and Cristobal Council, the second. As this is the regular meeting day of Cristobal Council, members are requested to take note of the change.

Results in Tennis Tournament.

Following are the results of the tennis tournament in singles held at Gatun-Cristobal on March 8:

Preliminaries—Culebra defaulted to Ancon Hospital (Dr. Runyan); Camp Otis defaulted to Cristobal (Mr. Poole); Empire (Mr. Hart) defeated Corozal (Mr. Sawyer), 6–4; 7–5; Gatun (Mr. Wells) defeated Pedro Miguel (Mr. Bartholomew), 6–1; 6–1; Colon defeated Tivoli (Mr. Cross), 6–1, 7–5; Pacific (Mr. Fechtig) defeated Empire, 6–3, 6–4.

Semifinals—Colon defeated Ancon Hospital, 8–6, 6–4; Gatun defeated Pacific, 11–9, 4–6, 6–4.

Finals—Colon defeated Gatun, 6–3, 5–7, 6–3.

Obituary.

Marquis White, an American residing at Ancon, employed as a locomotive engineer in the Second Division, died at Ancon Hospital on Tuesday, March 10. He arrived on the Isthmus July 3, 1905, and for a number of years was in the transportation service of the old Central Division. He was born at Bainbridge, Ga., 35 years ago, and is survived by his wife, and by his father and mother who live at Orlando, Fla. He was a member of the Brotherhood of Locomotive Engineers, and of several fraternal organizations. The funeral took place at St. Luke's Hospital chapel, on Sunday afternoon, March 15, under the auspices of the Masons, Rev. Charles W. Ports officiating. Interment will be at Orlando, Fla.

James M. Turner, formerly a conductor on the Panama railroad, and at one time an employe in the transportation service of the old Culebra Division, died at the home of relatives in Greencastle, Ind., on February 28. He left Ancon Hospital, where he had been a patient since May 26, 1913, on February 7, 1914. He was 57 years of age, a widower, and is survived by a son, Dr. James Turner, and a daughter, living at Grand Chain, Ill. He first came to the Isthmus in 1885, and for two years and six months was a conductor on the Panama railroad. He then returned to the United States, and worked on various railroads until 1900, when he came to the Isthmus again, and resumed his former position with the railroad, continuing in the service for one year and six months. He then went to Cuba, but returned to the Isthmus in 1904, and on December 22 of that year entered the Canal service as a foreman in the old Culebra Division. He was promoted to yardmaster on February 1, 1905; and on April 28 of the same year, was transferred to the Panama railroad as a conductor, remaining there until May 19, 1906, when he separated from the service. He was reemployed by the railroad on January 15, 1907, left the service on December 29, 1909, was again reemployed on January 24, 1910, and continued in the railroad employment until July 15, 1910.

Married.

COLEMAN-SHAW—On March 16, 1914, Edith Shaw of Brighton, Mass., to Albert James Coleman of Cambridge, Mass., the Rev. S. Witt of Gatun officiating. Canal Zone residence, Gatun.

DICKSON-KERKHOFF—At the home of Mr. and Mrs. Gibson, Cristobal, on March 10, Louise Marie Kerkhoff of Jersey City, N. J., to Thomas Happell Dickson of Gatun, the Rev. S. Witt of Gatun officiating. Canal Zone residence, Gatun.

SMITH-MORRISON—At the First Presbyterian Church, Ambridge, Pa., on January 14, 1914, Janet Morrison of Ambridge to E. C. Smith of Ravenswood, W. Va., the Rev. W. I. Kinter officiating. Canal Zone residence, Culebra.

FOUND—In coach at Administration Building, Ancon, recently, one pair of spectacles. Owner can have same upon proper identification at police headquarters, Ancon, Canal Zone.

RECORD OF CANAL WORK SINCE AMERICAN OCCUPATION.

TOTALS BY CUBIC YARDS OF EXCAVATION AND LOCK AND DAM CONSTRUCTION.

[All figures are of work useful for the completed Canal.]

DRY EXCAVATION.

CENTRAL SECTION.

M'THS.	CULEBRA SECTION.*								CHAGRES SECTION.**					
	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1909.	1910.	1911.	1912.	1913.	1914.
Jan....	566.750	1,227,022	1.150,249	1,323,693	1,356.394	1.416.035	1,135,580	777.322	389.399	175,802	255,385	28,357	......	71,710
Feb ..	639,112	1,248,265	1.194.454	1,259.173	1,409,338	1,349,569	996.800	681,550	450.182	286,309	219,550	66,145	......	113.437
March .	815,270	1,290,885	1,434,597	1,509,728	1.728.748	1,539,618	1,183,900	......	619,491	484,846	297,339	172,607	......	......
April ..	879,527	1,242,574	1.272,746	1,288.845	1,414,336	1,455.216	1,178,000	......	510,020	428,777	102,103	171,731	......	......
May....	690,365	960,840	1,126,963	1,099,279	1,299,100	1,405.760	921,000	......	386,170	248,974	29,783	12.524	......	......
June...	624,586	1,134,032	1,242,134	1,305,141	1,401,016	1,348,780	865,283	......	275,900	164.389	32,288	8,424	......	......
July ...	770.570	1,121.325	1,200,828	1.153,810	1.337,833	1,335.590	1,037,700	......	233,897	166,106	22,284	776	......	......
August	786,866	1,171,927	1.173,370	1,377,714	1,442,402	1,094,132	893.300	......	231,543	234,404	21,892	......	......	......
Sept. ..	753,468	1,122,860	1,235,978	1,339.948	1.340.173	922,712	448.200	......	235,818	234,290	21,272	......	......	......
Oct	834,499	1,160,101	1,302,901	1,320,314	1,306.971	1,113,420	382,270	......	221,409	271.409	12,216	......	132.703	......
Nov....	790,632	1,022,576	1.070,792	1,209,554	1,209,498	973,071	441,494	......	93.619	260,882	12,248	......	119,092	......
Dec....	1,025,485	1,210,046	1.152,022	1,211,400	1,351.082	1,074,510	719,807	......	105,044	197,481	10,909	......	140,622	......
Totals	9.177 130	13,912 453	14,557.034	15,398.599	16,596.891	15.028,413	10,203,334	1.458,902	3,752,492	3.153.669	1,037,169	460,564	392,417	185.147

Mos	ATLANTIC SECTION.†					PACIFIC SECTION.¶										
	GATUN LOCKS, DAM AND SPILLWAY.††					PEDRO MIGUEL LOCKS AND DAMS.‡					MIRAFLORES LOCKS, DAMS AND SPILLWAY.‡‡					BALBOA T'M'N'LS.§
	1910.	1911.	1912.	1913.	1914.	1910.	1911.	1912.	1913.	1914.	1910.	1911.	1912.	1913.	1914.	1914.
Jan	125.011	65,889	1,330	46.773	4,626	27,320	15,690	24,969	1.147	......	31,479	48,744	95.609	26,483	44,830	161.818
Feb,	123,738	50,511	1,228	11,241	......	9,486	6,809	18,480	448	......	15,300	12,936	47,426	12,532	36,801	104.488
Mar.	132,007	51,431	254	35,705	......	6,784	674	1,777	800	......	18,184	72.739	28.352	28,700	......	......
Apl ..	103,243	12,548	27.134	29,649	......	9.129	255	13,269	620	......	12,148	79.751	29,094	23.255	......	......
May..	82,958	17.677	24,280	1,829	......	10,405	5,905	26.018	127	......	20,250	57,975	13,096	3,778	......	......
June .	88,088	4,840	19,605	388	......	8.420	7,454	7,794	936	......	21,994	38,023	7,906	......	......	......
July ..	95.503	6,897	1,974	17,756	......	4,410	6.273	4,412	......	......	11,990	97,884	4,532	......	......	......
Aug ..	99,737	22,558	......	2,161	......	12,789	220	4,866	......	......	17,548	102,249	7,120	......	......	......
Sept..	103,040	3,489	1,025	1.091	......	10.405	3,472	1,613	......	......	8,590	96,112	5,192	......	......	......
Oct ..	118,327	112	1,700	1,383	......	7,433	5,365	1,257	......	......	9.850	107.790	14.107	6,980	......	......
Nov..	94.552	......	2,203	1,210	......	10,636	12,962	2,408	......	......	9,400	84,894	27,728	6,970	......	......
Dec..	72,030	......	16,677	2.168	......	11.195	17,320	3,176	......	......	17.906	79.480	30,319	30,420	......	......
Tot'ls	1 238 234	235.952	97,410	151,354	4,626	128,412	82,399	110.039	4,078	......	194.639	878,577	310,481	139,118	81,631	266,306

*Total to Mar. 1. 1914. 100,193,473 c. yds. Excavated 1904—1906 inclusive. 3,860,717 c. yds; by sluicing, 1,030,124 c. yds.: by dredging, 1,543,729 c. yds.

**Total to Mar. 1. 1914, 12.962,219 cu, yds.; 1907. 192.769 cu, yds.: 1908, 3.787.992 c. yds.: by sluicing, 188.239 c. yds.; by dredging, 577,564 c.yds.

†Dry excavation Mindi Hills 1907-1912, 2,196,198 cubic yards.

¶Excavated various points in prism to Mar. 1, 1914, 4.819,797 cu. yds.: Balboa Locks aud Dams, 1907. 78.233 cu, yds.: Outside Prism 1908, 172 cu. yds.

††Total to Mar. 1. 1914, 6,662,779 cubic yards. including 26,628 c. y.. 1906: 1,340,179 c. y., 1907; 2.774,561 c, y., 1908: 793,835 c. y., 1909.

‡Total to Mar. 1. 1914, 1,321,063 cubic yards, including 256.780 cu. yds. in 1908. and 739,355 cu. yds. in 1909.

‡‡Total to Mar. 1, 1914. 2,963,299 cubic yards. including 846,920 cu. yds. in 1908. and 511 933 cu. yds. in 1909.

§Total to Mar. 1, 1914. 1,537.460 cubic yards. including 318,731 cu. yds. in 1912. and 952.423 c. y. in 1913.

WET EXCAVATION.

Mos.	ATLANTIC SECTION.†							PACIFIC SECTION.††							
	ATLANTIC ENTRANCE.§						A'L'TIC TERM.*	PACIFIC ENTRANCE.§§						BALBOA TERMINALS**	
	1909.	1910.	1911.	1912.	1913.	1914.	1914.	1909.	1910.	1911.	1912.	1913.	1914.	1913.	1914.
Jan.....	521,050	510,055	520,181	520,228	508,338	102,057	53,734	469.529	518,936	379.810	334,735	215,025	86,585	216,540	205,656
Feb.....	444,910	493.448	455,318	581,399	303,949	289,396	55,727	671,477	285,791	386,866	432,796	239,032	9,275	175.225	135,150
Mar.....	461.208	412,325	391,736	103,373	380,243	......	......	865.696	462,588	639,761	404,939	379.845	......	166,800	......
Apl	470,635	190,574	492,579	134,261	436.605	......	......	731.767	534.322	439,622	383,995	356,942	......	182,125	......
May	315,370	447.578	514,178	229,626	685,163	......	......	720,753	484,509	548,047	388,310	369,703	......	194,510	......
June	182,575	458,021	452,098	343,804	814,592	......	......	844,685	475.486	576,100	338,006	604.080	......	31,179	......
July	348,451	423,092	425.195	495.398	921 948	......	......	733,181	515,782	520,692	392.511	756.930	......	231.105	......
Aug	422,846	508,829	367.456	429,415	512,089	......	......	623.263	506,969	630,241	441.644	726,256	......	286,127	......
Sept......	410,574	451.873	420,434	372,302	478.689	......	......	662.976	473,585	534.667	455,059	581.958	......	178,579	......
Oct.	314,778	549,788	470,400	572.783	288,760	......	......	720.920	467.873	329.224	435,726	433,098	......	110,660	......
Nov......	457,889	600,708	742,242	670.247	206.327	......	......	627,791	425.870	346.089	534,273	341,585	......	......	......
Dec	489,121	482,370	533,409	814,373	221.474	......	......	727,460	387,034	141,189	349,747	182,277	......	94,591	......
Totals ...	4,839.407	5.523,661	5.785.276	5,267,209	5,758,177	391.453	109,461	8.399,498	5.538,745	5,472,308	4,891.741	5,186.731	95,860	1,867,441	340,806

†Dredging. Gatun Dam, 1907. 38,425 cu. yds.; Gatun Locks, 1908-13. 1,776,791 cubic yards.

††Miraflores Locks and Dam, 1909-12, 652,246 cu. yds.: total to Jan. 1. 1914, 652,246 cu. yds.

§Total to Mar. 1, 1914, 38,362,508 cu. yds., including 10,792,375 cu. yds. in 1905-08.

§§Total to Mar. 1, 1914, 41,461.033 cu. yds., including 11.876,200 cu. yds. in 1905-08.

**Total to Mar. 1. 1914. 3,019.617 cu. yds.. including 264.556 cu. yds, in 1911. and 546.814 cu. yds, in 1912.

*Total to Mar. 1. 1914. 347.101 cu. yds . includiug 237,640 cu. yds, in 1913.

CONCRETE IN LOCKS AND DAMS.*

MONTHS.	GATUN LOCKS.†			PEDRO MIGUEL LOCK††			MIRAFLORES LOCKS.‡		
	1912.	1913.	1914.	1912.	1913.	1914.	1912.	1913.	1914.
Jan	34.983	28,085	176	15,003	4,652	3,692	48,416	50,456	3.680
Feb........	26,664	30,780	159	12,639	4,294	813	63.893	34.979	2.358
March	27,532	48,180	......	9,331	13,412	......	83,706	21.030	......
April........	11,600	22,732	......	9,460	2,145	......	97,735	13,266	......
May........	7,746	13,046	......	10,736	1,144	......	92,095	6,956	......
June	6,095	5,509	......	10,061	773	......	68,398	3.836	......
July	8,093	3,431	......	11.480	1,829	......	66,026	3,810	......
Aug........	6,855	6,258	......	5,995	1,884	......	75,388	3.643	......
Sept........	3,162	442	......	3,039	1,114	......	46.122	1.907	......
Oct........	3.252	174	......	6,587	412	......	54,790	1.152	......
Nov........	6,029	280	......	7,972	630	......	39,874	2,007	......
Dec........	5,697	120	......	6,958	1,162	......	46.746	1,859	......
Total.....	147,708	159,037	335	109,261	33,481	4,505	783 189	144,901	6 038

*Concrete in dams to Mar 1. 1914—Gatun spillway. 232,256 cu. yds.; Miraflores dam and spillway, 79,004 cu. yds.; Pedro Miguel dam, 1,289 cu. yds.

†1,761,344 cu. yds. in 1909. 1910. aud 1911. ††780,696 cu. yds. in 1909, 1910, and 1911. ‡572,435 cu. yds. in 1909, 1910. and 1911.

FILL PLACED IN DAMS—1906-1914.

YEAR.	GATUN.		PEDRO MIGUEL	MIRAFLORES.	
	Wet	Dry	Dry	Wet	Dry
	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.
To January 1, 1911..............	5,833.076	6,128.105	260.852	294,712	609,863
1911..............................	3,493,388	2,613,066	57,669	366,336	460,514
1912..............................	1,402,501	2.499,092	352,159	....	418,042
1913..............................	....	910,741	25,258	....	246.640
1914..............................	....	6,324	......	....	23,364
Totals.	10.728,965	12,157.328	695,938	661 048	1,758,423

CANAL EXCAVATION TO DATE.

By French Companies....................................		78,146.960
French excavation useful to present Canal....................		29,908.000
By Americans—		
Dry excavation..	129,395,037	
Dredges	88,997,427	
Total..		218,392.464
May 4 to December 31, 1904	243,472	
January 1 to December 31, 1905	1.799,227	
January 1 to December 31, 1906	4,948,497	
January 1 to December 31, 1907....................	15,765,290	
January 1 to December 31. 1908....................	37,116,735	
January 1 to December 31, 1909....................	35,096.166	
January 1 to December 31. 1910	31,437,677	
January 1 to December 31. 1911....................	31,603,899	
January 1 to December 31. 1912	30,269,349	
January 1 to December 31. 1913	27,177,960	
January 1 to February 28. 1914	2,934,192	

TOTALS BY SECTIONS AND AMOUNTS TO BE EXCAVATED.

SECTIONS.	Amount excavated.		Remaining to be excavated.	
Atlantic—				
Dry excavation........................	8,858.977	49,383,802	*3,977	3,783,198
Wet	40.524,825		3,787,175	
Central—				
Culebra Cut........................	100,193,473	113,155.692	4.818,527	4,541,308
All other points........................	12.962,219		*277.219	
Pacific—				
Dry excavation........................	10,720,024	55,852,970	67,976	5,626,030
Wet	45,132.946		5,568,054	
Grand total........................		218,392,464		13,960,536

*Estimate exceeded by this amount.

WORK AT RADIO STATION.

Tower Erection at Darien Station to Begin Shortly.—New Stations at Colon and Balboa.

The preparation of the footings for the 600-foot steel towers of the proposed Darien radio station at Caimito is approximately 55 per cent completed. The first shipment of steel for the towers, for the fabrication and erection of which contract was awarded to the Penn Bridge Company of Beaver Falls, Pa., is expected to arrive on the Isthmus the last of this month, or early in April. The Central American Construction Company has a subcontract with the Penn Bridge Company for the erection of the towers.

On account of the irregular topography at the site, locating the footings has been a matter of considerable difficulty, and several surveys and readjustments were made before the present situations were recommended. The present location, which was approved by the Navy Department on December, 3, 1913, will place the center of tower No. 1 about 1,500 feet east of the east bank of the Canal; No. 2, approximately 896 feet north of No. 1; No. 3, approximately 765 feet from No. 2, and about 982 feet from No. 1.

Each of the towers will be built in the form of a steep triangular pyramid, with its base in the form of an equilateral triangle, 150 feet on the side. At each corner of the triangle will be a footing of concrete. The depth of excavation for the footings has varied from 12 to 28 feet below the surface of the ground, the greater depths being necessitated by the irregular surface elevations. The concrete bases will be rectangular in plan, 16 by 20 feet, and 10 feet deep.

The building to serve as quarters for the operators has been practically completed, by forces of the Quartermaster's Department of the Isthmian Canal Commission, and the requisition for furniture for this building has recently been approved by the Navy Department. The location and details of the power house, operating buildings, and quarters for the officer in charge are subject to further consideration before final approval.

New radio stations for relatively local use, as compared with the long distance service of the Darien station, are to be erected at Colon and Balboa, and will supplant the ones now in service at those points. Each of them will have two 300-foot steel towers, 600 feet apart. The present wooden masts at Colon are about 200 feet high, and the antennæ of the present Balboa station are suspended at an elevation of about 110 feet above the ground, between one steel tower and the stack of the power plant.

The new station at Colon will occupy the same site as the present station, adjoining the east limit of the grounds of Colon Hospital. No decision has been reached as to the site of the Balboa station. A proposed location near the outer end of Dump 5 was found to be within the extreme angle of fire from the fortifications, and the selection of another site in the same locality, but not interfering with the reservations for barracks and for the quarantine station, has been referred to a board of officers.

◆

Panama Railroad Firemen.

The privilege of bidding for runs according to seniority in service, in the same manner as locomotive engineers and conductors, has been withdrawn from the firemen in the Panama railroad service, and they will hereafter be assigned with their engineers. This ruling is made in the interests of efficiency, as the effectiveness of the fireman depends considerably on his relations with the engineer, and, because confusion and friction resulted from frequent changes.

◆

Heavy Cargo Receipts at Balboa.

The cargo receipts at the port of Balboa for the week beginning March 15 are expected to be unusually heavy. The steamship *Peru* of the Pacific Mail Steamship Company arrived from San Francisco on Monday, March 16, with 2,100 tons; the *Santa Cecilia* of W. R. Grace and Company, from North Pacific coast points, with 1,200 piles and 224,000 feet of lumber for the Canal Commission, and the *Mexico* of the Pacific Steam Navigation Company, with 767 tons of general cargo, also arrived on Monday. The *Thor* of the Grace Line is due from the north on March 18, with about 300 piles and 779,000 feet of lumber for the Canal Commission, and the steamship *Ucayali*, from the south, is expected on the same date, with about 1,000 tons of general cargo. The steamer *Louis Luckenbach* of the Luckenbach Line, from San Francisco, is also due on the 18th. Owing to the breaking of its propeller, it is in tow of the *Lyra* of the same line. Each of these vessels is carrying about 4,500 tons of cargo. The *Barracouta* of the Pacific Mail Steamship Company, with 22,600 bags of coffee, is scheduled to arrive from Central American ports on March 20.

◆

Repairing Lidgerwood Cars for East Breakwater Service.

It is estimated that 630 Lidgerwood cars will be required in the transportation of rock from Sosa Hill to the site of the east breakwater on the Atlantic side of the Isthmus. These cars will be drawn principally from those retired from service when steamshovel work in Culebra Cut was closed down in September, 1913. While the best of the cars only will be selected, it is planned to have each one designated for this service overhauled and placed in serviceable condition at the Balboa shops; the cost of the repairs per car will probably range from a few dollars to several hundred, with an average of about $250. As this will throw a large amount of extra work on the shops, it has been decided to lay two temporary tracks north of the paint and car shops (buildings Nos. 6 and 7), in the open space between these buildings, and the double track paralleling the roadway, for serving the north ends of the two shops; also, to provide an additional spur track in the open space east of the east end of the lumber and equipment shed (building No. 10). The work of installing the tracks has been begun under the direction of the superintendent of the Balboa terminal. In view of the fact that the Lidgerwoods are required for service by July 1, the average output of repaired cars at the shops must exceed five per day.

◆

The earth embankment through Miraflores Lake, between Pedro Miguel and Miraflores, over which the Panama railroad main line passes, will be riprapped with large rock. The work will be undertaken by forces of the Fourth Division as soon as the riprapping of the embankment at Miraflores spillway is completed, which will be within a few days.

Mr. José Manuel Garcia Cuervo has been appointed consul for the Republic of Cuba at Colon.

EXECUTIVE ORDER

To establish a Washington Office of The Panama Canal, to provide temporarily for the organization, officials, and employes thereof, and to continue in force for The Panama Canal rules, regulations, and Executive Orders which may have been made for the Isthmian Canal Commission.

By virtue of the authority vested in me it is hereby ordered:

SECTION I.

That an office of the Panama Canal is established in the City of Washington in the District of Columbia.

SECTION II.

That the Washington office of the Panama Canal shall be the office of general records in the United States, and shall succeed to the custody, care, and preservation of all the records and files of the Isthmian Canal Commission, to be retained and preserved in the United States on and after April 1, 1914, and shall also succeed to and become chargeable with all property of every kind and character purchased for the Washington Office of the Isthmian Canal Commission, which is on hand April 1, 1914.

SECTION III.

That the Washington Office of The Panama Canal shall be the headquarters and the principal office of the Purchasing Department of The Panama Canal. The head of the Purchasing Department of The Panama Canal, under the direction of the Governor, shall have administrative control of the Washington Office of The Panama Canal. He shall be subject to orders and supervision of the Chief of Engineers of the U. S. Army to such extent as may be directed by the Secretary of War. He shall be General Purchasing Officer for The Panama Canal, and shall also act as the Chief of the Washington Office of The Panama Canal.

SECTION IV.

That until further ordered, the Washington Office of The Panama Canal shall have the same organization as to offices and departments (except the Office of the Assistant Examiner of Accounts and the Disbursing Office) as the Washington Office of the Isthmian Canal Commission shall have on March 31, 1914. The number, class, and salaries of officials and employes in each of the offices and departments, except as hereinafter provided, shall be the same as those authorized for the Washington Office of the Isthmian Canal Commission on March 31, 1914, and any change in the salary of any position, or in the number of positions in any office or department, shall be made only as now provided by law. The officers and employes, except as hereinafter provided, shall perform the same class of duties that they may be assigned to on March 31, 1914.

SECTION V.

That the Assistant Auditor provided for in Executive Order No. 1885, dated January 27, 1914, shall be appointed April 1, 1914. His salary shall be fixed by the Governor. He shall perform such duties of the Accounting Department to be performed in the United States, as may be assigned to him by the Auditor, and also such other duties of a general nature as may be assigned to him by the Chief of the Washington Office of The Panama Canal.

On and after April 1, 1914, there shall be transferred to the Assistant Auditor, and he shall be charged with the custody, care, and preservation of, all records and property of the Disbursing Officer and of the Assistant Examiner of Accounts of the Isthmian Canal Commission, with which those officers shall be charged on March 31, 1914.

The Chief of the Washington Office may, however, transfer to and place in the custody of the Disbursing Clerk, hereinafter provided for, such of the property and records above described, as he may deem to be essential to enable the Disbursing Clerk to properly perform his duties under this Order, but the Disbursing Clerk shall not be permitted, without specific authority from the Chief of Office, to keep a separate set of records and files. He shall be required to rely upon, and consult, when necessary, the records and files in the office of the Assistant Auditor, in verifying the legality of claims and accounts submitted to him for payment, or to verify the details of any collection for which he is required to account. Disbursements will be made by the Disbursing Clerk only after examination of the claim or account in the office of the Assistant Auditor.

Such of the officers and employes employed in the office of the Assistant Examiner of Accounts and the Disbursing Office of the Isthmian Canal Commission on March 31, 1914, as the Governor determines to retain, shall be transferred to and employed in the Accounting Department in the United States, and their salaries fixed at such amounts as the Governor deems just and reasonable.

There shall be a disbursing clerk for that part of the Accounting Department in the United States, who shall perform similar duties to those that are required to be performed by the Collector and Paymaster on the Isthmus, in so far as there are such duties to be performed in the United States, and shall be subject to the same supervision by the Assistant Auditor, as the Collector and Paymaster on the Isthmus are by the Auditor. He shall give bond in such amount as may be fixed by the Governor, or by his authority.

Such of the officers and employes as are transferred to and employed in the Accounting Department in the United States, shall be distributed between the office of the Assistant Auditor and that of the Disbursing Clerk, respectively, as the needs of the service require. They shall perform such duties as may be assigned to them by proper authority. They shall be subject to similar financial responsibilities, and to the same general rules and regulations that have been prescribed for like officers and employes employed in the Accounting Department on the Isthmus.

It is the purpose of this Order, and it shall be so construed, as to require the Assistant Auditor of The Panama Canal to examine all claims and accounts before their payment by the Disbursing Clerk; to carry on all general correspondence in relation to claims and accounts required to be conducted by the Accounting Department in the United States; to prepare all vouchers and certify to the validity of all claims and accounts before they are submitted to the Disbursing Clerk for payment; to furnish to the Disbursing Clerk all necessary data to enable that officer to make reply to any exceptions that may be taken to his account by the Auditor for the War Department; to keep all general records required to be kept in the Accounting Department in the United States; to make all reports as to statistical data required to be sent to the Auditor on the Isthmus; to give an administrative examination to all accounts of the Disbursing Clerk before they are transmitted to the Auditor; to make an administrative examination of all claims which are to be submitted to the Auditor for direct settlement; to keep a complete record of all collections to be made and all moneys received by the Disbursing Clerk; to certify to the correctness of the Disbursing Clerk's accounts for collections; to see that bills collectible are issued and collections made in all proper cases; to have charge of all general files which are required to be kept by the Accounting Department in the United States, and to perform such other duties as may be assigned to him by the Auditor, or the Chief of the Washington Office.

SECTION VI.

That any person holding appointment or employment in or under the Washington Office of the Isthmian Canal Commission on March 31, 1914, shall be eligible for appointment to, or employment in a like position in or under the Washington Office of The Panama Canal, created by this Order, and all except those employed in the Accounting Department, will be considered to be transferred and appointed to such like position in or under the Washington Office of The Panama Canal, as of April 1, 1914, without further order or appointment. The oath of office shall be taken by all officials and employes of the Washington Office.

SECTION VII.

This Order shall remain in force as a provisional Order only, for the establishment of the Washington Office of The Panama Canal, until an Order for the permanent organization of such office shall have been made.

SECTION VIII.

All rules, regulations, and Executive Orders, not inconsistent with the provisions of this Order and the Executive Orders of January 27, and February 2, 1914, heretofore made for the Isthmian Canal Commission, and applicable to conditions that will exist under these Orders, shall be and are hereby continued in full force and effect, as rules, regulations, and Executive Orders for the government of officers and employes of The Panama Canal, and the transaction of the business of The Panama Canal.

WOODROW WILSON.

THE WHITE HOUSE,
March 2, 1914.
[No. 1897.]

Ancon Crusher.

Following is a statement of rock crushed at Ancon quarry during the week ending March 14:

DATE.	Hours worked.	Cubic yards.
March 9	7.30	2,076
March 10	7.25	2,409
March 11	7.05	1,759
March 12	8.15	2,097
March 13	8.35	1,776
March 14	....	437
Total	38.50	10,554

Cars in Panama Railroad Passenger Service.

The passenger service of the Panama railroad is now using 55 coaches, as follows: First-class coaches, Nos. 101 to 115, total, 15; second-class large coaches, Nos. 201 to 210, total, 10; second-class small coaches, Nos. 211, 213 to 222, total, 11; large baggage cars, Nos. 50 to 53, four; small baggage cars, Nos. 54 to 57, four; hospital cars, Nos. 70 and 71, two; chair cars, *Ancon* and *Cristobal*; private cars, *La France* and *Republica de Panama*; specie cars, Nos. 9, 27, and 81; and one pay car, unnumbered.

Family Quarters.

Applications for married quarters on file on February 28. were, as follows:

DISTRICT.	List No. 1.	List. No. 2
Balboa	42 (39)	173 (107)
Ancon	55 (47)	228 (141)
Ancon Hospital	1 (1)	7
Corozal	33 (31)	267 (152)
Paraiso	2	123 (35)
Culebra	1	12 (4)
Empire	....	15 (1)
Gatun	....	91 (9)
Cristobal	2	113 (21)
Toro Point	....	3 (3)
Porto Bello	1 (1)	3 (2)
Total	137 (119)	1,035 (475)

NOTE—The figures in parentheses show the number of applicants already occupying regular or nonhousekeeping family quarters at stations other than those at which applications are filed.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending March 28, 1914:

DATE.	High	Low	High	Low
	A.M.	A.M.	P.M.	P.M.
March 22	12.23	6.38	1.10	7.19
March 23	1.37	7.42	2.08	8.16
March 24	2.32	8.34	2.52	9.01
March 25	3.16	9.17	3 30	9.40
March 26	3.52	9.54	4.03	10.15
March 27	4.24	10.29	4.33	10.48
March 28	4.54	11.01	5.02	11.19

75th meridian time.

Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes, for the week ending midnight, Saturday, March 14, 1914. All heights are in feet above mean sealevel:

DAY AND DATE.	STATIONS.				
	Vigia	Alhajuela	Gamboa.	Gatun Lake	Miraflores Lake
Sun., March 8	124.9	91.3	84.8	84.8	51.6
Mon., March 9	124.9	91.3	84.8	84.8	51.6
Tues., March 10	124.8	91.3	84.8	84.8	51.5
Wed., March 11	124.8	91.3	84.8	84.8	51.4
Thurs., March 12	124.8	91.3	84.8	84.8	51.4
Fri., March 13	124.8	91.3	84.8	84.9	51.3
Sat., March 14	124.9	91.3	84.8	84.9	51.3
Height of low water to nearest foot	125.0	91.0			

Rainfall, March 1 to March 14, 1914.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	0	......	0
Balboa	0	......	0
*Miraflores	0	......	0
Pedro Miguel	.02	9	.02
Rio Grande	T	9	T
Central Section—			
Culebra	T	Sev. dates	T
*Camacho	0	......	0
Empire	0	......	0
Gamboa	0	......	0
*Juan Mina	.01	13	.01
Alhajuela	.01	13	.01
*El Vigia	.06	9	.11
Frijoles	.10	9	.21
*Monte Lirio	.21	7	.46
Atlantic Section—			
Gatun	.12	2	.35
*Brazos Brook	.18	7	.60
Colon	.12	11	.42
†Porto Bello	.09	2	.32

*Standard rain gage—readings at 5 p m., daily Automatic rain gage at unstarred stations—values midnight to midnight. †To 5 p. m., March 13.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The schedule for moving picture entertainments for the week March 23 to 28 is, as follows: Monday, Gatun; Tuesday, Empire and Balboa; Wednesday, Culebra; Thursday, Corozal; Friday, Pedro Miguel; Saturday, Cristobal.

The standing of the teams in the all-Isthmian bowling league, on March 16 was, as follows:

Team.	*Won.*	*Lost.*	*P. C.*
Cristobal	8	4	.667
Empire	9	6	.600
Corozal	10	8	.556
Pedro Miguel	6	6	.500
Culebra	7	8	.467
Gatun	4	11	.267

BALBOA.

Mr. Dewey of Gatun, the expert pool player, defeated R. Johnson and J. Dubendorf of Balboa in an exhibition game at the local clubhouse on Friday night, March 13. The game was close throughout, and there was a large number of spectators. Mr. L. Wheeler of Corozal acted as referee and scorekeeper.

The tables in the pool room are being recovered and equipped with new pockets.

On Friday night, just before the pool match, Mr. Barte of Cristobal played six men at one time at checkers, with the following results: Watson won three and lost one; Smith lost one; O'Hagan lost one; Grund lost one; Delano lost one; Hulsebosch won one and lost one; Heller played a draw, and Montgomery won one and lost two.

The pressing club, which was started on March 1, is doing better than was expected for the first month. Another man will be engaged shortly to take care of the increased work.

A number of Morris chairs and settees have been added to the reading room on account of the increased number of men during noon hour.

If suitable speakers can be procured, a discussion club will be started shortly.

Walter Eccles and the Four College Girls are due here on March 23. Arrangements are being made to have the stage suitably arranged for the occasion, and a number of extra seats will be procured.

COROZAL.

A "Smoker" was given on Tuesday evening, March 10, with the usual cigars and refreshments, supplemented by home made cakes furnished by the ladies of Corozal. The program follows: Selections by Tenth Infantry orchestra; motion pictures; pianologue by Pearsall; bass solos by Cantor; fencing by Russell and Cantor; juggling by Brennan; intermission and refreshments; comedy sketch, "Wise and otherwise, by Brittain and Cantor; violin solo by Whitehead; sleight of hand feats by Christiansen; contortion acts by Arranilla; wrestling exhibition by Christy and Martinoff.

On Sunday evening, March 15, an open air concert was given by the Tenth Infantry band, on the campus directly in front of the clubhouse. The program consisted of the following numbers:

1. March—*The Federal*..........Sousa
2. Suite in four parts—*Atlantis*..........Lafranck
   - (*a*) Nocturne and morning hymn.
   - (*b*) A court function.
   - (*c*) "I love thee." (Prince and Anna.)
   - (*d*) Destruction of Atlantis.
3. Intermezzo—*Aisha*..........Lindsay
4. Excerpts from "The sunshine girl"..........Rubens
5. Waltz—*Toujours au jamais*..........Waldteufel
6. Popular hits—*Remicks No. 13*.....Arr. by Lampe

The Star Spangled Banner.

PEDRO MIGUEL.

The membershp now totals 149, representing about 60 per cent of the male population of Pedro Miguel.

The first meeting of the glee club was attended by 16 persons. Under the leadership of Mr. Frank Gill, the club promises to be a success.

The study club organized on Thursday evening, March 12, selected for its course of study the evolution of the physical, mental, and spiritual life. The next meeting on Friday evening, March 20, will be devoted to the study of astronomy in its relation to the beginning of life. This topic will be under the leadership of Mr. Ira W. Dye.

The first meeting of the first aid class, under the leadership of Dr. Gibson, was attended by 28 men and boys. The first lesson was devoted to a lecture on anatomy and physiology, covering the structure and functions of the different parts and organs of the human body. This class meets every Friday evening at 7 o'clock, and is free to all members. The lesson this week will be on the different kinds of bandages, and the use thereof. The secretary suggests that every member should avail himself of the privilege of attending this class.

The boys will "hike" on Saturday, March 21, to the native village of Arraijan, where typical Panamanian town life may be seen.

CULEBRA.

High scores in duckpins for the past week were, as follows: Schmeck, 105; Barnes, 101.

At the Sunday night service on March 15, Rev. J. A. Dunkum officiated. His subject was "Love constraineth us."

Forty new library books, and a Rand-McNally atlas, have been added to the library.

EMPIRE.

The Empire bowling team bowled the Corozal team on the local alleys on Thursday, March 12, and lost two out of three games. Scores:

Empire.				*Corozal.*			
Barrett	85	83	96	Davis	..	116	135
King	106	100	101	King	86	76	90
Sims	95	78	100	Lowande	97	89	83
Potter	91	94	101	Steele	88	79	92
Gustavcson	102	81	85	Parkis	104	93	94
				Sims	77	..	..
Totals	479	436	483		452	453	494

A lecture was given on accounting, by Mr. H. A. A. Smith and Mr. Oakey, on Wednesday evening, March 11. Until further notice, these lectures will be given weekly. All are invited to attend.

There will be a return engagement of the Walter Eccles company, the date to be published later.

GATUN.

Corozal defeated Gatun three straight games of duckpins on Saturday evening, March 14.

Mr. and Mrs. M. Conley won first prize in a bowling contest held recently.

Special drum and piano music was furnished at the motion picture entertainment on March 12, by Messrs. Sales and White of Cristobal.

The officers and men of the submarine flotilla, now stationed at Gatun, are invited to make use of the privileges of the clubhouse.

Walter Eccles and the Four College Girls will appear at the Gatun clubhouse, on Saturday evening, March 21. There will be reserved seats for this entertainment.

The following are the prize winners of the handicap pool tournament held during the month of February: First, W. R. Baxter; second, J. W. Ludlum; third, M. Hamill. These men will receive gold, silver, and bronze medals, respectively.

Pictures of the "Smoker" taken at the clubhouse recently are now on sale at 50 cents each.

CRISTOBAL.

Colonel Rothwell, in his lecture on General Booth, on Wednesday night, March 11, referred to the work of the Salvation Army in hospitals, rescue homes for girls, homes for the weak minded, employment agencies for released prisoners, employment agencies for the unemployed, and eating and sleeping quarters where bed and breakfast can be procured for as low as 10 cents.

Nearly every boy in Cristobal and Colon Beach, and 27 fathers attended the "Father and son" supper on Friday, March 13. After a "Dutch" luncheon finished off with ice cream, each boy present gave his name, age, and home address; the fathers also gave their names and home addresses, and were requested to each tell a story. Nineteen states and three foreign countries were represented. At the speakers' stand were Mr. Richard L. Metcalfe, Mr. Charles C. Branson, Mr. Charles E. Wiedman, and Mr. John W. Thompson.

Entries are now open for the monthly single folks bowling tournament, to be held on Monday, March 23.

Cristobal took three games from Culebra in the all-Isthmian duckpin tournament, held on Saturday, March 14. The scores follow:

Culebra.				*Cristobal.*			
Barnes	83	85	78	Pinney	84	82	105
Koperski	84	77	77	Farr	92	88	90
Kiernan	79	96	89	Collins	85	102	71
DeCora	91	94	93	Barte	92	87	107
Case	84	88	77	Smith	81	87	93
Totals	421	440	414		434	446	466

Gatun will play duckpins at Cristobal on Saturday, March 21.

Following the volleyball game with Culebra on Saturday, March 21, House 83 will play the "Secret Seven" at indoor baseball.

The Cristobal young men's team athletic contest, which was held on Monday evening, March 9, resulted in a victory for team No. 1. There were 39 entries, the largest in the history of the local clubhouse. These were divided into three teams, and points were scored on the per cent basis. The events were a 100-yard dash (indoor), standing broad jump, running high jump, standing hop, step, and jump, and team relay. F. W. Parker of team No. 1 was the winner of the individual all-around championship with 62.375 points. Following are the winners of the different events:

Standing broad jump—First, Quinn, team No. 2, nine feet; second, Gill, team No. 2, eight feet, 11 inches; third, Bradshaw, team No. 1, eight feet, 10 inches.

100-yard dash, (*indoor*)—First, tie between Quinn, team No. 2, and M. Cotton, team No. 1. Time, 13 4/5 seconds. Second, tie between W. Fraser, team No. 2, Russell and Bradshaw, team No. 1, and Farrell and Schradley, team No. 3. Time, 14 seconds.

Running high jump—First, Nash, team No. 2, five feet one inch; second, Parker, team No. 1, five feet; third, tie between W. Fraser, team No. 2, and Purvis, team No. 1, four feet, 11 inches.

Standing hop, step, and jump—First, W. Fraser, team No. 2, 24 feet one inch; second, Quinn, team No. 2, 24 feet one-half inch; third, Parker, team No. 1, 23 feet, nine and one-half inches.

Relay race—First, team No. 2, three minutes, 19 4/5 seconds; second, team No. 1, three minutes, 22 2/5 seconds; third, team No. 3, three minutes, 23 1/5 seconds.

Points—Team No. 1, 479.475 points; team No. 2, 477.545 points; team No. 3, 444.55 points.

The individual standing of contestants was, as follows:

Name.	*Team.*	*Points.*	*Name.*	*Team.*	*Points.*
Parker	1	62.375	Warburton	1	56.500
Nash	2	61.975	J. Raymond	2	56.300
Quinn	2	61.620	Wechsler	1	55.805
Purvis	1	61.275	Winters	2	55.775
Bradshaw	1	61.075	Gill	2	54.500
Jimenez	3	60.575	Moons	3	54.350
W. Fraser	2	60.050	Bell	3	54.125
Farrell	3	59.325	Stone	3	53.050
M. Cotton	1	58.675	Schradley	3	53.000
D. Raymond	1	58.375	Kaunitz	3	52.025
A. Fraser	1	58.000	Anderson	2	51.850
E. Cotton	1	57.735	Cousineau	2	51.225
Margon	2	57.700	J. Gibson	1	51.050
Russell	1	57.325	Ashton	3	49.775
Billett	3	56.900	Vaucher	2	47.750
Hagan	2	56.600	A. Gibson	3	45.750

Drew and Tuttle, team No. 1, Jaeger and Schwallenberg, team No. 2, and Hughes, Nicholson, and Barcroft, team No. 3, did not compete.

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Supplies for the Canal.

The following steamers, with supplies for the Isthmian Canal Commission and Panama Railroad Company, arrived at the ports of Colon, Balboa, and Cristobal during the week ending March 14:

Advance, March 9, from New York, with 13 packages electrical fixtures, for fortifications; 77 packages drugs, for Sanitary Department; 37 boxes electric lamps, 23 packages steel shutters, 84 bundles conduit, for Mechanical Division; 90 crates roofing tile, 58 packages electrical machinery, 40 bundles steel, for First Division; 45 crates roofing tile, 39 packages roofing material, 109 bundles wire reinforcement, 156 cases conduit and fittings, 500 bags limoid, for permanent buildings; 55 cases beacon lanterns, for Lighthouse Subdivision; 12 packages ranges and fittings, for Dredging Division; 38 crates valves, for Division of Municipal Engineering; 12 barrels molasses, 100 boxes sapolio, 120 cases lard oil, 277 coils manila rope, 52 coils lead pipe, 14 cases rubber packing, 107 packages pipe and fittings, 80 cases paint, 42 kegs wire nails, 219 pieces pipe, 116 pieces iron valves, 60 kegs boat spikes, for stock; and a miscellaneous cargo, the whole consisting of 2,836 packages, weighing approximately 143 tons.

Prinz August Wilhelm, March 9, from New York, with 12 cases electrical material, for Mechanical Division; 240 kegs bolts, for stock.

Commodore, March 9, from Liverpool, with 13 pieces dredge buckets, for Dredging Division.

Mount Vernon, March 10, from Mobile, with 252 packages explosives, for fortifications; 500 cases turpentine, 3,337 peices pipe, 3,537 pieces fittings, for stock.

Heredia, March 11, from New Orleans, with one frog, two switches, for fortifications; two boxes brushes, two boxes tools, for stock.

Atenas, March 12, from New Orleans, with 125 pieces pipe, 100 pieces fittings, 90 pieces untreated piling, 23 barrels rosin, for stock.

Zacapa, March 12, from New York, with 102 packages transformers with oil, seven cases steel shutters, for Mechanical Division; 69 cases hardware, for permanent buildings; 39 packages structural material, six cases electrical machinery, for First Division; nine cases filing boxes, for stock.

Nor, March 12, from Baltimore, with 30,000 pounds ferro silicon, for Mechanical Division; five pieces dredge machinery, for Dredging Division; 715 packages steel bolts and rivets, for Second Division; 396 packages chain fender material, for First Division; 7,414 pieces pipe, 168 pieces fittings, 770 sacks oats, 700 kegs paint, 150 pieces (5,046 board feet) maple lumber, for stock.

Pastores, March 14, from New York, with 18 cases steel shutters, for Mechanical Division; 2,436 pieces steel, 40 cases paint, 60 bundles shovels, 48 packages miscellaneous material, for stock.

◆

LOST—A set of drawing instruments in coach X-57 in Colon, or Cristobal, on Sunday, March 15, between 6.30 and 7.30 p. m. Reward, if returned to F. D. Hurwitz, Corozal.

OFFICIAL CIRCULARS.

Appointment of Subsistence Officer.

CULEBRA, C. Z., March 9, 1914.

CIRCULAR No. 530:

Effective February 25, 1914, Captain F. O. Whitlock is appointed subsistence officer, vice Lieut.-Col. E. T. Wilson, resigned.

H. F. HODGES,
Acting Chairman and Chief Engineer.

Annullment of Circular No. 529.

CULEBRA, C. Z., March 11, 1914.

CIRCULAR No. 529-A:

Referring to Circular No. 529, reading, as follows:

> Mr. D. C. Nutting, superintendent of the Mechanical Division, is hereby designated an accountable officer of the Isthmian Canal Commission, effective March 1, 1914, and as such will make return for all property of the Mechanical Division for the period ending June 30, 1914.

The above circular is annulled, and the accountable officers of the Mechanical Division will remain as they were prior to the issuance of this circular.

H. F. HODGES,
Acting Chairman and Chief Engineer.

Requests for Transfer of Equipment.

CULEBRA, C. Z., March 11, 1914.

CIRCULAR No. 370-E:

Effective March 7, 1914, the surveying officer will investigate and make recommendations on requests for transfer of equipment. This supersedes Paragraph 4, Circular 370-D.

H. F. HODGES,
Acting Chairman and Chief Engineer.

Accountable Officer, Department of Civil Administration.

CULEBRA, C. Z., March 11, 1914.

CIRCULAR No. 490-A:

On accouut of the resignation of Mr. Geo. A. Ninas, chief clerk, Department of Civil Administration, who is accountable officer for all property in use by the Department of Civil Administration, Mr. A. C. Fechtig, storekeeper, Department of Civil Administration, is hereby designated as accountable officer for the property in use in the present Department of Civil Administration, effective as of April 1, 1914. Mr. Ninas will make final return of property as of March 31, and, on final audit and transfer of his accountability, will be given final release by the Examiner of Accounts.

H. F. HODGES,
Acting Chairman.

Signaling at Double Track Wye Connections Between Panama and Balboa.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., March 12, 1914.

G. S. BULLETIN No. 54:

All concerned—The double track wye connections between Balboa and Panama are considered main line in the scheme of signaling at west leg interlocking. The top arm of the 2-arm home signal, therefore, governs the southward wye track to Panama; the lower arm governs the old main line to Balboa Junction.

F. MEARS,
General Superintendent.

Installation of Gauntlet Track, Miraflores Tunnel.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., March 12, 1914.

G. S. BULLETIN No. 56:

All concerned—The interlocking plants at north and south cabins will be put out of service at 10 a. m., Saturday, March 14, for the installation of a gauntlet track which will be placed in service at 9.15 a. m., Sunday, March 15. All signals governing trains entering the tunnel from either end will be left in service, and the staff machines will continue to operate the same as in the past until such time as they will be superseded by automatic signals.

F. MEARS,
General Superintendent.

New Main Line Switch to Margarita Point.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., March 12, 1914.

G. S. BULLETIN No. 55:

All concerned—A new main line switch leading to Margarita Point has been installed about 200 feet north of the southward home signal at Mount Hope cabin. An indicator will be installed at this switch stand within the next few days showing the condition of the tracks as to southward trains. All trains entering the main line at this point must observe this switch indicator in regard to the southward trains, and must observe the southward home signal operated from the Mount Hope cabin as to northward trains.

Until the switch indicator is installed, trains will protect themselves from southward movements when entering the main line at this point, and they must also have a proceed aspect on the southward home signal at Mount Hope cabin before entering the main track.

F. MEARS,
General Superintendent.

Train Order Signal Taken Out of Service.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., March 16, 1914.

G. S. BULLETIN No. 58:

All concerned—Effective at 12 noon, Wednesday, March 18, the train order signal on the Gold Hill line, opposite, and operated from Paraiso Junction cabin, will be taken out of service.

F. MEARS,
General Superintendent.

Installation of Duct Line Between Colon and Cristobal.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., March 16, 1914.

G. S. BULLETIN No. 57:

All concerned—Construction forces will be installing a duct line between Cristobal and Colon, beginning Tuesday, March 17. All trains to run through this erritory carefully during the time the excavations are being made under and around the tracks.

F. MEARS,
General Superintendent.

Examinations by Board of Local Inspectors.

BOARD OF LOCAL INSPECTORS,
ANCON, C. Z., March 14, 1914.

The Board of Local Inspectors will conduct examinations at the Administration Building, Ancon, on Wednesday, March 25, 1914, beginning promptly at 2 p. m., for persons desiring the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for licenses must procure from the Executive Office, Ancon, forms of application and information respecting the filling out of the same, not later than the day previous to the examination. In addition, all persons desiring chauffeurs' licenses must provide themselves with automobiles with which to demonstrate their ability to properly operate the same.

NOTE—The demonstration test for applicants for chauffeurs' licenses will be given on Tuesday, the day preceding the regular examination, at 2 p. m., at the Administration Building, Ancon, and on Wednesday, the day of the regular examination, for out-of-town applicants, at 2 p. m., at the Administration Building, Ancon. No demonstration tests will be given at Cristobal, except by appointment.

HUGH RODMAN,
Chairman, Board of Local Inspectors.

Commissary Cold Storage.

No changes are reported in the list of cold storage supplies sold at the commissaries published in THE CANAL RECORD of March 11.

Misdirected Letters.

ANCON, C. Z., March 16, 1914.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressees:

Beal, Herbert
Buchanan, Samah A.
Dobson, Gilbert Colfax
Hicks, S. P.
Kelley, Grady
Kenton, Irwin D.
Kimes
Kobbe, H. M.
McIntosh, Jeff
Marshburn, Mrs. H. E.
Murphy, Mrs. J. Louise
Pearsall, Clarence
Phillips, A. J.
Shannon, Patrick
Shutt, Mrs. Pearl
Smith, Mrs. Junius M.
Spooner, Michael
Taiman, Nicholas J.
Van Deusen, Mrs. L. M.
Wilson, Jas. G.
Wilts, W. J.
Winn, T. E., Jr.
Wiggins, Miss Eva
Yonce, S. J.
Pemberton, Mrs. Rex

Movement of Vessels, Port of Balboa.

The following vessels arrived at, or departed from, the port of Balboa during the week ending March 14:

Arrivals—March 9, *Mantaro*, from Callao; March 11, *Limari*, from Valparaiso; March 13, *Rupanco*, from intermediate ports.

Departures—March 9, *Aztec*, to San Francisco; *Ucayali* and *Peru* (P.S.N. Co.), to Callao; *Quito*, to intermediate ports; March 14, *Chile*, to Guayaquil; *City of Para* to San Francisco.

LOST—Between Mount Hope and Gatun on March 9, one $25 postal saving certificate, signed by A. M. Bouche; note book and 24-trip pass (1914), addressed to A. M. Butchet, Jr. Finder kindly return to A. M. Butcher, Gatun.

MOVEMENT OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.

		Sails.	Arrives.
*Allianca	P. R. R.	Mar. 14	Mar. 20
*Colon	P. R. R.	Mar. 20	Mar. 26
*Advance	P. R. R.	Mar. 26	April 2
*Panama	P. R. R.	April 2	April 8
*Colon	P. R. R.	April 14	April 20
*Advance	P. R. R.	April 20	April 27
*Panama	P. R. R.	April 27	May 3

CRISTOBAL TO NEW YORK.

†Panama	P. R. R.	Mar. 21	Mar. 27
†Allianca	P. R. R.	Mar. 26	April 1
†Colon	P. R. R.	April 1	April 7
†Advance	P. R. R.	April 7	April 14
†Panama	P. R. R.	April 14	April 20
†Allianca	P. R. R.	April 20	April 26
†Colon	P. R. R.	April 26	May 2
†Advance	P. R. R.	May 2	May 9
†Panama	P. R. R.	May 9	May 15

NEW YORK TO COLON.

Danube	R. M.	Mar. 14	Mar. 23
Prinz Joachim	H.-A.	Mar. 14	Mar. 23
*Santa Marta	U. F. C.	Mar. 18	Mar. 25
Prinz Eitel Friedrich	H.-A.	Mar. 21	Mar. 31
Calamares	U. F. C.	Mar. 21	Mar. 28
*Metapan	U. F. C.	Mar. 25	April 1
*Pastores	U. F. C.	Mar. 28	April 4
Prinz Aug. Wilhelm	H.-A.	Mar. 28	April 6
Tagus	R. M.	Mar. 28	April 6
*Zacapa	U. F. C.	April 1	April 8
Prinz Sigismund	H.-A.	April 4	April 14
*Tenadores	U. F. C.	April 4	April 11
*Almirante	U. F. C.	April 8	April 15
Prinz Joachim	H.-A.	April 11	April 20
*Calamares	U. F. C.	April 11	April 18
Magdalena	R. M.	April 11	April 20
*Santa Marta	U. F. C.	April 15	April 22

COLON TO NEW YORK

Almirante	U. F. C.	Mar. 26	April 2
Calamares	U. F. C.	Mar. 29	April 8
Magdalena	R. M.	Mar. 31	April 7
Prinz Joachim	H.-A.	Mar. 31	April 8
Santa Marta	U. F. C.	April 2	April 9
Pastores	U. F. C.	April 5	April 15
Prinz Eitel Friedrich	H.-A.	April 6	April 15
Metapan	U. F. C.	April 9	April 16
Tenadores	U. F. C.	April 12	April 22
Oruba	R. M.	April 14	April 22
Pr. August Wilhelm	H.-A.	April 14	April 22
Zacapa	U. F. C.	April 16	April 23
Calamares	U. F. C.	April 19	April 29
Prinz Sigismund	H.-A.	April 20	April 29

NEW ORLEANS TO COLON.

Parismina	U. F. C.	Mar. 11	Mar. 18
*Turrialba	U. F. C.	Mar. 14	Mar. 19
Cartago	U. F. C.	Mar. 18	Mar. 25
*Abangarez	U. F. C.	Mar. 21	Mar. 26

COLON TO NEW ORLEANS.

‡Atenas	U. F. C.	Mar. 19	Mar. 24
Parismina	U. F. C.	Mar. 19	Mar. 27
‡Turrialba	U. F. C.	Mar. 26	Mar. 31
Cartago	U. F. C.	Mar. 26	April 3

BOSTON TO COLON.

Sixaola	U. F. C.	Mar. 12	Mar. 18
Carrillo	U. F. C.	Mar. 19	Mar. 27
Tivives	U. F. C.	Mar. 26	April 3

COLON TO BOSTON.

Sixaola	U. F. C.	Mar. 22	Mar. 30
Carrillo	U. F. C.	Mar. 29	April 6
Tivives	U. F. C.	April 5	April 13

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 2 p. m.; for Southampton, on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays at 3 p. m.; for New Orleans, via Bocas del Toro and Havana, on Thursdays at 4 p. m.; ships for New York, via Kingston, on Thursdays, at 2 p. m.; for New York, via Limon and Havana, on Sundays at 5 p. m.; for Limon and Bocas del Toro on Saturdays at 4 p. m.; for Bocas del Toro direct, on Thursdays at 4 p. m.; and for Boston, via Port Antonio, on Sundays at 3 p. m.

Hamburg-American steamers sail for New York, via Kingston and Fortune Island, on Tuesdays, at 10 a. m.; the *Prinz August Wilhelm* and *Prinz Joachim* call also at Santiago de Cuba.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, MARCH 25, 1914. No. 31.

The Canal Record

Published weekly under the authority and supervision of the Isthmian Canal Commission.

The Canal Record is published free of charge, one copy each to all employes of the Commission and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Additional Appointments.

The following additional appointments have been made in the permanent Panama Canal organization:

DEPARTMENT OF OPERATION AND MAINTENANCE.

Col. Harry F. Hodges, Corps of Engineers, U. S. A., to be Engineer of Maintenance, and to act as Governor in the absence or disability of the Governor of the Panama Canal.

PURCHASING DEPARTMENT.

Maj. F. C. Boggs, Corps of Engineers, U. S. A., to be General Purchasing Officer, and Chief of the Washington Office.

SUPPLY DEPARTMENT.

Capt. Robt. E. Wood, United States Cavalry, to remain as Chief Quartermaster for the present, and until the organization of a Supply Department.

HEALTH DEPARTMENT.

Passed Assistant Surgeon, Marshal C. Guthrie, United States Bureau of Public Health, to be Chief Quarantine Officer.

ACCOUNTING DEPARTMENT.

Mr. B. F. Harrah to be Assistant Auditor, with headquarters at Washington.

The following nominations have been sent to the Senate by the President:

Mr. W. H. Jackson, at present Judge of the Circuit Court of the Second Judicial Circuit of the Canal Zone, and Associate Justice of the Canal Zone Supreme Court, to be District Judge.

Mr. W. K. Jackson, now Prosecuting Attorney, to be District Attorney.

Mr. W. H. May, now Private Secretary to Colonel Goethals, to be District Marshal

Last of Dry Excavation for Culebra Cut.

The dry excavation for Culebra Cut will be terminated on March 31, when the three 95-ton steamshovels now engaged in lessening the pressure on the east Culebra slide, north of Gold Hill, will be withdrawn from their pits and made ready for dismantling. The crews of the shovels and of the dump trains which have handled their spoil will be discharged, effective April 1, on account of reduction of force.

Dry excavation at the bottom of the Cut was discontinued on September 10, 1913, on which date 13 steamshovels were engaged on high levels at various points. The number has since been gradually reduced as the work was completed. In the latter part of November, six shovels remained; two of these, on the west bank at Culebra, were withdrawn in December. Since that time, the dry excavation has been confined to the Gold Hill slide. Four shovels were working until the latter part of February, when one was withdrawn. The completion of the dump near New Culebra station, on which the spoil was wasted, and the general condition of the Gold Hill slide, have led to the decision to abandon the use of all the shovels.

Launching of the Pontoon Barge.

The pontoon barge for the permanent crossing of the Canal at Paraiso, which was built on the east bank of the French canal near the Cristobal dry dock shops, was launched on Wednesday, March 25. The launching occurred at about 10.12 a. m., and was a complete success, the whole of the 378-foot length of the barge moving evenly down the ways, with every part of it apparently taking the water at the same time. The momentum carried the vessel well toward the far side of the French canal, and it was brought to a stop by lines from the shore. The barge will be taken through Gatun Locks and Gatun Lake, in tow of two tugs, probably on Friday of this week. On reaching Paraiso, a force of men from the shops of the Dredging Division will begin work on the trestle superstructure. As most of the timbers for this purpose are already shaped, it is probable that the trestle work can be completed in about three weeks' time. The Mechanical Division will then make the necessary connections with the bank approaches.

Last Two 1,000-Cubic Yard Barges Arrive.

The last two of the six 1,000-cubic yard steel barges contracted by the Canal Commission from the Maryland Steel Company, arrived at Colon in the forenoon of Wednesday, March 25, in tow of the tug *Rescue*. The tug sailed, with its tow, from Sparrow's Point, Md., on March 7, and the voyage was without particular incident. The first two of the barges arrived at Colon on December 18, and the second two on January 30.

96,000 Bricks Laid in a Single Day.

In the laying of the brick floor of the completed portion of the quay wall at the Balboa terminals, a squad of five West Indian masons, serving in relays, three men working at the same time, with two resting in reserve, laid in one day of 10 working hours, a total of 96,000 bricks. The entire gang, including the white foreman, Mr. Park T. Andrew, and the men engaged in handling the bricks from the cars, mixing and carrying mortar, etc., consisted of 67 men.

The masons laid the paving between the inner rail of the track along the face of the wharf and the inner coping, a width of 50 feet, over a distance of over 400 feet, covering an area of approximately 20,000 square feet. Counting five men in the squad, each laid at the rate of 1,920 bricks per hour, or 32 per minute; three men being actually at work, the bricks were laid at the rate of 3,200 per man per hour, or 53.33 by each man each minute. The masons were paid 13 cents per hour.

Sosa Hill Quarry Operations Suspended.

Operations at Sosa Hill quarry were suspended at the close of Monday, March 16, and rock for the fill on the Naos Island breakwater will be supplied from the excavation for the dry docks at the Balboa terminals. It is estimated that on March 1 there remained about 292,000 cubic yards of hard rock to be taken from the site for the two dry docks; that this amount will be sufficient for the completion of the breakwater, and that if the Sosa Hill quarry were continued in operation at this time the output from the dry docks would have to be wasted. It is anticipated that operations in the quarry will be resumed about June 1, to supply hard rock for the east breakwater at the entrance to Colon harbor.

One of the two shovels engaged in the quarry has been transferred to the dry dock excavation, where four were previously at work. Excavation in the dry dock site has been carried to over 30 feet below mean sealevel at the lowest point, approximately two-thirds of the final required depth of 45 feet.

Grading East Wing of Gatun Dam.

Forces of the Fourth Division are engaged in grading the north, or downstream, slope of the east wing of Gatun Dam to general evenness and symmetry. Similar work on the lake slope of this wing, and on both slopes of the west wing, has been completed, and the borrow pit in the hills beyond the west end of the dam has been closed.

Red clay is being used in depressions and to grade the crest of the wing at elevation 108 feet above sealevel. This will allow a settlement of nearly three feet and still keep the top above the proposed elevation of 105 feet. Final grading and shaping will be done by the landscape forces. For the present operations, it is estimated that approximately 10,000 cubic yards of clay will be used. This material is being borrowed from a hill to the west of Gatun Locks and southwest of the former storage for rock and sand, used in the concrete of the locks. The borrow pit is in the site of the former village known as Jamaicatown, where foundations of buildings once occupied by the French canal workers are still standing. Some of these have been dug out by the steamshovel. They are thrown aside, as the material required for the grading is smooth clay, without stones. The clay is handled in 18-yard dump cars, dumping from two tracks, which are handled, in the advance of the filling, by a trackshifter. A total of about 100 men is engaged in the operations.

◆

Fares Collected on Panama-Balboa Train.

The passenger coach on the north, or Panama, end of the Panama-Balboa labor train has been reserved to first-class pay passengers, and fares are collected in the same manner as on main line trains. Gold employes of the Canal Commission, the Panama railroad, and the steamship companies with offices at Balboa, are carried without charge in a labor car next to this coach. This change has been made, because the recent increase in the number of gold employes using the train make it impracticable to provide coach accommodations for all of them, and, because it is necessary to provide first-class accommodations, without undue crowding, for the outside patrons of the line who purchase first-class transportation.

◆

Excavation for Quay Wall Extension.

The ladder dredge *Badger*, recently engaged in slide excavation in Culebra Cut, is now excavating at the site of the former sand wharf at Balboa, for the purpose of clearing away rock fill and piling from the site of the proposed extension of the concrete quay wall at the terminals. This extension is designated as Section e–f, and is directly west of the completed portion of the quay wall. The dipper dredge *Cardenas* excavated a quantity of spoil from the site before its transfer to Culebra Cut, but after 17 of the steel caisson shells had been sunk to rock, it was found necessary to continue the clearing. The *Badger* and clapet *No. 9* were transferred from Culebra Cut to the Pacific entrance for this work on March 18. Their passage through bridge No. 57½ at Paraiso was effected between the crossing of northbound train No. 42, at about 9.10 a. m., and southbound returning train No. 43, at about 11.10, and caused no delay to either train.

◆

Missing Men.

Any one having information regarding the whereabouts of Mr. David J. Bedall, who is thought to be on the Isthmus of Panama, is requested to communicate with Mr. A. P. Connor, No. 121 Carroll Street, Southeast, Washington, D. C.

Any one having information regarding the whereabouts of Mr. James B. Osborne, who is supposed to be on the Isthmus, is requested to communicate with the American Legation, Panama.

◆

Portable Staging for Plastering Buildings.

Economy in the plastering of the outside of the lengthwise walls of the general storehouse at the Balboa terminals is being effected by means of staging erected on trucks and moved from section to section, in place of tearing down and reerecting the staging as the work advances. The building is about 402 feet long, outside measurement, and will be plastered from one set of staging, 42 feet long, reaching to the eaves, which are about 30 feet above the surface of the ground. The staging has five horizontal bays, on each of which work four plasterers and a helper. Plaster, mixed by a ½-yard portable concrete mixer, is supplied to the bays by means of an elevator, running up a shaft at the center of the structure. With this outfit, a section 42 feet long receives its first coat of rough plaster in two or three hours, and the rest of the day is devoted to finishing the surface. On the next day, the adjacent section is covered and finished. It is estimated that this arrangement, in addition to being convenient and expediting the work, will effect a saving of approximately $1,000 in the cost of scaffolding for the plastering of one side of the building.

LABOR FORCE AND QUARTERS IN FEBRUARY.

The force report for February 25, shows the actual working force of the Canal Commission on that date to have been 26,817; of the Panama railroad, 4,719, and of the contractors, 265, a total effective working force of 31,801, a decrease of 1,818, as compared with the statement for January. The gold force on the Canal work, composed almost exclusively of white Americans, was 3,908, a decrease of 36, as compared with the previous month. A statement of the Canal force, by divisions, follows:

DEPARTMENT OR DIVISION.	SILVER EMPLOYES*													Total silver.	Total gold.	Grand total.
	Artisans.						European laborers.		West Indian laborers.							
	Monthly	44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents.	7 & 5 cents.			
Construction & Engineering..	3,612	6	4	312	1,090	3,404	857	534	86	157	4,107	2,360	158	16,687	2,845	19,532
Civil Admin....	132	..	..	...	.....	.....	......	......	...	...	.....	......	....	132	325	457
Sanitation......	503	..	..	2	1	5	......	......	...	...	13	307	30	861	246	1,107
Quartermaster's	942	..	..	278	441	874	7	2	...	...	839	1,139	14	4,536	340	4,876
Subsistence.....	645	..	..	1	2	3	......	......	...	...	.....	......	30	681	40	721
Disbursements .	7	..	..	...	.....	.....	......	......	...	...	.....	......	....	7	17	24
Examination of Accounts.....	5	..	..	...	.....	.....	......	......	...	...	.....	......	....	5	95	100
Total......	5,846	6	4	593	1,534	4,286	864	536	86	157	4,959	3,806	†232	22,909	3,908	26,817
Month previous.	5,995	7	7	644	1,665	4,115	1,074	595	65	175	5,366	3,854	‡262	23,824	3,944	27,768

I. C. C. force, 26,817; Panama railroad force, 3,412; Panama railroad commissary force, 1,307. Total 31,536.
*All wages specified are in gold. †Includes 131 at five cents. ‡Includes 96 at five cents.

The force report of the Department of Construction and Engineering, including the employes of contractors, as of February 25 was, as follows:

DIVISION.	SILVER EMPLOYES*													Total silver.	Total gold.	Grand total.
	Artisans.						European laborers.		West Indian laborers.							
	Monthly	44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents.	5 & 7 cents.			
First Div.......	166	..	..	78	321	1,014	3	3	...	...	919	534	24	3,062	459	3,521
Second Div.....	1,027	..	..	36	240	740	331	260	...	...	871	685	43	4,233	596	4,829
Fourth Div	226	..	..	12	37	66	496	172	67	114	63	561	28	1,842	205	2,047
Dredging Div. ..	1,565	..	..	17	48	87	......	......	14	27	243	23	2	2,026	342	2,368
Fortifications Division	141	..	..	49	120	234	2	......	5	16	353	110	3	1,033	92	1,125
Municipal Engineering.....	264	..	..	50	206	488	4	98	...	...	533	325	34	2,002	115	2,117
Mechanical Div.	223	6	4	70	118	775	21	1	...	...	1,125	122	24	2,489	1,036	3,525
U. S. Steel Products Co......	......	..	..	...	.....	.....	......	......	...	...	.....	......	....	187	62	249
Chicago House Wrecking Co.	......	..	..	...	.....	.....	......	......	...	...	.....	......	....	12	4	16
Total......	3,612	6	4	312	1,090	3,404	857	534	86	157	4,107	2,360	†158	§16,687	§2,845	§19,532
Month previous	3,804	7	7	376	1,245	3,538	1,054	594	65	175	4,682	2,617	†180	§18,344	§2,913	§21,257

*All wages specified are in gold. †Includes 100 at five cents. ‡Includes 66 at five cents. §Forces of contractors (total 265 on February 25) not included in these totals.

QUARTERS.

A report of Canal Commission and Panama railroad quarters occupied on February 28, follows:

PLACE.	Gold.			Europeans.			West Indians.		
	Men	*Women*	*Children*	*Men*	*Women*	*Children*	*Men*	*Women*	*Children*
Ancon[1]	609	327	257	6	....	....	978	41	4
Balboa	538	34	38	478	11	11	1,216	110	155
Bas Obispo	2	2	1	....	....	....	12	7	6
Corozal[2]	798	235	199	502	....	....	704[3]	39	28
Cristobal[4]	835	354	387	32	....	....	1,088[5]	195	396
Culebra..........	322	143	130	88	34	65	545	158	315
Empire..........	603	266	305	120	35	58	347	150	263
Gatun..........	440	201	168	254	6	12	633	32	32
Las Cascadas..........	4	....	....	....	....	....	108	98	146
Paraiso..........	288	79	85	102	4	12	345	112	170
Pedro Miguel..........	203	107	117	205	....	....	236	....	....
Porto Bello	60	28	22	73[7]	1	2	213	4	7
Toro Point..........	485[6]	16	12	56	....	....	282	....	....
Total	5,187	1,792	1,721	1,916	91	160	6,707	946	1,522

(1) Includes Sabanas police station, Taboga Island, Culebra Island, Palo Seco, and Naos Island. (2) Includes Miraflores. (3) Includes 72 Panamanians. (4) Includes Colon Beach and Colon Hospital. (5) Includes 32 East Indians, eight American citizens, and 54 Panamanians. (6) Includes 25 Coast Artillery and 413 Tenth Infantry men. (7) Includes 16 Asiatics. Gold force of contractors (included above): four families, 101 bachelors.

SOCIAL LIFE OF THE ZONE.

Cristobal Woman's Club.

The subject of the March programs in the Cristobal Woman's Club was government and politics. At the general meeting on Wednesday, March 4, Justice Thomas E. Brown, Jr., spoke on the Government of the United States, and on March 18, papers were read by club members on the Democratic and Republican parties, their formation and development, woman suffrage, its status and outlook, and socialism, a philosophic outline. The meeting on April 1 will be a program meeting. The subject will be announced later. On April 15, the annual meeting will be held, which will celebrate the seventh year of the club's existence.

Church Notes.

The West Indian section of the parish of St. Ferdinand's Roman Catholic Church, Empire, held an entertainment in the parish house on Saturday evening, March 21, in honor of St. Joseph's Day.

The Woman's Altar Society of St. Ferdinand's Church has suspended its monthly card party until after Easter. It is probable that an entertainment similar to the euchre parties that have been held during the year will be arranged to take place in the parish house in April.

High School Reception.

The Ancon high school held its first entertainment and reception for the year at the schoolhouse on Friday afternoon, March 20. Parents and friends of the students and faculty were present. The assembly hall was decorated with palms and branches of bougainvillea. At the close of the program, ice cream and cakes were served by the pupils of the school. The program was, as follows:

Chorus........................Ancon high school
Dance, three girls of Gatun high school, assisted by Annie Loulan '17; Mary Sibert, '17; Miss Charlotte Rowe '17, and Maud Chester, '17.
Violin solo....................Helen Swinehart, '16
Piano duet......Marion Blake, '14; Dorothy Magunson, '14.
Resumè of the events of the year in the high school..........................Joe Udry, '14
Chorus........................Ancon high school
Vocal solo....................Margaret Griley, '16
Address...Mr. A. R. Lang, Superintendent of Schools.
One-act play, "Six cups of chocolate"—Dorothy Magunson, '14; Blossom Compton, '14; Mildred Herman, '17; Gladys Mergendoller, '15; Esther Francis, '15; Eleanor Comber, '14.
Song—Star Spangled Banner.........The high school
President of the day...Eva Swinehart, '14, class senior

Farewell Banquet for Lieutenant Colonel Sibert.

The committee on arrangements for the farewell banquet to be given Lieut.-Col. W. L. Sibert at the Hotel Washington, Colon, on Thursday evening, March 26, at 9 p. m. is, as follows: Dr. A. G. Farmer, chairman; Frank Gardner Smith, secretary and treasurer; C. W. Duey, H. B. Furlong, W. C. Gayer, J. Fred Huber, T. W. MacFarlane, H. M. Reid, B. F. Sisson, and C. E. Wood. Justice Thomas E. Brown, Jr., will act as toastmaster, and music will be furnished by Gray's orchestra. A special train will leave Bas Obispo on the evening of the banquet at 5.45, run to Panama, thence to Colon, stopping at all stations, and returning, will leave Colon at about 12 midnight. The tickets, which include transportation, will be $3 each, and may be obtained from any of the Commission clubhouses, from any member of the committee, or from the following: Harry Allen, R. E. Snedeker, J. J. Fitzpatrick, E. S. Waid, J. H. Stevenson, J. D. Daly, C. O. Jones, F. H. Wang, John Kiernan, Lieutenant Wilbur, C. O. Carlson, Arthur Kenny, Isaac Andrews, R. M. Gamble, Geo. A. Barte, W. H. Greene, Tim Donahoe, M. Nolan, and F. G. Swanson.

Closing of Schools for Easter Vacation.

The Canal Zone schools will close for the Easter vacation at the conclusion of the afternoon session on Friday afternoon, April 3, and will reconvene on Monday, April 13.

Tennis Tournament.

Following are the results of the tennis tournament, in doubles, held at Empire-Culebra on March 22:

Preliminaries—Corozal (Neely and Sawyer) defeated Empire (Smith and Hart), 6–2, 7–5; Gatun and Cristobal defaulted to Ancon Hospital (Fessler and Erbe); Pacific (Fechtig and Pearman) defeated Culebra (Malsbury and Van Zandt), 6–1, 6–3; Pedro Miguel defaulted to Tivoli (Edwards and Ohlson); Pacific defeated Camp Otis (Swartz and Stewart), 6–1, 6–4.

Semifinals—Corozal defeated Ancon Hospital, 6–4, 6–2; Pacific defeated Tivoli, 6–2, 6–3.

Finals—Pacific defeated Corozal, 6–8, 6–0, 6–4.

The next association tournament will be the "All comers' doubles," and will be held at Ancon on April 10 and 12. The tournament is open to all members of clubs affiliated with the association. The entrance fee for this tournament is $1 for each team, and must be in the hands of the secretary-treasurer, E. F. Ohlson, Ancon, not later than April 7, when the drawing will be made.

Civil Service Examinations.

Examinations will be held, probably on May 3, for the positions of stenographer and typewriter, Isthmian Canal Service; stenographer and typewriter, Philippine Service; and typewriter, Isthmian Canal Service. Applications will not be received after April 7; this date may be changed if necessary. Persons interested should request a copy of Form 1424, which contains information in regard to the abovenamed examinations.

The examinations will be held probably in the Commission clubhouse at Empire, but the place and date should be omitted in applications.

A card of admission will be sent to those found eligible to be admitted, just before the examination.

Competitors in the abovenamed examinations must bring their own typewriting machines to the examination room.

In answer to the questions as to residence, applicants must show residence in a State or Territory in the United States, and county thereof, up to the time of filing application.

ISTHMIAN CIVIL SERVICE BOARD.

CULEBRA, C. Z., March 21, 1914.

Verdict of Acquittal in the Case of C. B. Winn.

The trial of C. B. Winn, an American employed by the Panama railroad as a foreman at the Balboa freight wharf, on the charge of assault with intent to do great bodily harm, took place in the Circuit Court of the First Judicial Circuit at Ancon, on Monday, March 23, Judge H. A. Gudger presiding. The man whom Winn was charged with assaulting was Alfred Meade, a West Indian dock employe. The defendant requested a jury trial in accordance with the Executive Order made effective July 4, 1913. The arguments were completed and the case given to the jury about 11 a. m. on Monday; a verdict of acquittal was returned at 8.25 p. m. on the same day.

PERSONAL.

Col. Geo. W. Goethals, accompanied by Mrs. Goethals, and by Mr. Wm. H. May, his private secretary, sailed from New York on the *Colon*, which is due to arrive at Cristobal on Thursday, March 26.

Col. Henry A. Greene of the Tenth Infantry, U.S.A., accompanied by Mrs. Greene, will sail for New York on the *Ancon*. He has been relieved of the command of the Tenth Infantry, and has been ordered to Chicago to take charge of the militia affairs of the States comprising the Central Department. As lieutenant-colonel, he was with the General Staff of the Army from August 15 to December 6, 1903, and from January 29, 1904 to October, 1906. On October 20, 1906, he was promoted to a colonelcy, and was placed in command of the Tenth Infantry, which was ordered to the Isthmus for duty in September, 1911, arriving at Colon on October 4. Colonel Greene will be given a banquet by his brother officers at the Hotel Tivoli, on Thursday evening, March 26. Maj. Chas. Gerhardt will be in command of the regiment and of the post, as senior officer, until the appointment of a new commander.

Mr. Henry Pittier of the Bureau of Plant Industry in the Department of Agriculture, who has made extensive botanical researches in Central America, and who, a few years ago, establishing his headquarters at Culebra, made several expeditions into the provinces of Panama, returned to the Isthmus on March 14. At the request of the Panama Government, the Department of Agriculture at Washington has granted him six months' leave of absence, for the purpose of preparing the proposed agricultural exhibit at the Panama National Exposition.

Obituary.

Mr. Frank F. Cameron, an employe of the Mechanical Division living at Corozal, who had resigned effective March 18, and was to have sailed for the United States on March 21, was found dead on March 19 near the Panama railway station at Corozal. His death was found to have been caused by hemorrhage of the brain. He was 41 years of age, born in Chicago, Ill., and had been on the Isthmus five years. He is survived by his wife.

Mrs. Catherine Cody of Renovo, Pa., died at the home of her son, M. J. Cody, at Corozal on Sunday, March 15, aged 79 years. She was born in Dublin, Ireland, and had been on the Isthmus for two years.

Mrs. Jennie Stepp, wife of Norman E. Stepp, died at Ancon Hospital on March 21. She was born on June 18, 1872, in Shamokin, Northumberland County, Pa.

The general superintendent of the Panama railroad has requested that all mail from departments and divisions of the Canal Commission intended for the offices of the company in Panama be addressed to Ancon, instead of Panama.

FLOATING CRANES FOR CANAL.

Report of Commission Representative at Works of Contractor in Germany.

The status of work on the two floating cranes of 250 tons capacity, under manufacture for the Panama Canal by the Deutsche Maschinenfabrik A. G., of Duisburg, Germany, is indicated in the latest report received from Mr. Henry Schoellhorn, the representative of the Isthmian Canal Commission stationed at the shops of the contractor. The report is dated February 16, and is about, as follows:

Pontoons—To date the following material has arrived at Emden for the construction of the pontoons:

ARTICLE.	Estimated weight to finish. *Tons.*	Material on hand Feb 15.	Per cent delivered.
Plates	1,236	1,236	100
Profiles	713	713	100
Rivets	140	119	85
Boiler stack	70.5	40	56.7
Condenser	3.6	3.6	100
Piping	6.5	4.5	69.2
Deck fittings	55	30	54.5
Anchor winches	16	16	100
Capstans	13	6.5	50
Anchors	6	0	0
Anchor chains	10.6	10.6	100

Deliveries of the fender oak are complete; none of material for the ventilators has been delivered.

The pontoon for the crane *Ajax* is about 98 per cent erected and 90 per cent riveted. It is presumed that work will be finished on this pontoon about April 15. All the material is in place, except the deck fittings, anchor winches, and piping. There is still a large amount of finishing work to be done, and some drilling, reaming, and riveting on the inside rooms, for which much time will be required. Work has been started on cleaning the compartments, and the painting and cementing of them.

The pontoon *Emden No. 54* is about 95 per cent erected and 70 per cent riveted. It is thought that the red lead paint on it will be sufficiently hard to permit its launching on February 20. In this pontoon the remaining seven watertight compartments have been filled and accepted as watertight. It is presumed that this pontoon will be completed on April 25.

Structural steel above deck—All material for this subdivision has been inspected and all except 28 tons has been delivered at Benrath. Out of a total of 1,200 tons, 947 tons have been completed, or are under construction; 447 tons have been shipped to Emden for erection; 300 tons have been drilled, cut, bent, and partly fitted, and about 200 tons more have been assembled and riveted.

The contractor has begun working night shifts at the Benrath shops. Both bell rings are now completed, and the side walls for the bell for the *Ajax* are ready for shipment. Both king girders have been shipped to Emden. Work will begin shortly on the jibs. These will be completely assembled in one piece at the shops, and then knocked down and shipped. It is expected that both jibs will leave Hamburg about March 28. The erecting crew expects to leave May 1.

Machinery above deck—The structural steel foundations for the machinery houses for both cranes will be assembled next week, and it is thought same can be finished about March 10. The machinery parts for the main hoists, auxiliary, and the luffing gear will be built in during this time. One king pin and bearing (weight, 10.6 tons) have been sent to Emden. The 20 pressure wheels for the bell ring (weight, 6.5 tons) have likewise been shipped.

Electrical equipment—The 300-horsepower steam engines, with generators, have left the works of the manufacturers for Emden. The 17 kilowatt units have likewise been shipped.

Several photographs accompanied the report. They show the bell side walls under construction at the Benrath shops, and the progress of erection on the *Ajax*, the pontoon of which has been launched. The tower, with cap, is completely in place, and about 20 per cent field riveted; a 5-ton erecting crane has been mounted on top, for assistance in further work of erection. Some of the bell ring segments have been placed on the deck.

Contract for the fabrication and erection of the cranes was let in May, 1913, and 580 days were allowed for the delivery of both. The present indications are that they will be delivered within the contract period.

Visiting Days at Palo Seco Leper Asylum.

The steam launch *Louise* will make a special trip to the Palo Seco leper asylum on the first Friday in each month for the purpose of carrying relatives of the inmates in the institution, and no charge will be made for this service. Visitors will not be allowed at Palo Seco at any other time, without special permission. The above arrangement has been made at the request of the governor of the province of Panama, through the Secretary of Foreign Relations of Panama, on behalf of the relatives of inmates of the asylum, who, up to recently, had been furnished transportation facilities in going to and returning from Palo Seco.

Emigration Falls Off.

There was a decided falling off in emigration in February, the excess of departures over arrivals being smaller than at any time during the past six months. The figures for the quarantine service show 3,555 persons as having landed from foreign ports, as compared with 3,847 embarkations, a net emigration of 292. The total net emigration for seven months ending February 28, 1914, was 12,440, the greater part of which consisted of Canal employes.

The total number of steamship passengers embarking from the ports of Colon and Cristobal for foreign ports during February was 3,250, consisting of 1,408 cabin, and 1,842 steerage passengers. The number of persons landing from foreign ports was 3,104, consisting of 1,557 cabin, and 1,547 steerage passengers. The number of persons who embarked over those who landed at these ports was 146. There was a considerable increase in the immigration of steerage passengers from West Indian ports, but other countries contributing to this class of immigrants showed no appreciable increase. The immigration of steerage passengers from Europe established a new low record for recent years, only 34 persons in this class arriving during February. There were 109 passengers arriving in steerage from the United States, 99 from Colombia, 50 from Guatemala, and 82 from Costa Rica. The number of persons arriving at the Atlantic ports "In transit" during February, nearly all tourists, was 4,052, as compared with 2,392 in January, the previous best month during the present tourist season.

The number of persons arriving at the ports of Ancon and Panama from foreign ports during February was 451, consisting of 342 cabin, and 109 steerage passengers. The number of persons embarking for foreign ports was 597, consisting of 364 cabin, and 233 steerage passengers. The number of those who embarked over those who landed was 146.

The total number of vessels arriving at Colon during the month of February was 89. The number of vessels arriving at the port of Ancon was 18.

Concrete in the Locks and Auxiliary Works.

The following is a statement of the concrete laid in the Canal locks and auxiliary works up to March 1, 1914:

	Cu. Yds.
Gatun Locks	2,068,424
Gatun spillway	232,256
Gatun hydroelectric station	11,026
Gatun control house, ducts, etc.	3,170
Pedro Miguel Lock	927,943
Miraflores Locks	1,506,563
Miraflores dam and spillway	79,004
Pedro Miguel-Miraflores duct line	6,193
Total	4,834,579
Total for the month	3,842

Construction Company in Hands of Receiver.

The Central American Construction Company, Limited, of Colon, was placed in the hands of a receiver on March 12, by the Third Circuit Court of the Canal Zone, in session at Cristobal. The action was in response to a motion brought by one of the company's creditors. Mr. Louis F. Phillips, manager of the Colon branch of the International Banking Corporation, was appointed reeeiver, with authority to continue the business of the company, to the extent of completing present contracts.

This company has a contract with the Panama Railroad Company for the completion of the Masonic building in rear of the commissary store at Cristobal; for the present, pending developments as to the ability of the receivership to complete the work, the contract remains in *statu quo*. Under the terms of the contract for the construction of the sheds on Docks 9 and 10 at Cristobal, the work was taken over by the Panama Railroad Company on March 5, on account of lack of diligence displayed by the contractor. The contract for the erection of the Panama railroad passenger station at Panama has been practically completed, and will remain in force.

Repairs to P. R. R. Passenger Equipment in Panama Yard.

For the proper inspection, cleaning, watering and icing, and for the making of minor repairs to passenger equipment in the Panama yard of the railroad company, it has been decided to install four additional tracks, spaced on 16-foot centers, directly west of that part of the yard used by the Panamanian Government for storage purposes. The work for which these tracks are designed will require the use of compressed air, and a 2-inch main will be laid from the Balboa shops to the yard for this purpose. The cost of the installation will be borne by the railroad company.

Strangers Club.

The entertainment committee of the Strangers Club announces a change in date of the semimonthly dances to Saturday evening, beginning March 28. Subsequent dates will be published in the next issue of THE CANAL RECORD.

FRANK SCOTT, *Chairman.*

Colon, R. P., March 25, 1914.

P. R. R. GRAVEL PLANT.

Unloading Crane, Formerly at Balboa, Now in Service at Gamboa Gravel Bins.

The unloading crane at the Panama railroad's gravel handling plant on the bank of the Chagres River at Gamboa was placed in service last week, and is now delivering gravel into the storage bins at the rate of two barge loads a day. The crane is one of the three sand unloaders formerly in use at Balboa in the Punta Chamé service. It is operated by electricity generated by a 300-kilowatt motor-generator installed in a building of temporary construction, situated about 100 yards distant from the unloading plant. The machine was formerly used by the McClintic-Marshall Construction Company in its machine shop at Gatun Locks. In addition, the power plant is equipped with a 175-horsepower Buckeye tandem engine, formerly used in the pumping plant on the bank of the Chagres River at Gamboa, and prior to that time in the old planing mill at Empire; and a boiler, formerly belonging to railroad locomotive No. 203. The latter is provided with oil-burning apparatus, the oil being supplied from a small tank located on a hill nearby, which, in turn, is supplied direct from the oil company's main.

Until recently, gravel has been unloaded from barges by a locomotive crane, and the demand to date has about kept pace with the supply, although a small amount has been placed in the storage pile, just south of the bins. Gravel is dredged and brought to the unloading dock by floating equipment of the Dredging Division. Dredge *No. 1* is engaged in this service, and is now working in a gravel bed a short distance up the river from the site of the old town of Cruces. When the gravel dredging operations were first begun, it was found that the dredge buckets brought up the material in so dry a condition that the chute frequently became clogged. In order to remedy this difficulty, two jets of water are made to play under pressure continuously on the material as the buckets dump it into the chute, which serves to wash it down into the barges. When the barges are full, part of the water is expelled naturally over the sides, and the remainder is siphoned out. Three barges, one of 600 cubic yards capacity, and two of 500 yards capacity each, together with the tug *De Lesseps*, comprise the remainder of the floating equipment in this service.

With the unloading crane operating steadily, it is expected that from two to three barge loads of sand will be handled daily, except Sunday. The bins have a capacity of about 2,000 cubic yards, and are similar in construction to the sand bins at Balboa. It has been found, however, that the valves which control the flow of gravel into cars underneath the hoppers frequently become clogged on account of large stones occurring in the gravel, and to obviate the loss of time in dislodging them, the openings will probably be enlarged.

The force employed on the floating equipment consists of three gold, and 38 silver employes; and at the unloading plant and generator room, three gold, and eight silver employes. In addition, there is train service attached to the plant, with a regular qualified train crew. About six dump cars are used about the plant in transferring gravel to the storage pile, etc. The foreman of the plant is Mr. A. B. Kratz, who occupies married quarters converted from the building formerly occupied by the Panama railroad as a signal station, and known as Tower R. The most of the silver men at the plant live in box cars, while the men of the floating equipment eat and sleep on board. It is probable that gravel dredging operations will continue for a period of about two years, and a large amount will be stored against future requirements.

◆

Concentration of First Division Offices at Pedro Miguel.

Effective March 16, the offices of the First Division at the Pacific Locks were concentrated at Pedro Miguel. The general office for the supervisors is in the building situated about midway between the railroad station and the east emergency dam, and the office for the foremen engaged at Pedro Miguel is in the storage building at about the center of the east backfill.

When the First Division began the installation of machinery on the Pacific side, about two years ago, most of the work was at Pedro Miguel Lock, where the concrete work was farther advanced than at Miraflores Locks. A branch office was opened at Miraflores Locks about six months later, and, during the period of greatest activity there, the principal office was at that point; now that most of the work at both locks has been done, the offices are concentrated at Pedro Miguel for greater convenience, and on account of reduction in messenger and telephone expenses, etc.

◆

Increase in Second Division Organization.

The organization of the Second Division (Atlantic terminals) was increased on March 10 by the employment of one foreman and one steam engineer on the gold force, and one foreman, one fireman, one clerk, one boatswain, five boatmen, two piledriver helpers, 20 carpenters, 10 laborers, and one boy on the silver force. These additions will permit of a double shift being placed on the trestle construction at Coco Solo Point. The employment of one watchman on the silver roll has also been authorized.

◆

McClintic-Marshall Company to Close Local Office

The work of the McClintic-Marshall Construction Company, the lock gate contractors, has been practically completed for several weeks, but a temporary office has been maintained in the old division headquarters at Gatun since the abandonment of the company's office near the locks, for the closing up of its remaining affairs. This office, which has been in charge of Mr. H. J. Zane, Jr., the local auditor, will be closed on March 31, and the representatives now on the ground will leave for the United States shortly thereafter. All mail for the McClintic-Marshall Construction Company should be addressed on and after that date to the company's head offices in Pittsburgh, Pa.

◆

Removal of Coca Cola Bottling Works.

The bottling works of the Panama Coca Cola Bottling Company, Incorporated, situated at Cartagenita, on the west bank of the Canal, nearly opposite the village of Paraiso, will be moved into Panama city in the near future. This was one of the first industrial enterprises established in the Canal Zone after the American occupation. It was opened in 1905, by Mr. W. N. Seitz, who conducted it mainly as a soda water factory until its sale to the Panama Coca Cola company a few years ago. Mr. Seitz selected the site, because of its proximity to the Paraiso springs, which share with the springs on the island of Taboga, the reputation of being the purest water to be found in this part of the Isthmus. The springs are a few hundred yards from the factory, which is situated at a point lower down, so that the water is piped in by gravity; they enjoy a perennial flow, although a protracted dry season affects them to some extent. Both the springs and the works were formerly directly on the old main line of railroad, and when the route was changed to the present location, east of the factory, the loading platform had to be extended for some distance. The present move is in accordance with the Government policy of depopulating the Canal Zone.

◆

Suez Canal Traffic in 1913.

(*Engineering News.*)

Traffic through the Suez canal, which has shown an almost continuous growth ever since its opening, was less in 1913 than in 1912. Had this falling off occurred a year later, it would have been ascribed, of course, to the opening to traffic of the Panama Canal. As it is, the cause must be sought elsewhere, and it is doubtless found in some slackening in the phenomenal activity in international trade which prevailed in 1912.

What makes the falling off in traffic quite remarkable is that it occurred just after the rate of toll on vessels passing through the canal had been reduced, which might have been expected to stimulate the traffic. The figures for the number of vessels, total tonnage, and total receipts from tolls, for the last three years are, as follows:

YEAR.	No. Vessels.	Total tonnage.	Receipts.
1911..........	4,969	....	$25,287,632
1912..........	5,373	28,008,945	25,652,016
1913..........	5,085	27,737,180	23,735,140

◆

Dock Construction at Cristobal.

The last of the steel shell caissons to support Dock 10, connecting the outer end of Dock 9, at the extremity of Cristobal Point, with the old timber wharf known as Pier 11, have been placed and will be filled with concrete, reinforced vertically by four 70-pound steel rails. Forms are being built on the completed caissons for the extension of the reinforced concrete superstructure. The superstructure is completed for about 200 feet from the juncture with Dock 9, and the steelwork for the shed has been erected over about half of this distance. The total length of Dock 10 is to be 426 feet, and its other features of construction are to be similar to those of Dock 9.

Dock 9 is completed, with the exception of about 200 feet at the outer end, where the construction of the roof and walls, and the encasing of the truss members in concrete, in place of painting, are in progress. Dock 8 has been completed and placed in commercial service.

◆

Arrival of Lieutenant-Colonel Deshon Delayed.

Lieut.-Col. George D. Deshon, detailed by Paragraph 21 of War Department Special Orders No. 53, dated March 5, 1914, for duty as superintendent of Ancon Hospital, has been given permission to report to the Governor of the Panama Canal on May 1, 1914, instead of April 1. This will not, however, affect the relief of Colonel Phillips, mentioned in *The Canal Record* of March 18.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The schedule for moving pictures for the week March 30 to April 4 is, as follows: Monday, Empire; Tuesday, Culebra and Balboa; Wednesday, Corozal; Thursday, Pedro Miguel; Friday, Cristobal and Porto Bello; Saturday, Gatun.

The standing of the teams in the all-Isthmian duckpin tournament on March 23 was, as follows:

	Won.	*Lost.*	*P. C.*
Cristobal	10	5	.667
Empire	9	6	.600
Corozal	11	10	.524
Culebra	9	9	.500
Pedro Miguel	7	8	.467
Gatun	5	13	.235

The schedule for the special reels showing the pilgrimage of the Osman Temple Shriners, St. Paul, Minn., to the Canal Zone is, as follows: Cristobal, March 24; Corozal, March 30; Empire, April 1; Pedro Miguel, April 2; Balboa, April 3; Gatun, April 7.

COROZAL.

High scores for the week on the bowling alleys were, as follows: *Duckpins*—McDonald, 102; Webb, 100; Regan, 100. *Tenpins*—Roberts, 220; Parkis, 214; Sims, 204.

On Saturday, March 21st, 19 boys from the Corozal and Pedro Miguel associations had an excursion to Fort San Lorenzo. They were accompanied by Mr. Page and Mr. Dwelle.

There was an attendance of nearly 500 at the concert given by the Walter Eccles and the Four College Girls on March 16.

PEDRO MIGUEL.

The results of the chess match between the Corozal and the Pedro Miguel teams, played on Friday night, March 20 were, as follows.

Pedro Miguel.	*Won.*	*Lost.*	*Corozal.*	*Won.*	*Lost.*
Wilson	½	1½	Fields	1½	½
Shropshire	1	1	Mills	1	1
Capwell	0	2	Morehead	2	0
	1½	4½		4½	1½

The results of the bowling games rolled on the Pedro Miguel alleys on Friday night, March 20, between the Corozal and Pedro Miguel teams were, as follows:

Pedro Miguel	443	461	380
Corozal	469	433	446

New shoes and gymnasium uniforms have just been received, and are now on sale at the desk.

Increasing interest is shown in the first aid classes, and the lesson given by Dr. Gibson on methods of resuscitation and the treatment of dislocations and fractures on Thursday evening, March 19, was very instructive. All those who have not attended the classes are invited to do so.

The entertainment given last Thursday evening, by the four college girls company was attended by over 400 people. There will be an entire change of program at the return engagement on Thursday evening, March 26.

CULEBRA.

There was the largest attendance of the season at the entertainment given by Walter Eccles and the four college girls on Tuesday night, March 17. This company will give a return engagement on Friday night, March 27, with a change of program. The entertainment will begin at 8 p. m.

High scores in duckpins for the past week were, as follows: R. Koperski, 110; Ferguson, 104; Palmer, 100, 102, 103, 102, 102; Case, 105; Holme, 104; Seeley, 103, 108; Bechlein, 105; Kiernan, 102, 101; Brown, 108, 102; Phillips, 105; Ellsworth, 105, 121.

Culebra took two out of three games from the Corozal bowling team on Wednesday, March 18, with the following scores:

Corozal.				*Culebra.*			
Davis	94	95	91	Koperski	91	115	88
Steele	87	92	80	Kiernan	89	91	92
King	84	81	86	Barnes	80	89	85
Lowande	92	80	82	DeCora	85	88	98
Parkis	107	94	81	Case	93	97	92
	464	442	420		438	480	455

On Sunday night, March 28, slides entitled "Strolling through Old England" with a descriptive lecture, will be shown. Admission will be free to all. The program will begin at 7.30 sharp.

EMPIRE.

A match tenpin bowling game was played on the Empire alleys on March 19, between the 1907 Cristobal team and the 1907 Empire team. The Cristobal team won two out of three games, with the following scores:

Cristobal	786	881	788
Empire	812	829	765

The lectures on accounting given by Mr. H. A. A. Smith and Mr. Oakey have been changed, and will be given twice weekly, on Monday and Thursday evenings, until further notice. All are invited to attend.

On Saturday, April 4, there will be a gathering of all the chess clubs at Empire. The winner of the recent Isthmian chess tournament will be presented with a medal. A special program is being prepared and all those interested are invited to attend.

GATUN.

The gymnasium floor is being improved by the repainting of the lines for handball, baseball, and basketball.

The college girls company will give a return engagement at the clubhouse on Tuesday evening, March 31. Three hundred and thirty-five people attended the first entertainment.

Mr. P. P. Scott gave an interesting lecture on the past present, and future of Florida on Thursday evening, March 19.

The new game of indoor hockey was tried out at the clubhouse on Saturday morning, March 21. The boys are greatly interested in the new game.

Four girls of the gymnasium class gave an exhibition of folk dancing at the Ancon high school reception on Friday afternoon, March 20. They were chaperoned by Mrs. Cheatham and Mrs. Rowe.

The "Sports" and "Millionaires" played a game of basketball on Wednesday evening, March 18. The score was tied at the end of the second half, making it necessary to play an extra period, in which the "Millionaires" won. The final score was 30 to 28.

Following the challenge of Mr. T. Wehmeier of Cristobal, to Mr. H. E. Dewey of Gatun, a championship pool match was played, as follows: 150 balls at Gatun on Wednesday evening, March 18, and 150 balls at Cristobal on Thursday evening, March 19. Mr. Dewey won the match. The results were: At Gatun, Dewey, 161; Wehmeier, 139; at Cristobal, Dewey, 139; Wehmeier, 113. Totals, Dewey, 300; Wehmeier, 252. Mr. Dewey, therefore, retains the championship of the Isthmus. The Gatun Y. M. C. A. challenges any other Y. M. C. A. on the Isthmus to a championship game of pool or billiards.

In the gymnasium classes, which are being held twice each week, particular attention is paid to dumb bell and pyramid exercises. New members may join the classes at any time. If a sufficient number of men are interested in the study of first aid to the injured, a class will be organized.

CRISTOBAL.

Three hundred and seventy-six people attended the Walter Eccles and the Four College Girls' entertainment on Friday, March 20. This is probably the largest attendance on record for a United States entertainment at the Cristobal clubhouse. There will be a return engagement on Monday, March 30.

The Culebra volleyball team defeated the Cristobal team by the scores of 21 to 3, and 21 to 11, on Saturday night, March 21.

House 83 defeated "Secret seven" at indoor baseball immediately following the volleyball game. Score, 21 to 14. The line-up was, as follows: *House* 83—Russell, MacSparren, Schradley, Gordon, Schwallenberg, and Parker. *Secret seven*—D. Raymond, J. Raymond, Bradshaw, Tuttle, W. Fraser, and A. Fraser.

Cristobal took two out of three games from Gatun in the all-Isthmian duckpin tournament, held on Saturday, March 21. The scores follow:

Gatun.				*Cristobal.*			
Dunville	81	86	93	Pinney	93	93	109
Walsh	106	111	88	Scheid	74	78	76
Richardson	80	70	72	Farr	118	99	88
Ryan	86	84	77	Barte	70	76	113
Claherty	95	94	113	Smith	101	95	92
Totals	448	445	443		456	441	478

A variation bowling tournament will be held on Wednesday night, April 1. A progressive match will be played with a different game on each alley. The Cristobal bowlers are urged to be present at this tournament.

High scores in duckpins were, as follows: Pinney, 119; G. R. Farr, 118; Russell, 115; G. Scheid, 102; Patterson, 100; Hurst, 100.

Thirty-six new library books were received for general circulation during the past week.

Mr. W. M. Baxter, who is connected with the sightseeing train, will address the discussion club on Thursday, April 2, "On some misconceptions held of the Panama Canal."

PORTO BELLO.

A "Smoker" was held on Saturday night, March 21. During the evening, medals were presented to the winners in the handicap pool tournament recently completed, E. F. Baker winning the gold medal, and L. J. King the silver medal. The following program was given: Fancy dancing, by H D. Brittin; baritone solo, by Mr. Cantor; fancy trick skating, by J. Carson; solo, by Mrs. J. H. Murray; tumbling, by H. D. Brittin; solo, by Mr. Cantor; juggling, by J. T. Brennan; solo, by Mrs. Murray.

About 100 slides, illustrating the work on the Canal at various points, including recent pictures, were shown at the song service on Sunday night, March 22.

The college girls are booked for Porto Bello on Saturday night, March 28.

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Supplies for the Canal.

The following steamers with supplies for the Isthmian Canal Commission and Panama Railroad Company, arrived at the ports of Colon. Balboa, and Cristobal during the week ending March 21:

Panama, March 15, from New York, with 30 boxes electric lamps, 450 pieces car castings, 24 cases machinery, 29 cases electrical machinery, 12 barrels car coupler parts, 51 boxes electric lighting material, 135 bundles conduit, for Mechanical Division; 300 bags sawdust, 992 bundles reinforcing bars, 1,500 bags plaster, 1,560 bags plaster, 200 barrels cement, 2,000 bags limoid, 75 barrels plaster, for permanent buildings; 171 bundles reinforcing bars, for Panama Railroad Company; 56 reels copper wire, for lighthouse subdivision; 150 cases electrical machinery, for First Division; 28 coops live poultry, for Sanitary Department; 80 kegs galvanized nails, 101 crates valves, 100 cases soap, 992 bales hay, 111 rolls galvanized wire, 20 drums lubricating oil, 37 crates machine tools, 1,150 bundles steel bars, 20 drums marine engine oil, 600 pigs lead, for stock, and a miscellaneous cargo, the whole consisting of 12,933 packages, weighing 747 tons.

Santa Cecilia, March 16, from San Francisco, with 9,600 board feet redwood lumber, for permanent buildings; 141 pieces Douglas fir untreated piling, for Toro Point breakwater; 10 pieces Douglas fir spud timbers, for Dredging Division; 489,935 board feet redwood lumber, for stock.

Prinz Sigismund, March 16, from New York, with eight packages electrical material, for Mechanical Division; seven cases blasting fuse, 279 bundles galvanized pipe, 257 pieces galvanized pipe, for stock.

Hilding, March 17, from Mobile, with 37,802 pieces clay conduit, 58 bags pins, for Panama Railroad Company; 1,600 pieces sewer pipe, for stock.

Almirante, March 18, from New York, with 13 barrels porcelain insulators, seven cases electrical machinery, for Mechanical Division; 10 cases electrical machinery, for First Division; 350 pieces plate steel, eight reels wire rope, 450 steel bars (stock steel), 2,260 bundles steel bars (stock steel), 420 pieces angles, steel, 25 pieces channels, for stock.

Parismina, March 18, from New Orleans, with 22 cases electrical material, for Mechanical Division; 174 packages doors and windows casings, for permanent buildings; 800 pieces pipe, 1,500 pieces pipe-fittings, 17,905 board feet yellow pine flooring, for stock.

Turrialba, March 19, from New Orleans, with 303 pieces untreated yellow pine piling, for Second Division, 412 packages doors and window casings, for permanent buildings; 999 pieces cast iron pipe, 14,880 board feet yellow pine lumber, for stock.

Lewis Luckenbach, March 20, from San Francisco, with 803 barrels asphalt, for Balboa terminals; one piece marine machinery, for Dredging Division; 40 cans carbon bisulphide, for stock.

Allianca, March 20, from New York, with 50 barrels cement, 121 crates roofing paper, 15 boxes roofing cement, 41 barrels paint, 20 tubs putty, 400 barrels cement, 88 crates roofing material, 400 barrels cement, for permanent buildings; 180 crates tiling, 235 cases electrical machinery, 29 cases woodwork, for First Division; 22 cases electrical machinery, 170 crates fire brick, 32 sacks fire clay, 56 bundles conduit, 37 packages electrical material, for Mechanical Division; 21 packages signal material, for Panama Railroad Company; 20 cases sal soda, for Dredging Division; 76 pieces pipe, for Division of Municipal Engineering; 67 boxes paper napkins, 175 pieces steel beams and channels, 193 pieces steel bars, 50 cases paint, 32 boxes solder, 49 bundles rubber hose, 363 drums lubricating oil, 50 cases lubricating grease, 33 crates hooks, 25 barrels iron valves, for stock; and a miscellaneous cargo, the whole consisting of 3,367 packages, weighing 358 tons.

Ancon, March 20, from New York, with 11 barrels glassware, for lighthouse subdivision; five cases steel shutters, five boxes electric light material, 100 pieces car castings, for Mechanical Division; 25 pieces pipe, 15 crates valves, for Division of Municipal Engineering; one piece dredge machinery, seven pieces dredge parts, for Dredging Division; 45 cases chain fender material, six electric towing locomotives, 147 cases electrical machinery, for First Division; 164 bundles reinforcing steel, for permanent buildings; 285 packages armament material, for fortifications; 51,720 bags cement, 1,029,200 pounds coke, 28 cases writing paper, 40 barrels creosote oil, 146 drums lubricating oil, 170 kegs bolts and nuts, for stock; and a miscellaneous cargo, the whole consisting of 53,148 packages, weighing 4,445 tons.

OFFICIAL CIRCULARS.

Observance of Good Friday.

CULEBRA, C. Z., March 19, 1914.

CIRCULAR No. 533:

So far as consistent with the transaction of public business, Friday, April 10, (Good Friday), will be observed as a holiday in the Canal Zone.

Good Friday is not included in the list of holidays for which gratuity pay is allowed, and pay for services performed on that day will be calculated the same as for Sundays.

Holy Thursday will be considered an ordinary working day and payment made accordingly.

H. F. HODGES,
Acting Chairman and Chief Engineer.

Leave Privileges.

CULEBRA, C. Z., March 19, 1914.

HEADS OF DEPARTMENTS AND DIVISIONS:

The Executive Order "Providing conditions of employment for the permanent force for the Panama Canal" states:

> "Section 20. All employes who are citizens of the United States, and aliens whose compensation is more than $75 per month, or 40 cents per hour, shall be entitled to leave privileges."

You are requested to send at once to the Office of the Chairman information slips (Form C. E. 195–3) completely filled out for each employe in your department or division who is:

1. A citizen of the United States on the silver roll.
2. An alien with compensation of more than $75 a month, or 40 cents an hour.

In order that the leave record of such employes may be properly kept, changes in their status will be reported after April 1, the same as in the case of employes on the gold roll.

Your attention is also called to the fact that after April 1, the only aliens that may be employed in grades paying more than $75 a month, or 40 cents an hour, are those who have occupied similar positions during the construction of the Canal for two years or more. Steps should be taken, therefore, to discharge, as soon after April 1 as possible, all aliens not in the excepted class.

H. F. HODGES,
Acting Chairman.

Appointment of Accountable Officers.

CULEBRA, C. Z., March 23, 1914.

CIRCULAR No. 535:

In future, accountable officers will be designated by the Examiner of Accounts, subject to the approval of the Chairman. No accountable officer will be relieved from accountability until final audit has been made of his property accounts, unless another accountable officer assumes entire accountability for all property carried on the return for the current period.

H. F. HODGES,
Acting Chairman, Isthmian Canal Commission,
Second Vice-President, Panama Railroad Company.

Rates for Supplying Electric Current to Employes for Other than Standard Lights.

CULEBRA, C. Z., March 20, 1914.

CIRCULAR No. 311–B:

Effective April 1, 1914, electric current for other than standard lights will be supplied employes of the Panama Canal and Panama Railroad Company who are occupying quarters assigned by the Quartermaster's Department, under the following regulations:

> Current will be sold to employes for the operation of small electric appliances and electric heating apparatus, when approved by the Governor of the Panama Canal, at the following monthly rates:
>
> For each piece of apparatus, excepting lamps, having a maximum power consumption of 100 watts or less.................................. $ .50
>
> For each piece of apparatus having a maximum power consumption of more than 100 watts, and not more than 550 watts..................... $ .75
>
> For each piece of apparatus having a maximum power consumption of more than 550 watts, and not more than 1,000 watts..................... $1.00
>
> For each piece of apparatus having a maximum power consumption of more than 1,000 watts, and not more than 1,500 watts................. $1.25
>
> A special rate will be fixed for any apparatus having a power consumption in excess of 1,500 watts.

Application for the above service should be made by the employe to the Chairman and Chief Engineer on Form No. C. E. 350–1, provided for that purpose.

Any employe using or permitting electric current to be used in his quarters, after March 31, for any other purpose than for lighting with the standard lights furnished by the Commission, without securing authority therefor in advance, and paying for the current thus used, will be subject to discharge.

Suitable outlets for the use of all electric appliances requiring more than 100 watts will be provided in wooden quarters upon approved application from employes. No additional outlets, however, can be provided in the permanent quarters now in course of construction.

Any employe occupying quarters not on the 24-hour circuit, desiring continuous service, shall pay the expense of providing same.

No charge will be made for less than a full month. Charges shall date from the first of each month, and shall be payable in advance. Circular No. 311 of March 1, 1910, is hereby revoked.

H. F. HODGES,
Acting Chairman and Chief Engineer.

Accountable Officer, Subsistence Department.

CULEBRA, C. Z. March 16, 1914.

CIRCULAR No. 532:

Effective February 25, 1914, Capt. F. O. Whitlock is designated an accountable officer, and as such will account for the property of the Subsistence Department, vice Lieut.-Col. E. T. Wilson, resigned.

H. F. HODGES,
Acting Chairman.

Accountable Officer, Balboa Store.

CULEBRA, C. Z., March 16, 1914.

CIRCULAR No. 534:

Effective March 9, 1914, Mr. R. K. Morris, assistant to the Chief Quartermaster, is designated accountable officer, and as such will account for the property at Balboa store, vice Mr. Charles L. Parker.

H. F. HODGES,
Acting Chairman.

Scale of Charges, and Regulations Governing Cremation.

CULEBRA, C. Z., March 23. 1914.

CIRCULAR No. 531:

With the exception of bodies embalmed for future disposition, the bodies of persons dying while in the military or naval service of the United States, and the bodies of American employes which cannot be embalmed, the bodies of those dying in Ancon Hospital, or brought there for disposal, will be cremated, unless taken away within 24 hours after death.

The ashes of those cremated will be placed in suitable receptacles and delivered to relatives or friends of the deceased, provided such relatives or friends make application therefor to the superintendent of Ancon Hospital in advance; otherwise, the ashes will be placed in common graves.

Bodies embalmed for future disposition must be removed as soon as possible; if not removed within 90 days from date of embalming, they will be cremated.

The bodies of American employes, which cannot be embalmed, will be buried immediately but cannot be disinterred for a period of 18 months, in accordance with the laws of the Canal Zone.

The following scale of charges for cremation will govern:

For bodies buried in Ancon Hospital cemetery prior to February 1, 1914................No charge

For all other bodies, as follows:

- (*a*) Of employes...................No charge
- (*b*) Of families of employes whose pay is more than $50 a month................$10.00
- (*c*) Of families of employes whose pay is $50 a month, or less............ 2.00
- (*d*) Of nonemployes.................... 30.00

For receptacles, as follows:

- (*a*) For ashes of adults, other than employes.............................. 1.00
- (*b*) For ashes of children............... .75
- (*c*) For ashes of employes..........No charge

No burial fee will be charge for bodies cremated. Coffins will be charged for as at present.

H. F. HODGES,
Acting Chairman and Chief Engineer.

Requests for Payment of Accrued Leave.

CULEBRA, C. Z., March 23, 1914.

HEADS OF DEPARTMENTS AND DIVISIONS:

Your attention is called to the frequent delay in forwarding requests for the payment of accrued leave of absence. Please see that in cases where employes resign, or their services are otherwise terminated, their applications for the payment of accrued leave, if any is due, are filled out and forwarded promptly to this office.

By direction of the Acting Chairman.

C. A. MCILVAINE, *Chief Clerk.*

Establishment of Post-Office at Gamboa.

ANCON, C. Z., March 20, 1914.

CIRCULAR No. 200:

To all postmasters—You are advised that a post-office has been established at Gamboa, Canal Zone, effective to-day, for the receipt and dispatch of ordinary and registered mail only. No money order or postal savings business will be transacted at this office. The agent of the Panama railroad will act as postmaster.

TOM M. COOKE,
Director of Posts.

Switch Signals at Las Cascadas Changed.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., March 18, 1914.

G. S. BULLETIN No. 59:

All concerned—The lower quadrant switch signals at Las Cascadas will be changed to upper quadrant between 7 a. m. and 6 p. m., Friday, March 20. Trains will protect properly when using the switches operating these signals.

F. MEARS,
General Superintendent.

Manual Block Signal at Empire Out of Service.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., March 18, 1914.

G. S. BULLETIN No. 60:

All concerned—Manual block signal at Empire will be placed out of service at 7 a. m., Thursday, March 19, in order to change aspects to upper quadrant. Operator will display yellow and red flags until the signal is reconnected.

F. MEARS,
General Superintendent.

Interlocking Plant at Summit in Service.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., March 18, 1914.

G. S. BULLETIN No. 61:

All concerned—Interlocking plant at Summit will be placed in service at 12 o'clock noon, Saturday, March 21. All routes are controlled by home and dwarf signals and all conflicting points will be protected by derails.

F. MEARS,
General Superintendent.

Northward Switch Signal at Rio Grande Changed.

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., March 18, 1914.

G. S. BULLETIN No. 62:

All concerned—The northward switch signal at Rio Grande will be changed to upper quadrant between 7 a. m. and 6 p. m., Saturday, March 21. All trains using this turnout will protect.

F. MEARS,
General Superintendent.

"Cristobal" Sailing in Place of "Advance."

COLON, R. P., March 18, 1914.

CIRCULAR No. 387:

All concerned—The steamer *Cristobal* will sail from New York on March 26, in place of the steamer *Advance.*

The steamer *Advance* is being held in New York for repairs.

F. MEARS,
General Superintendent.

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending April 4, 1914:

DATE.	Low	High	Low	High	Low
	A.M.	A.M.	A.M.	P.M.	P.M.
March 29	......	5.22	11.32	5.30	11.51
			P. M.		
March 30	......	5.50	12 03	5.59	......
March 31	12.23	6.18	12 35	6.28	......
April 1	12.57	6 49	1.08	7.02	......
April 2	1.34	7.28	1.48	7.42	......
April 3	2.21	8.16	2.40	8.34	......
April 4	3.18	9.18	3 49	9 43	......

75th meridian time.

Movement of Vessels, Port of Balboa.

The following steamers arrived at, or departed from, the port of Balboa, during the week ending March 21:

Arrivals—March 16, *Peru* (P.M.) from San Francisco; *Santa Cecilia*, from Puget Sound; *Huallaga*, from Callao, *Manavi*, from intermediate ports; March 17, *Mexico*, from Valparaiso, *Pennsylvania*, from San Francisco; March 18, *Lyra*, from San Francisco, *Lewis Luckenbach*, from San Francisco; March 20, *Barracouta*, from Central America, *Ecuador*, from Guayaquil.

Departures—March 16, *Mantaro*, to Callao, *Limari*, to Valparaiso; March 18, *Rupanco*, to intermediate ports; March 20, *Peru* (Pacific Mail) to San Francisco.

LOST—Between Culebra and Panama, a 2-foot rule, with ¼ and ⅛-inch scales on inside edges. Maker's name, Kerby and Company, New York City. Bears owner's initials. Finder is requested to return article to Otto W. Kritz, Culebra.

COMMISSARY DEPARTMENT.

Retail prices of cold storage provisions for the week beginning March 21, 1914:

FRESH MEATS.

	Price.
Mutton—Stewing, per pound	7
Shoulder, neck trimmed off (4 pounds and over), per pound	9
Entire forequarter (not trimmed, 10 pounds and over), per pound	8
Legs (8 to 10 pounds), per pound	17
Cutlets, per pound	18
Short cut chops, per pound	20
Lamb—Stewing, per pound	8
Entire forequarter, neck trimmed off, per pound	10
Legs (5 to 8 pounds), per pound	20
Chops, per pound	24
Cutlets, per pound	24
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	17
Chops, per pound	26
Loin, for roasting, per pound	26
Cutlets, per pound	30
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	8
Plate, per pound	9
Corned, No. 1, per pound	14
Corned, No. 2, per pound	12
Chuck roast, (3 lbs., and over), per pound	12
Rib roast, second cut (not under 3½ pounds), per pound	16
Rib roast, first cut (not under 3 pounds), per pound	18
Pot roast, per pound	19
Rump roast, per pound	19
Porterhouse roast, per pound	20
Steak, chuck, per pound	12½
Round, per pound	13
Rib, per pound	18
Sirloin, per pound	19
Rump, per pound	19
Porterhouse (not less than 1½ pounds), per pound	20
Tenderloin (Western), per pound	30
Pork—Hams, fresh, per pound	§20
Loin chops or roast, per pound	19
Shoulders, fresh, per pound	§17
Spare ribs, per pound	15
Backbones, per pound	15
Pigs' feet, each	7
Pigs' heads, whole	60
Pigs' heads, ½-head	30
Sausage, home made, per pound	20

MISCELLANEOUS.

Livers—Beef, per pound	11
Calf, each	60
Half, each	30
Steak, Hamburger, package	13
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Devonshire Farm, per pound	22
Sweetbread, beef, per pound	27
Eggs, fresh, per dozen	*32
per ½-dozen	*16
Bluefish, per pound	†15
Halibut, fresh, per pound	10
Salmon, per pound	10
Shad roes, per pair	40
Oysters, per quart	28

POULTRY AND GAME.

Chickens—Fancy roasting, milk fed, large, each	1.40
Fancy roasting, milk fed, med., each	1.10
Fancy roasting, corn fed, about 5½ pounds, each	1.25
Fancy roasting, corn fed, about 4½ pounds, each	1.00
Fowls, each ††60, 70, 80, 90, and	1.00
Ducks, Western (about 4½ pounds), each	1.25
Capons, about 8½ pounds, each	3.00
Broilers, milk fed, each	70
Broilers, corn fed, each	60
Turkeys, per pound	25
Squabs, each	50
Ducks, Teal, each	40
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30

CURED AND PICKLED MEATS.

Ham—Real York and Cumberland, per pound	37
Genuine Westphalia, per pound	40
Sugar cured, per pound	20
Sliced, per pound	22
Half, (for boiling), per pound	21
Boiled, per pound	28
Hocks, per pound	‡8
Beef, salt, family, per pound	12
Bacon, breakfast, whole piece, per pound	25
Sliced, per pound	26
Ham, lunch, per pound	32
Pork, salt, family, per pound	14
Ox tongues, each	†1.10
Pigs' feet, per pound	7
Tongues, per pound	18

DAIRY PRODUCTS.

	Price.
Butter—Creamery special, per pound	36
Sheffield Farms, extra fancy, per pound	46
Cheese—Philadelphia cream, cake	10
Roquefort, per pound	35
Young America, per pound	22
Swiss, per pound	*27
Edam, each	75
Edam, tin	25
Parmesan, per pound	35
Gouda, per pound	30
Snappy, per cake	10
Milk (certified), per bottle	**20
Fer-mil-lac, per bottle	**20
Ice cream, quart	‡25
½-gallon	‡50
Cream (certified), per pint bottle	45

VEGETABLES AND FRUITS.

Beets, per pound	3
Celery, per head	9
Cabbage, per pound	*3
Cucumbers, per pound	*19
Carrots, per pound	3
Cauliflower, per pound	†10
Green onions, per pound	8
Lettuce, per pound	†8
Onions, per pound	4
Potatoes, white, per pound	3
Potatoes, sweet, tropical, per pound	2
Yams, per pound	3
Parsley, per bunch	*3
Parsnips, per pound	†4
Squash, per pound	†7
Turnips, per pound	2½
Tomatoes, per pound	10
Apples, per pound	7
Cranberries, per pound	9
Grape fruit, American, each	8
Tropical, each	4
Lemons, per dozen	15
Pineapples, Cuban, each	13
Oranges, Jamaican, per dozen	†15
Tangerines, each	2

*Indicates reduction from last list.

**Indicates five cents allowed for return of bottle.

†Indicates advance on last list.

††Fowls weigh each, about, as follows: 3, 3½, 4, 4½, and 5 pounds. Prices are based accordingly; when size ordered is not in stock, next lightest weight is supplied and refund note sent for difference.

‡Sold only from commissaries; no orders taken for delivery.

§Not less than half of a fresh ham or shoulder will be sold.

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Rainfall, March 1 to March 21, 1914.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	Ins.		Ins.
Ancon	0	......	0
Balboa	0	......	0
*Miraflores	0	......	0
Pedro Miguel	.02	9	.02
Rio Grande	T	9 & 20	T
Central Section—			
Culebra	.01	20	.01
*Camacho	0	......	0
Empire	T	18	T
Gamboa	.02	18	.02
*Juan Mina	.01	12 & 20	.02
Alhajuela	.02	20	.04
*El Vigia	.06	9	.13
Frijoles	.10	9	.21
*Monte Lirio	......	......	......
Atlantic Section—			
Gatun	.28	18	.78
*Brazos Brook	.20	19	1.06
Colon	.28	18	.76
†Porto Bello	.14	15	.64

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight. †To 5 p. m., March 20.

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Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun and Miraflores Lakes for the week ending midnight, Saturday, March 21, 1914. All heights are in feet above mean sealevel:

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela.	Gamboa.	Gatun Lake.	Miraflores Lake.
Sun., March 15	125.0	91.4	84.8	84.9	51.2
Mon., March 16	124.9	91.3	84.8	84.9	51.2
Tues., March 17	124.8	91.3	84.8	84.8	51.1
Wed., March 18	124.8	91.3	84.9	84.9	50.8
Thurs., March 19	124.8	91.3	84.8	84.9	50.6
Fri., March 20	124.8	91.3	84.9	84.9	50.5
Sat., March 21	124.8	91.3	84.9	84.9	50.5
Height of low water to nearest foot	125.0	91.0			

MOVEMENTS OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

		Sails.	Arrives.
NEW YORK TO CRISTOBAL.			
*Colon	P. R. R.	Mar. 20	Mar. 26
*Cristobal	P. R. R.	Mar. 26	April 2
*Panama	P. R. R.	April 2	April 8
Allianca	P. R. R.	April 8	April 14
*Colon	P. R. R.	April 14	April 20
*Advance	P. R. R.	April 20	April 27
*Panama	P. R. R.	April 27	May 3
CRISTOBAL TO NEW YORK.			
†Allianca	P. R. R.	Mar. 26	April 1
†Colon	P. R. R.	April 1	April 7
†Advance	P. R. R.	April 7	April 14
†Panama	P. R. R.	April 14	April 20
†Allianca	P. R. R.	April 20	April 26
†Colon	P. R. R.	April 26	May 2
NEW YORK TO COLON.			
*Santa Marta	U. F. C.	Mar. 18	Mar. 25
Prinz Eitel Friedrich	H.-A.	Mar. 21	Mar. 31
Calamares	U. F. C.	Mar. 21	Mar. 28
*Metapan	U. F. C.	Mar. 25	April 1
*Pastores	U. F. C.	Mar. 28	April 4
Prinz Aug. Wilhelm	H.-A.	Mar. 28	April 6
Tagus	R. M.	Mar. 28	April 6
*Zacapa	U. F. C.	April 1	April 8
Prinz Sigismund	H.-A.	April 4	April 14
*Tenadores	U. F. C.	April 4	April 11
*Almirante	U. F. C.	April 8	April 15
Prinz Joachim	H.-A.	April 11	April 20
*Calamares	U. F. C.	April 11	April 18
Magdalena	R. M.	April 11	April 20
*Santa Marta	U. F. C.	April 15	April 22
*Pastores	U. F. C.	April 18	April 25
Prinz Eitel Friedrich	H.-A.	April 18	April 28
*Metapan	U. F. C.	April 22	April 29
Prinz Aug. Wilhelm	H.-A.	April 25	May 4
COLON TO NEW YORK			
Almirante	U. F. C.	Mar. 26	April 2
Calamares	U. F. C.	Mar. 29	April 8
Magdalena	R. M.	Mar. 31	April 7
Prinz Joachim	H.-A.	Mar. 31	April 8
Santa Marta	U. F. C.	April 2	April 9
Pastores	U. F. C.	April 5	April 15
Prinz Eitel Friedrich	H.-A.	April 6	April 15
Metapan	U. F. C.	April 9	April 16
Tenadores	U. F. C.	April 12	April 22
Oruba	R. M.	April 14	April 22
Prinz Aug. Wilhelm	H.-A.	April 14	April 22
Zacapa	U. F. C.	April 16	April 23
Calamares	U. F. C.	April 19	April 29
Prinz Sigismund	H.-A.	April 20	April 29
Almirante	U. F. C.	April 23	April 30
Pastores	U. F. C.	April 26	May 6
NEW ORLEANS TO COLON.			
Cartago	U. F. C.	Mar. 18	Mar. 25
*Abangarez	U. F. C.	Mar. 21	Mar. 26
Heredia	U. F. C.	Mar. 25	April 1
*Atenas	U. F. C.	Mar. 28	April 2
COLON TO NEW ORLEANS.			
‡Turrialba	U. F. C.	Mar. 26	Mar. 31
Cartago	U. F. C.	Mar. 26	April 3
‡Abangarez	U. F. C.	April 2	April 7
Heredia	U. F. C.	April 2	April 10
BOSTON TO COLON.			
Carrillo	U. F. C.	Mar. 19	Mar. 27
Tivives	U. F. C.	Mar. 26	April 3
COLON TO BOSTON.			
Carrillo	U. F. C.	Mar. 29	April 6
Tivives	U. F. C.	April 5	April 13

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 2 p. m.; for Southampton, on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays at 3 p. m.; for New Orleans, via Bocas del Toro and Havana, on Thursdays at 4 p.m.; ships for New York, via Kingston, on Thursdays, at 2 p. m.; for New York, via Limon and Havana, on Sundays at 5 p. m.; for Limon and Bocas del Toro on Saturdays at 4 p. m.; for Bocas del Toro direct, on Thursdays at 4 p. m.; and for Boston, via Port Antonio, on Sundays at 3 p. m.

The Hamburg-American steamers *Prinz Eitel Friedrich* and *Prinz Sigismund* sail for New York, via Kingston and Fortune Island, on Mondays at 10 a. m.; the *Prinz August Wilhelm* and *Prinz Joachim* sail for New York, via Kingston, Santiago de Cuba, and Fortune Island on Tuesdays at 10 a. m.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, APRIL 1, 1914. No. 32.

The Canal Record

Official publication of The Panama Canal.

The Canal Record is published weekly free of charge, one copy each to all employes of The Panama Canal and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,

THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Status of Canal and Panama Railroad Employes.

CULEBRA, C. Z., March 30, 1914.

CIRCULAR NO. 536:

1. The entire personnel of the organizations of the Isthmian Canal Commission and the Panama Railroad Company on the Isthmus is hereby notified that at the close of business on March 31, 1914, all contracts of employment will terminate, with the exception of those of employes on sick or injury leave, in which cases, the contracts will be annulled at the termination of the period of disability.

2. This action is necessitated by the discontinuance by law of the present organization on that date, the inauguration, on April 1, 1914, of the permanent organization for The Panama Canal, as provided in the Executive Order of January 27, 1914, and the adoption for all the present force, including the Panama Railroad Company's employes on the Isthmus, of new conditions of employment, as provided in the Executive Order of February 2, 1914.

3. All employes, except those noted in Paragraph 1, who are on the rolls as of March 31, 1914, and who have not resigned or been notified that their services are no longer required, will be considered transferred to the new organization on April 1, 1914, and will from the date upon which service and compensation begin in the new organization be subject to the conditions of employment contained in the Executive Order of February 2, 1914, and to the further rules and regulations of the Governor, except that teachers will not be granted cumulative or travel leave.

4. The rates of pay of all employes so transferred will remain unchanged, except that in special individual cases some changes in pay will be made, which will be covered by written orders. Further information relative to rates of pay will be published as soon as the Urgent Deficiency Act is approved, a provision being contained in that Act which, if approved, will amend the provision of the Panama Canal Act with respect to wage scales.

GEO. W. GOETHALS,
Chairman.

Circulars referring to the general organization, the new appointments, and the organization of the Department of Operation and Maintenance, will be found on Pages 305 and 306 of this issue of THE CANAL RECORD.

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Rafts of Piles to be Towed through the Canal.

The steamship *Thor* arrived at Balboa on March 22 from Seattle, with a cargo of piles requisitioned for use in the trestles of the east breakwater in Limon Bay. The vessel has anchored in the channel above the steel pier, and is now unloading its cargo with its own tackle. The piles are lowered into the water and lashed together in booms; they will be towed through the Canal in rafts. This procedure is designed to effect economy in transportation, in addition to allowing the vessel to discharge without occupying a berth at the docks, which are taxed at this time by heavy movements of freight.

◆

Closing Down of Gatun Machine Shops.

The Mechanical Division shops at Gatun were closed, effective April 1; thereafter, the services formerly performed at these shops for various departments and divisions operating in the locality of Gatun will be performed at the dry dock shops at Cristobal.

The Gatun shops were opened in 1909 for making minor repairs to the locomotives, steamshovels, and other machinery used in the work at Gatun, on the locks, dam, and spillway. General overhauling and extensive repairs for steamshovels were performed at the Empire shops, and repairs to standard gage locomotives were made at the Panama railroad shops at Cristobal, when the estimated cost of repairs was more than $50, and less than $500; if the estimated cost exceeded $500, the repairs were made at the Gorgona shops. Narrow gage locomotives, locomotive cranes, etc., were repaired at the Gatun shops, which also performed general planing mill work in the construction of the culvert forms, and other carpentry work. The maximum force employed in the shops was about 250 men.

On April 5, 1911, the shops were transferred from the Atlantic to the Mechanical Division, and placed in charge of T. H. Jordan, as general foreman; he was succeeded by C. S. Perry in October, 1911, who has retained charge of them up to the date of closing. In July, 1912, the blacksmith shop, previously maintained at Gatun Locks by the First Division, was consolidated with the Gatun shops. During that year, the shops performed light repairs for the dredges excavating the Canal channel immediately north of Gatun Locks.

The force employed at the shops on March 31 included eight gold men and 30 silver employes. The gold, and part of the silver, employes are to be transferred to other shops of the Mechanical Division and the remainder discharged on account of reduction of force.

◆

Submersion of Submarines in Gatun Locks.

In dry docking the dredge *Corozal* on March 17 in the upper east chamber at Gatun Locks, the five submarines, which had been docked previously in the same chamber, were completely submerged while the filling process was going on. The submarines rest on especially constructed cradles situated almost directly over the culvert openings in the floor, and in view of the fact that during the filling of the chamber, the water comes up through these openings with considerable force, care had to be taken to see that the vessels were not moved from their position. This was accomplished by placing crosspieces below and athwart these openings, and by lashing the vessels firmly to them. In addition, the ballast tanks in each vessel were filled, which assisted in weighing them down. The precautions thus taken were successful; it is believed that this is the first time on record where a similar operation has been conducted.

Work on the repairs to the submarines is progressing satisfactorily. Practically all the work is being done by members of the crews, which include skilled workmen in various trades. Some necessary riveting, the building of a foundation for an air compressor, which is to be installed in one of the vessels, and a few other isolated items, have been turned over to the Mechanical Division, but the greater part of the work is performed by the crews themselves. A stairway has been constructed down one side of the lock chamber for the use of the men working on the submarines, and also on the *Corozal.*

◆

Final Retirement of the Dredge "Mole".

The hull and boilers of the ladder dredge *Mole,* which was retired from service last December, have been sold by the Quartermaster's Department to Mr. William Lambert for $2,500. At the time of its retirement, it was appraised by the Board of Local Inspectors at $4,825, complete. Practically all of its parts, with the exception of the boilers, have been stripped, and some have been placed in use on other vessels. The two boilers are of the Scotch marine type, 114 inches in diameter and 115 inches long, with an aggregate capacity of 106.1 horsepower. The hull is of steel, 170 feet long, 26 feet wide, and 12 feet deep.

The *Mole* was built by Lobnitz and Company at Renfrew, Scotland, in 1884. After years of service with the French canal forces under the name of *A–2*, it was beached on the flat opposite the wharves at Balboa. In 1901, it was recovered and rebuilt by the Panama Railroad Company under a rental arrangement with the French company of that time, and used in the channel between the steel pier at Balboa and deep water. In 1904–1905, it was given a general overhauling and put in the service of the Isthmian Canal Commission. Up to May 20, 1907, when the dipper dredge *Cardenas* began work, it was the only barge in service in the Pacific entrance, and was referred to in the division reports of that period as "The dredge". It continued at work in the channel, and at Punta Chamé reclaiming sand, until the latter part of 1913.

The dredge *Gopher*, which is still in the service, is a twin of the *Mole*, was built by Lobnitz and Company at the same period, and has a very similar subsequent history.

PERSONAL.

Lieut.-Col. William L. Sibert, Corps of Engineers, U. S. A., former member of the Isthmian Canal Commission and Division Engineer of the old Atlantic Division, will sail for New York, accompanied by his family, on the *Ancon*, on Thursday, April 2. He was appointed a member of the Canal Commission in the reorganization of April 1, 1908, and sailed for the Isthmus on March 10. Shortly after his arrival, he was placed in charge of the old Department of Lock and Dam Construction, with headquarters at Culebra, and remained at the head of that organization until the creation of the Atlantic Division on July 1, 1908, when he was made its division engineer, in charge of the construction of Gatun Locks, Dam, and Spillway, of the west breakwater at Toro Point, and of work in the harbor and channel section of the Atlantic entrance. All of the abovementioned projects were practically completed under his jurisdiction and the work was so far finished on February 1, 1914, as to permit of the division being abolished as of that date. Colonel Sibert was born in Gadsden, Ala., on October 12, 1860. He was a student in the University of Alabama at Tuscaloosa from 1878 to 1880, and in July of the latter year entered West Point, where he was graduated with the class of 1884. He received his commission as second lieutenant on June 15, 1884, but continued his studies by entering the Engineering School of Application, from which he was graduated in 1887. He was promoted to first lieutenant on April 1, 1888; to captain, on March 31, 1896; to major, on April 23, 1904, and to lieutenant-colonel, on September 21, 1909. From 1887 to 1892, he was in charge of lock and dam work on the Kentucky, Green, and Barren Rivers, and during the ensuing two years was engaged in the work of excavating a ship channel in the connecting waters of the Great Lakes. Following this, he spent four years in river improvement work in Arkansas, and from 1898 to 1899, he was an instructor in the Engineering School of Application. In the latter year, he was detailed for duty in the Philippines as chief engineer of the Eighth Army Corps. He also served as chief engineer and general manager of the Manila and Dagupan Railroad. On his return to the United States, he was placed in charge of a river and harbor improvement district, embracing the Louisville and Portland canal, and the Green, Barren, and Wabash Rivers, with headquarters at Louisville. From December, 1901, until his appointment to the Canal Service, he had charge of a river and harbor improvement district near Pittsburgh. He has been directed to report to the War Department for further orders.

Richard Lee Metcalfe, member of the last Isthmian Canal Commission, and Head of the Department of Civil Administration to April 1, the date of the change in the Panama Canal organization, will sail for New York, accompanied by Mrs. Metcalfe, and their sons, Kenneth and Lee, on the *Ancon*, on Thursday, April 2. Mr. Metcalfe was appointed a member of the Isthmian Canal Commission, by Executive Order of the President, on August 9, 1913, succeeding Maurice H. Thatcher. He was born near Upper Alton, Ill., on October 11, 1861, and entered the office of a country newspaper at an early age; at 19, he was editing a weekly. In 1888, he became connected with the Omaha *World-Herald*, and was its editor from 1896 to 1905. Previous to this time, in 1894, he became associated with the Hon. William J. Bryan, and after leaving the *World-Herald*, he was offered and accepted the position of associate editor of the Lincoln, Neb. *Commoner*, which he was filling at the time of his appointment to the Canal Service. His address for the present will be No. 716 14th Street, Northwest, Washington, D. C.

Col. John L. Phillips, formerly Assistant Chief Sanitary Officer, was relieved from duty with the Isthmian Canal Commission, effective March 31, and sails for the United States on the steamer *Ancon*, on April 2.

Colonel Phillips was detailed for duty with the Commission in 1905, and has served as Superintendent of Ancon Hospital, Assistant Chief Sanitary Officer, and since the departure of Colonel Gorgas for South Africa in October last, has been in charge of the Sanitary Department as Acting Chief Sanitary Officer.

He entered the Medical Corps of the Army in 1883, and has served through the various Commission grades in that Corps, having been promoted to colonel in April, 1912. During the Spanish-American War, he accepted service with the volunteer army, and was commissioned, first as Brigade Surgeon, and afterward, as Division Surgeon.

Mrs. Phillips and Miss Phillips left the Isthmus several months ago and are at present in New York.

Commander Douglas E. Dismukes, U. S. N., captain of one of the terminal ports under the permanent organization, sailed from New York on the *Cristobal*, on Thursday, March 26, and is due to arrive on Friday, April 3. Lieut.-Commander H. V. Butler, U. S. N., captain of the other terminal port, arrived on the Isthmus on the United Fruit Company's steamer *Abangarez* from New Orleans, on Wednesday, March 25.

Passed Assistant Surgeon Marshal C. Guthrie, U. S. Bureau of Public Health, the new Chief Quarantine Officer, arrived on the *Colon*, on Thursday, March 26. Capt. Daniel W. Harmon, Medical Corps, U. S. A., one of the new health officers, arrived on the *Abangarez*, on Wednesday, March 25.

Thomas M. Cooke resigned as Collector of Revenues in the former Department of Civil Administration, effective March 31, and, accompanied by Mrs. Cooke, sailed for New York on the *Colon*, on Wednesday, April 1. He received his appointment as Collector of Customs for the Canal Zone at San Juan, Porto Rico, on July 13, 1904, and arrived on the Isthmus to take up the duties of the position on July 26 of that year. On September 2, 1904, the title of his office was changed to Collector of Revenues, and it has been maintained as such ever since, although in addition to his other duties, he has been in charge of the Canal Zone postal system, of the administration of estates of employes who have died on the Isthmus, of the leasing of lands and buildings, and was identified with the organization of the Canal Zone public school system. He was born in Ashtabula County, Ohio, in 1864, and later removed to Nebraska. His future address will be Sharon, Mercer County, Pa.

Joseph A. LePrince resigned as chief sanitary inspector of the Department of Sanitation on March 26, and will sail for New York on the *Ancon* on Thursday, April 2. Mrs. LePrince, her four children, and her mother, Mrs. Lluria, sailed for Havana, Cuba, on the *Cartago*, on Thursday, March 26. Mr. LePrince was appointed to the Canal Service on June 7, 1904, and arrived on the Isthmus on June 28. He was charged with the work of mosquito extermination, and, during the yellow fever campaign in 1905, he served as acting health officer of Panama, in addition to performing the duties of chief sanitary inspector. He was engaged in mosquito work during his entire period of service. Mr LePrince was born in Leeds, Eng., in 1875, but his parents removed to New York City when he was seven years old. He received his earlier education at Sach's Collegiate Institute, New York City, and subsequently entered the College of Mines of Columbia University. He was graduated therefrom in 1898, with the degree of civil engineer, and in 1899, he took a post graduate course, receiving the degree of master of arts. During the cleaning up of Havana, after the Spanish-American War, he was assistant chief sanitary officer of the Department of Health.

George A. Ninas resigned as chief clerk of the Department of Civil Administration, effective March 31, and will sail for New Orleans on the United Fruit Company's steamship *Abangarez*, on Thursday, April 2. He was appointed to the Canal Service on March 23, 1905, arrived on the Isthmus on March 28, and was assigned to duty in the old Executive Department, better known at that time as the Office of the Governor. He was appointed chief clerk of the Department of Civil Administration, effective July 20, 1908, and has held the position continuously since. He was born in 1878, at Concordia, Mo., and prior to his coming to the Isthmus, he was connected with various business houses in Kansas City, Mo. Mrs. Ninas and son returned to the United States several months ago.

Fatal Accident.

Theodore A. Buker, a conductor employed in the Second Division, living at Corozal, fell from a platform at the rock bin at Ancon quarry, under the wheels of a moving train, on Tuesday, March 24, and received injuries which resulted in his death the same day. He was 33 years of age, and had been on the Isthmus since October 1, 1909. His first employment was with the Panama railroad, and later, he was transferred to the Canal service. He is survived by his wife, living at Corozal, and by his father, residing at Cambridge Junction, Vt.

SOCIAL LIFE OF THE ZONE.

Women's Exposition Auxiliary.

The deferred meeting for the purpose of forming the Panama Auxiliary to the Woman's Board of the Panama-Pacific International Exposition will be held at the Hotel Tivoli on Thursday afternoon, April 2, at 3 o'clock. The cordial invitation extended to the women of Panama by the representative of the board, Mrs. S. M. Healey, to organize as an auxiliary to that body has been iterated in letters received from the chairman on organization, and other members of the Woman's Board. Membership in the auxiliary carries no obligations; it entitles the holder to the privileges of the rest and tea rooms in the California Host Building, which will be furnished and operated by the Woman's Board.

Women who desire to become members of the auxiliary may send their names to Mrs. Edwin L. Luce, Ancon, and they will be registered at the meeting on April 2. Membership cards and pins will be forwarded to those whose names thus appear on the register. Attendance at the mass meeting is not necessary for registration. Membership dues are $2, and the official pin of the Woman's Board is sold to members at $1.

Cristobal Woman's Club.

The Cristobal Woman's Club held a musical at its regular meeting on Wednesday afternoon, April 1. The Cecelian trio sang, and there were several other selections by members of the club. The sixth annual meeting will be held on April 15.

Selfdenial Week.

The annual selfdenial week, practised throughout the Salvation Army, will begin in April, extending over a period somewhat longer than a week. The object of the fund so collected is to provide for the support of the local and foreign missions, and to aid in carrying on the social work of the army. The Salvation Army work among the West Indians in Panama, and the countries adjacent, is controlled from a central office located in Kingston, Jamaica. The territory includes 92 corps and outposts (organized mission stations), social institutions, such as cheap lodging houses, food depots, and night shelters. About 100 officers, or missionaries, men and women, are engaged in directing these missions and institutions, or assist in the various administrative offices. Approximately 30 of these officers are Europeans; the remainder are West Indians. The moneys collected here for the selfdenial offerings are used largely for local missions and social work.

Isthmian Sunday Schools.

The quarterly convention of the Isthmian Sunday School Association will be held at the Commission clubhouse at Pedro Miguel, on Sunday afternoon, April 5, the exercises beginning at 2,30 o'clock. The Rev. Aquila Lucas, representative of the International Sunday School Association for Central America and the West Indies, will be present. Mrs. William Harrison of Cristobal will speak on special phases of primary work in the Sunday schools. Delegates will take the trains, as follows: Leave Panama at 12.15 p. m., leave Bas Obispo at 1.20 p. m., and leave Colon at 11 a. m.

The Rev. Aquila Lucas will visit the Empire Sunday school at its session on April 5, and on the evening of the same day, he will address a meeting in the chapel at Gatun.

The Isthmian Sunday School Association is arranging an all day excursion for Friday, April 10, on the sightseeing barge. The barge will leave Paraiso as soon as possible after the arrival of the trains from Panama and Colon, and will pass through Culebra Cut and Gatun Lake to Gatun. About an hour and a half will be spent at Gatun before starting on the return trip. The barge in returning, will arrive at Paraiso in time for the excursionists to take the evening trains to their homes. A liberal rate has been made for this trip, and Sunday school workers and their friends are invited to join the party. It is requested that early application for tickets be made. Children must be accompanied by their parents, or some person who will be responsible for their care. Further details of the excursion may be had from Sunday school superintendents in the various villages.

Church Notes.

At St. Luke's Hospital chapel, Ancon, the services during Holy Week will be, as follows: Monday and Tuesday, at 5 p. m.; Wednesday and Thursday, at 10 a. m.; on Good Friday, at 10 a. m. and 5 p. m.

The services at St. Paul's Church, Panama, will be at 11 a. m., and the three hours' service, from 12 to 3 p. m., on Good Friday.

The services at Christ Church, Colon Beach, for Palm Sunday and Holy Week will be, as follows; On Palm Sunday, April 5, there will be a service of blessing the palms and palm procession at 10.30 p. m.; choral evensong, processional, and litany at 7.30 p. m. During the week, there will be daily eucharist at 7.30 a. m., until Thursday. On Thursday, the celebration of the Holy Communion will be at 9 a. m. On Good Friday, the services will be *Pro Anaphora* at 11.30 a. m. and the three hours' service from 12 noon to 3 o'clock; at 7.30 p. m., the story of the Cross will be sung, and pictures of the Passion will be shown.

Knights of Columbus.

Members of the Knights of Columbus, who are unaffiliated with either Isthmian council, and are in good standing, will confer a favor on the joint degree committee by sending their names and addresses to the undersigned.

J. V. DELGADO, Cristobal, C. Z.

March 30, 1914.

Transfer of Lake Area Inhabitants to New Gorgona Completed.

The Panama Railroad Company has completed the delivery of household goods and building materials to New Gorgona, for persons who moved to that site from the Gatun Lake area, principally from the vicinity of Gorgona and Matachin. The number of people who have gone to New Gorgona and the territory near it, from the Canal Zone, is estimated at approximately 1,000. The transfer has been in progress since last August. Five trips of a tug with lighters were made, a total of 15 lighterloads of goods having been handled. The materials for 73 houses were moved, in addition to quantities of furniture, domestic animals, etc.

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The *U. S. S. Denver* arrived in Panama Bay, from Corinto, Nicaragua, on Monday, March 30, for coal. It will return to Corinto about April 6.

GROWING OF HYBRID COTTON.

Canal Employe Produces a New Species.

A cotton grower from North Carolina has been conducting experiments for several months past in hybridizing the native tree cotton with the American cotton plant with encouraging results, using for the purpose a plot of ground near his quarters on the slope of Sosa Hill at Balboa. It is claimed that the crossing of the plants has given the new product an added tenacity as to life, has resulted in an increased production, and has improved the fibre. The spot where the experiments have been made would seem least promising for the successful growth of the plant. The ground was lacking in richness originally, and was brought up to its present high state of cultivation by the introduction of chemicals, something after the manner of the fertilization methods employed by the cotton planters of the Southern States. The grower produced his hybrid by means of pollenization, the process having been aided to some extent by winged insects which transfer the pollen from one cotton bloom to another. Although the production is highest in the rainy season crop, the present dry season has not materially affected the plant growth; the plants have been constantly pruned down to the bare stalk, but put out new shoots at once. Hybridization has also increased the size of the bolls, actual weights showing an average of 18 bolls to the pound, whereas, ordinary cotton is said to require from 70 to 80 bolls to the pound. Bolls have been produced at the Balboa experimental station weighing over an ounce.

Another advantageous factor is that the plant in this climate will continue to produce for several seasons without replanting. The life of the native cotton tree is not exactly known, but observations extending over a period of 10 years show that the tree has invariably produced a crop, and that during the whole time, there has been no appreciable difference in the output from year to year. A Canal employe took a quantity of this tree cotton to the Bureau of Plant Industry in the Department of Agriculture at Washington in the year 1905. The officials of the bureau at that time had heard of this cotton, but had seen no samples. A careful analysis of it was made, with the result that the opinion was given that it compared favorably in texture and length with the American product.

The grower has also conducted experiments looking to the production of a substitute for silk. This he believes has been accomplished by crossing the blooms of certain wild fibre plants with the cotton plant, resulting in a staple of unusually fine texture. Comparisons of the threads of this product, with cocoon silk, or even the threads of a spider's web, under a magnifying glass, show that the vegetable substitute is considerably finer, yet the tensile strength is about five times greater, as shown by actual tests. The grower is saving his hybrid seeds, and has negotiations under way with the Panama Government looking to the planting of a certain acreage in a section of the country, where the soil is naturally better adapted to the purpose than here. He has also received a number of inquiries from abroad, and has had samples of the cotton passed upon by the plant experts in the Department of Agriculture at Washington. The British Minister, Sir Claud Mallet, recently inspected the plants for the purpose of making a report on the subject to his Government.

EXECUTIVE ORDER

Providing Compensation for Personal Injuries—New Regulations in Effect April 1, 1914.

By virtue of the authority vested in me by Section 5 of the Panama Canal Act, approved August 24, 1912, directing the President to "Provide a method for the determination and adjustment of all claims arising out of personal injuries to employes thereafter occurring while directly engaged in actual work in connection with the construction, maintenance, operation, or sanitation of the Canal, or of the Panama railroad, or of any auxiliary canals, locks, or other works necessary and convenient for the construction, maintenance, operation, or sanitation of the Canal, whether such injuries result in death or not, and prescribe a schedule of compensation therefor," I hereby establish the following Order:

Section 1. The United States or the Panama Railroad Company shall pay compensation as hereinafter specified for personal injuries to their respective employes occurring on and after April 1, 1914, while such employes are directly engaged in actual work in connection with the construction, maintenance, operation, or sanitation of the Panama Canal, or of the Panama railroad, or of any auxiliary canals, locks, or other works necessary and convenient for the construction, maintenance, operation, or sanitation of the Panama Canal, whether such injuries result in death or not; provided, however, that no compensation shall be paid to any employe for any injury occurring to himself, nor shall any compensation be paid to his legal representatives or other person in the event of his death, if such injury or death occurred to him as the result of an intention upon his part to cause such injury to himself, or to cause his own death; and no compensation shall be paid to any employe who is injured as the result of an intention upon his part to cause injury or death to another person, nor shall any compensation be paid to his legal representatives, or to any other person in the event of his death, as the result of an intention upon his part to cause injury or death to another person; and provided further, that no compensation shall be paid to any employe for any injury to himself which was brought about by reason of his own intoxication; and similarly, no compensation shall be paid to the legal representatives, or to any other person, for or on account of the death of any employe, when such death was brought about by reason of the intoxication of such employe.

Section 2. *Compensation the exclusive remedy*—Except as provided in this Order, the United States and the Panama Railroad Company shall not be liable for personal injury to, or the death of an employe, for which compensation is provided in Section 1 hereof.

Section 3. *Waiting period*—No compensation shall be paid for a period of disability unless such period shall cover seven full consecutive days following the day of the inception of such disability. For any part of the day on which disability on account of injury begins and for the first four days of disability following, no compensation shall be paid at any time, except as provided in Sections 9 and 10.

Section 4. *Permanent total disability*—If the injury results in permanent total disability, compensation shall be paid to the employe, except as provided in Section 16, for a period of eight years. For the first three months of such period, following the fourth entire day of disability, the monthly compensation shall equal 75 per cent of his monthly pay, and for the remainder of the period 50 per cent of his monthly pay.

The following cases shall be included among those held to result in permanent total disability, to-wit:

The total and irrecoverable loss of sight in both eyes.

The loss of both feet at or above the ankle.

The loss of one hand and one foot.

The loss of both hands at or above the wrist.

Paralysis of the legs, arms, feet, or hands, or an arm and a leg.

Injury resulting in incurable imbecility or insanity.

Section 5. *Temporary disability*—If the injury results in temporary disability, compensation shall be paid to the employe, except as provided in Section 16, until the end of the period for which compensation is payable as fixed below unless such employe in the opinion of the Governor of the Panama Canal is sooner able to resume work. For the first three months of such period, following the fourth entire day of disability, the monthly compensation shall equal 75 per cent of his monthly pay, and for the remainder of such period, 50 per cent of his monthly pay.

For the fracture of the skull, both tables, thirteen months.

For the fracture of the thigh, twelve months.

For the fracture of the arm between the elbow and shoulder, twelve months.

For the fracture of the pelvis, ten months.

For the fracture of the leg, eight months.

For the fracture of the patella, eight months.

For the fracture of the forearm between the wrist and elbow, six months.

For the fracture of two or more ribs, four months.

For the fracture of the foot, five months.

For the fracture of the clavicle, three months.

For the fracture of the lower jaw, three months.

For the fracture of two or more toes, two months.

For the fracture of two or more fingers, two months.

In all other cases of injury resulting in temporary disability, or in the event of two or more injuries listed above, the Governor shall fix the period for which compensation shall be paid, basing his decision on the relation that the injury or injuries received bears to those given above.

If, before the expiration of the period for which compensation is payable, the Governor of the Panama Canal determines that the employe is capable of performing any class of work, and it is desired to continue such employe in the service, there shall be paid to the employe until the end of the period, or during such temporary partial disability, a monthly compensation equal to 75 per cent of the difference between the monthly rate of compensation received by him at time of injury, and the wages per month of the particular class of work which the Governor determines the employe capable of performing.

Section 6. *Permanent partial disability*—If the injury results in permanent partial disability, compensation shall be paid to the employe, except as provided in Section 16, until the end of the period for which compensation is payable, as fixed below. For the first three months of such period, following the fourth entire day of disability, the monthly compensation shall equal 75 per cent of his monthly pay, and for the remainder of the period, 50 per cent of his monthly pay.

(*A*) If the injury is included in the following list the period for which compensation is payable as stated for such injuries may be increased by the Governor of the Panama Canal, at his discretion, by not to exceed 50 per cent of the period specified, having regard to the nature of the employe's trade or qualifications for work:

For the loss by separation of one arm, at or above the elbow joint or permanent or complete loss of the use of one arm, 40 months.

For the loss by separation of one hand at or above the wrist joint, or the permanent and complete loss of the use of one hand, 32 months.

For the loss by separation of one leg at or above the knee joint, or the permanent or complete loss of the use of one leg, 36 months.

For the loss by separation of one foot at or above the ankle joint, or the permanent or complete loss of the use of one foot, 24 months.

For the permanent and complete loss of hearing in both ears, 40 months.

For the permanent and complete loss of hearing in one ear, 18 months.

For the permanent and complete loss of the sight of one eye, 16 months.

(*B*) If the injury is included in the following list, the period shall be that stated for such injury:

For the loss by separation of a thumb, 10 months.

For the loss by separation of a first finger, seven months; a second finger, five months; a third finger, four months; a fourth finger, three months.

The loss of one phalanx of a thumb or two phalanges of a finger shall be considered equal to the loss of one-half a thumb or finger, and compensation for one-half of the above period shall be payable.

The loss of more than one phalanx of a thumb and more than two phalanges of a finger shall be considered as the loss of an entire thumb or finger.

For the loss by separation of a great toe, compensation for eight months, and any other toe, compensation for three months will be paid.

In all other cases of injury resulting in permanent partial disability, or in the event of two or more injuries listed in Clauses A and B, the Governor shall fix the period for which compensation shall be paid, basing his decision on the relation that the injury or injuries bears to those given in Clauses A and B; provided, however, that in no case shall payment be made for a period greater than 60 months.

If, before the expiration of the period for which compensation is payable, the Governor of the Panama Canal determines that the employe is capable of performing any class of work, and it is desired to continue such employe in the service, there shall be paid to the employe until the end of the period, a monthly compensation equal to 75 per cent of the difference between the monthly rate of pay received by him at the time of injury and his wage earning capacity per month.

Section 7. *Affidavit as to wages*—After the beginning of partial disability the Governor of the Panama Canal may, from time to time, require the injured employe to make affidavit as to the wages per month which he is receiving. In the statement of the wages, the value of rent, board, lodging, and other advantages received from the employer, which can be estimated in money, shall be taken into account. If the employe at any time fails to make such affidavit, he shall not be entitled to any compensation while such failure continues, and the period of such failure shall be deducted from the period during which compensation is payable to the employe; provided, however, that if the said employe, in any such affidavit furnished, shall swear falsely with respect to any material fact within his knowledge, the compensation otherwise payable to him shall, from time of the filing of such affidavit, or the ascertainment of the falsity thereof, cease and determine.

Section 8. *Refusal to work*—If an employe, determined to be capable for such work, refuses to work after suitable work is furnished to or secured for him by the United States or by the Panama Railroad Company, he shall not be entitled to any compensation while such refusal continues, and the period of such refusal shall be deducted from the period during which compensation is payable to the employe.

Section 9. *Sick leave*—If at the time disability begins the employe has to his credit any unused sick leave, he may, at his option, subject to the approval of the Governor of the Panma Canal, use such leave until it is exhausted. During such time no compensation under this Order shall accrue, and any period of sick leave so used after the first four days of disability following the day of injury shall be deducted from the period for which compensation under this Order is payable to the employe.

Section 10. *Medical, surgical, and hospital treatment*—There shall be furnished to the injured employe such medical, surgical, and hospital service and supplies as may in the opinion of the Governor of the Panama Canal be deemed just and reasonable, except that when an injured employe not on the Isthmus of Panama elects to furnish his own physician, or to care for himself, the expense thereof is to be borne by the employe and no allowance therefor will be made under this Order. If any such injured employe shall refuse to submit to the medical or surgical treatment prescribed for him and determined by the Governor of the Panama Canal to be reasonable and proper, the Governor may in his discretion either reduce the amount of compensation to which said employe might otherwise be entitled, or consider such refusal on the part of the employe to be a waiver by him of any right to compensation under this Order.

Section 11. *Transportation of injured employes.*—If, in the opinion of the Governor of the Panama Canal, it is not desirable to continue the injured employe in the service, such employe, so soon as he is able to travel, may be furnished, in the discretion of the Governor of the Panama Canal, transportation to his home port, or to any other port requiring no greater expenditure. If an injured employe, who is a citizen of the United States, desires to go to a port in the United States, the cost of transportation to which is greater than the cost to his home port, an amount may be paid toward the cost of such transportation, not in excess of the cost of transportation to his home port. In addition, an injured employe may be furnished railway transportation to or toward his home in the United States costing not in excess of $30. If, at the time of the injury, the employe is on the Isthmus, the Governor of the Panama Canal may, in his discretion, suspend for such period as such employe remains on the Isthmus after free transportation has been offered, as herein provided, the compensation payable to such employe.

Section 12. *Death payments*—If the injured employe shall die within one year from the date of and as the result of injuries received while directly engaged in actual work, the persons mentioned in this section, except as provided in Section 16, shall be entitled to receive compensation as set forth in the following schedule after deducting from the periods mentioned therein any period for which payment has been made to the deceased employe, provided, however, that the total amount of compensation paid to employes and beneficiaries shall not exceed the sum of $5,000.

(*a*) If the deceased employe leaves a widow to whom he was married at the time of the injury, she shall be paid monthly for eight years, unless she sooner marries or dies, a sum equal to 25 per cent of the monthly pay of the employe.

(*b*) If the deceased employe leaves a widow to whom he was married at the time of the injury, with one or two children incapable of selfsupport and dependent on her for support, there shall be paid her monthly for each such child an additional allowance of 10 per cent of the monthly pay of the employe, such additional allowance to continue until the child dies, marries, or in the opinion of the Governor of the Panama Canal, becomes capable of selfsupport. If there shall be more than two children dependent on her for support the additional monthly allowance for all children shall be 25 per cent of the monthly pay of the employe. In no case, however, shall the additional monthly allowances continue beyond a period of eight years.

(*c*) If the deceased employe leaves a widow, or a widow and children, entitled to compensation under Paragraphs *a* or *b* of this section, and also leaves another child or children incapable of selfsupport and not supported by the widow, there shall be paid monthly for the benefit of such child or children last named, to such person as may be designated under the provisions of Section 16, such proportions as the Governor of the Panama Canal may decide, of the deceased employe's monthly pay, not exceeding 10 per cent for each such child, provided, that the total proportion of monthly pay of deceased employe to widow and all children under this paragraph and Paragraphs *a* and *b* of this section, shall not exceed 35 per cent for widow and one child, 45 per cent for widow and two children, and 50 per cent for widow and three or more children, and; provided that, in order to make payment to the children under this section, the Governor, may, if necessary, reduce the proportion payable to widow or children under Paragraphs *a* and *b* of this section; and provided further, that payment for the benefit of a child or children not supported by the widow shall continue until the child dies, marries, or in the opinion of the Governor, becomes capable of selfsupport, but in no case shall such payments continue more than eight years.

(*d*) If the deceased employe has left no widow entitled to compensation under this Order, but has left a child or children incapable of selfsupport, there shall be paid monthly for the benefit of such child or children to the person designated under the provisions of Section 16, not more than 25 per cent of the monthly pay of the deceased employe for one child, and not more than 50 per cent of the monthly pay for two or more children, provided that payments shall continue until the child dies, marries, or in the opinion of the Governor, becomes capable of selfsupport, but in no case shall such payments continue more than eight years.

(*e*) If the deceased employe leaves a widow or children entitled to compensation under this Order, and shall also leave a parent either partially or wholly dependent on him for support, or a brother, sister, grandparent, or grandchild wholly dependent on him for support, there may be paid to such relation monthly such portion or portions of the monthly pay of the employe as may be determined by the Governor of the Panama Canal, provided that the total compensation to all beneficiaries under this and Paragraphs *a*, *b*, *c*, and *d* of this section shall not exceed 50 per cent of the monthly pay of the deceased employe, and provided that, in order to make payment to the relatives under this paragraph, the Governor of the Panama Canal may, if necessary, reduce the proportion payable to widow or children under Paragraphs *a*, *b*, *c*, and *d* of this section, and provided further, that payment for the benefit of a relative under this paragraph shall cease if he dies, marries, or in the opinion of the Governor, becomes capable of selfsupport, but in no case shall payment continue more than eight years.

(*f*) As used in this section, the terms "Child" and "Children" include stepchildren, adopted children, posthumous children, and illegitimate children. The terms "Brother" and "Sister" and their plurals include stepbrothers, and stepsisters, half brothers and half sisters, and brothers and sisters adopted by the parent of the deceased employe. The terms "Grandchild" and "Grandchildren" include children of adopted children, and children of stepchildren, but do not include stepchildren of children, stepchildren of stepchildren, or stepchildren of adopted children. The terms "Parent" and "Parents" include stepparents and the parents by whom the deceased employe was adopted. The terms "Grandparent" and "Grandparents" include the parents of the parents by whom the deceased employe was adopted, but do not include parents of stepparents, stepparents of parents, or stepparents of stepparents.

(*g*) If a beneficiary should die, or for any other reason cease to be entitled to compensation under this Order, the amounts payable to the remaining beneficiaries shall be recast; the amount payable to each for the remainder of the period during which he is entitled to compensation being determined in accordance with the provisions of the preceding paragraph of this section.

Section 13. *Burial expenses*—If, as the result of the injury, an employe whose home is in the United States dies while on the Isthmus of Panama, or while away from his home or his office, such absence being under instructions from the Panama Canal authorities, and the right to compensation has not ceased, his body, if practicable, and if desired by his relatives, and if transportation has not been furnished the employe under Section 11 before his death, shall be embalmed and transported in a hermetically sealed casket to his home. If death occurs on the Isthmus, and the body is not transported from the Isthmus, the body shall be interred or cremated on the Isthmus at the expense of the United States, or of the Panama Railroad Company.

Section 14. *Computation of pay*—For the purpose of calculating compensation under this Order, the monthly pay of the employe shall be taken as the basis, to be computed as provided hereunder, except that where such monthly pay so computed amounts to $200 or over, $200 shall be taken as the basis for computing compensation. Subject to the maximum herein fixed, monthly pay shall be computed, as follows:

(*a*) If the employe is paid by the year, divide his yearly pay at the time of the injury by 12.

(*b*) If the employe is paid by the month, take his monthly pay at the time of the injury.

(*c*) If the employe is paid by the week, multiply his weekly pay at the time of the injury by 52, and divide the result by 12.

(*d*) If the employe is paid by the day, divide his daily pay at the time of the injury by the number of hours worked per day, and multiply the result by eight. When his daily rate of pay on the basis of eight hours per day has been ascertained, multiply the result by 26.

(*e*) If the employe is paid by the hour, multiply his hourly pay at the time of the injury by eight. When his daily rate of pay on the basis of eight hours per day has been ascertained, multiply the result by 26.

(*f*) If the employe is paid by his output, find his daily pay at the time of the injury by dividing the total amount earned by him in the employment in which and at the rate of pay at which he was employed at the time of the injury by the number of days he was so employed during the 30 days immediately preceding the injury, then multiply the result by 26, except as provided in Paragraph g. In all cases under this paragraph (*f*), in which the employe works more than eight hours per day, and in such other cases as the Governor of the Panama Canal may deem proper, he may fix the compensation that shall be paid in case of injury, based upon an average wage of employes working eight hours per day in the same occupation as that of the injured employe.

(*g*) Payments for a fractional part of a month to or on account of employes who were on a per diem, hourly, or piece work basis, shall be made for regular working days only, except that employes who were at time disability was incurred entitled to pay for holidays will receive pay therefor.

(*h*) Subsistence shall be included as a part of the pay, and commutation therefor at a rate fixed by the Governor of the Panama Canal shall be paid during any period subsistence is not actually furnished to an employe entitled to subsistence.

Section 15. *Commutation of periodical payments*—Unless it shall appear to the Governor of the Panama Canal to be for the best interest of the United States, or of the Panama Railroad Company, or for the best interest of the injured employe or the beneficiary, the liability of the United States, or the Panama Railroad Company, for compensation to such injured employe or beneficiary shall be discharged by the payment of a lump sum which will equal the total sum of the probable future payments, capitalized at their present value, calculated at four per cent per annum with annual rests. The probability of the death of the injured employe or the beneficiary before the expiration of the period for which compensation is payable shall be determined according to the *American Table of Mortality*. The probability of the happening of any other contingency affecting the amount or duration of the compensation shall be disregarded. Upon paying such amount all further liability on the part of the United States, or the Panama Railroad Company, on account of such injury or death shall cease.

Section 16. The true intent and meaning of this Order is to provide a fund for the injured employe, or, in the event of his death, for those beneficiaries herein provided for, and to that end payment shall be made directly to the employe as herein provided for, or to the beneficiary as herein provided for, excepting in those cases where such employe or such beneficiary is, by reason of lunacy, infancy, or other legal disability, not in a position to receive and give legal acquittance for such payment. In all cases of that character, where the employe or beneficiary named herein is under legal disability whatever, so that his receipt and release would not be an acquittance, the Governor of the Panama Canal shall pay the sum which would otherwise go directly to such employe or beneficiary to whomsoever has been qualified by legal proceedings to receive the same for, or on account of, such employe or beneficiary, if any such there be who has made application therefor to the Governor; and in the event that no such application is made to the Governor, then the Governor may appoint some one to receive the money for, and on account of, such employe or beneficiary so under disability, and may require such person to make such formal application with respect, thereto and to furnish such bonds for the security of the money and the performance of his duties as to the Governor may seem proper.

Section 17. *Notice of injury or death*—Immediately after the injury, the injured employe, or some one on his behalf, shall give to the immediate superior of such employe notice, written, if practicable, of the injury, and if the injury results in the death of the employe, one of the persons entitled to compensation, or some person on his behalf, shall at once give either to the immediate superior of such employe, or to the Governor of the Panama Canal, a written notice of such death. The notice shall state the name of the employe, his class of service, the year, month, day, and hour when, and the particular locality, where the injury or death occurred, the cause of the injury or death, the nature of the injury, and the address of the employe, and of the person giving the notice. The notice may be given personally, or sent by mail.

Failure to promptly give the notice herein specified may, in the discretion of the Governor of the Panama Canal, be decided by him to be a waiver by the employe or his beneficiary of any claim to compensation under this Order.

Section 18. *Report of injury or death*—Immediately after an injury to an employe resulting in his death, or in his probable disability, the immediate superior of the employe shall at once make a report to the Governor of the Panama Canal, containing such information as the Governor of the Panama Canal may, by regulation, require.

Section 19. *Claim for compensation*—No compensation under this Order shall be allowed to any person unless he, or someone on his behalf, shall make a written claim therefor upon the Governor of the Panama Canal within the time specified in Section 21. The claim may be served personally upon, or sent by mail, either to the Governor of the Panama Canal, or to such person as he may, by regulation, require.

Section 20. *Contents of claim*—The claim shall be signed by, or on behalf of the person making the claim, and shall state the name of the employe, the age, sex, nationality, and class of service of such employe, the year, month, day, and hour when, and the particular locality, where the injury or death occurred, the cause of the injury or death, the nature of and extent of the disability resulting therefrom, the monthly pay of the employe at the time of the injury, the relationship to the employe of the person claiming to be entitled to compensation, the names and addresses of all persons entitled to compensation on account of such injury or death, and the address of the person making the claim. The claim shall be sworn to by the person entitled to compensation, or by the person acting on his behalf, and, except in case of death, or as otherwise provided in regulations prescribed by the Governor of the Panama Canal, shall be accompanied by a certificate of the employe's physician, if any, stating the nature of the injury, and the nature and extent of the disability. The claim shall, wherever possible, be made on forms furnished by the Governor of the Panama Canal, and, in addition to the statements above required, shall contain such other information as the Governor of the Panama Canal may require.

The Governor of the Panama Canal may waive the making of and swearing to claims and the inclusion therein of any of the above requirements in such cases as he may deem proper.

Section 21. *Time within which claim must be made*—Claims for compensation shall be made within 60 days after the beginning of disability resulting from an injury, or, in case of death, within one year after the death. For any reasonable cause shown, the Governor of the Panama Canal may allow claim for injury to be filed within one year after the injury.

No claim for compensation shall be allowed where the disability commences more than six months after the occurrence of the alleged injury, nor where the disability begins after the separation of the employe from the service.

Section 22. *Medical examination*—After the injury and during disability the employe shall as frequently and at such times and places as may be reasonably required submit himself to examination by a medical officer of the United States, or by a physician designated by the Governor of the Panama Canal and paid by the United States or by the Panama Railroad Company, as the case may be. The employe may have a duly qualified physician designated and paid by him present to participate in such examination. If an examination of an employe is ordered while he is away from the Isthmus of Panama, and such order requires him to travel from the place wherein he dwells, then he shall be paid his reasonable traveling and other expenses and loss of wages incurred, in order to submit to such examination. If the employe refuses to submit himself for, or in any way obstructs, any examination, his right to claim compensation under this Order shall be suspended until such refusal or obstruction ceases. No compensation shall be payable while such refusal or obstruction continues, and such period shall be deducted from the period for which the compensation would otherwise be payable.

Section 23. *Disagreement between physicians*—In case of any disagreement between the physician making an examination on the part of the United States or the Panama Railroad Company and the employe's physician, the Governor of the Panama Canal shall appoint a third physician. The decision of the majority shall be final. A reasonable fee shall be allowed and paid by the United States, or by the Panama Railroad Company, as the case may be, to such third physician if he is not a medical officer of the United States.

Section 24. *Assignment of right against third person*—If an injury or death for which compensation is payable under this Order is caused under circumstances creating a legal liability upon some person other than the United States or the Panama Railroad Company to pay damages therefor, no compensation shall be payable to any beneficiary for such injury or death until he assigns to the United States or to the Panama Railroad Company, as the case may be, any right of action which he may have to enforce such liability of such other person, or any right which he may have to share in any money (or other property) received in satisfaction of such liability of such other person. The United States or the Panama Railroad Company, as the case may be, if it realizes upon such right shall, after deducting the amount of any compensation already paid to the beneficiary and the expenses of such realization or collection, pay over to the beneficiary any surplus remaining. Such surplus so paid over shall be credited on future installments of compensation as they become due. The Governor of the Panama Canal may waive the requirement of such assignment, or may waive it for such period as he may deem proper

Section 25. *Assignment of right against Panama Railroad Company*—If an injury or death for which compensation is payable under this Order is caused under circumstances creating a legal liability upon the Panama Railroad Company to pay damages therefor under the laws of the United States or of any State, Territory, or possession of the United States or of the District of Columbia, or of any foreign country, no compensation shall be payable to any beneficiary for such injury or death until he releases to the Panama Railroad Company, any right or action which he may have to enforce such liability of the Panama railroad, or until he assigns to the United States or to the Panama Railroad Company, as the case may be, any right which he may have to share in any money (or other property) received in satisfaction of such liability of the Panama Railroad Company. The Governor of the Panama Canal may waive the requirement of such assignment or release for such period as he may deem proper.

Section 26. *Assignments and attachments*—No claims for compensation under this Order shall be assignable, and all compensation and claims therefor shall be exempt from all claims of creditors.

Section 27. *Attorneys' fees*—No claim for legal services in connection with any claim arising under this Order shall be enforceable unless approved by the Governor of the Panama Canal.

Section 28. *Modification of allowance of compensation*—The Governor of the Panama Canal may at any time review, and, in accordance with his determination thereon, end, diminish, or increase any compensation previously fixed or determined.

Section 29. *Recovery of compensation erroneously paid*—If any compensation is paid under mistake of law or of fact the Governor of the Panama Canal shall have power to cancel any order under which such compensation has been paid, and shall be entitled to recover whatever has been so paid.

Section 30. *Powers of the Governor of the Panama Canal*—The Governor of the Panama Canal shall make all necessary rules and regulations for the proper, effective, and economical enforcement of this Order, and shall decide all questions arising under this Order, or in regard to the interpretation thereof. His determination of any fact necessary to, or underlying any claim hereunder, shall be final and conclusive.

Section 31. *Singular, masculine, and person*—Wherever used in this Order the singular includes the plural and *vice versa*, and the masculine gender includes the feminine and neuter, and the word "Person" includes any firm, association, or corporation.

Section 32. *Liability of the United States and of the Panama Railroad Company*—If the payment of compensation under this Order on account of an injury or death is from the funds of the United States, the Panama Railroad Company shall be released and discharged from all liability on account of such injury or death, and if it is from the funds of the Panama Railroad Company, the United States shall be released and discharged from all liability on account of such injury or death.

Section 33. *Repeal of laws of Canal Zone*—All laws of the Canal Zone inconsistent with any of the provisions of this Order are hereby repealed.

Section 34. *Time of taking effect*—This Order shall take effect on April 1, 1914.

WOODROW WILSON.

THE WHITE HOUSE,
March 20, 1914.

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Metal Trades Council.

At a meeting of Canal employes held at Empire on Sunday, March 29, the provisional metal trades council organized on Sunday, March 22 was dissolved, and a metal trades council, to be affiliated with the Metal Trades Department of the American Federation of Labor, was organized. Officers for the ensuing year were elected, as follows: President, S. J. Osten of the International Brotherhood of Blacksmiths and Helpers; vice-president, A. MacKenzie of the International Brotherhood of Boilermakers; secretary, H. A. S. Levering of the Pattern Makers' Association; treasurer, C. Hansen of the Sheet Metal Workers; sergeant-at-arms, Mr. Brown of the Sheet Metal Workers; board of trustees, Messrs. Patterson, William Nelson, and William Harris. Seven organizations of the metal trades were represented at the meeting. The next meeting will be subject to call of the president.

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Order of Isthmian Conductors.

The next regular meeting of the Order of Isthmian Conductors will be held at Ancon lodge hall, on Sunday morning, April 5, at 9.30 o'clock.

GEO. B. ALLEN, *Secretary-Treasurer.*

CANAL WORK IN FEBRUARY.

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Report of the Acting Chairman and Chief Engineer to the Secretary of War.

CULEBRA, C. Z., March 19, 1914.

The Honorable the Secretary of War,
Washington, D. C.

SIR: I have the honor to submit the following report of operations on the Isthmus for the month of February, 1914:

The following changes in organization were made:

Effective February 1, the timekeeping of the Subsistence Department of the Isthmian Canal Commission, and the commissary department of the Panama Railroad Company, were transferred to the Fourth Division of the Chief Engineer's Office; the Atlantic and Fifth Divisions were abolished, and the property accountability of these divisions transferred to the Quartermaster's Department, their records being transferred to the Fourth Division of the Chief Engineer's Office; the breakwater construction and the operation of Porto Bello quarry were transferred to the Second Division, Office of the Chief Engineer; the work remaining at Gatun Dam, El Caño saddle, backfill at Miraflores, Miraflores spillway channel, Ancon quarry, and the sluicing at Gold Hill, will be completed under the direction of the Chief Engineer, the personnel required for these works being carried on the rolls of the Fourth Division of the Chief Engineer's Office; the Sixth Division of the Chief Engineer's Office was designated the Dredging Division, Department of Construction and Engineering.

Effective February 11, the accounting division of the commissary department, Panama Railroad Company, was placed in charge of the Examiner of Accounts, Isthmian Canal Commission.

Department of Construction and Engineering.

The following table summarizes the principal items of work accomplished by the construction divisions during the month:

ITEM.	Unit.	1st Div.	2d Div.	4th Div.	Dredging.	Municipal Eng'n'r'ing	Total.
Work excavation, wet	Cubic yds.			144,550	1,024,121		1,168,671
Work excavation, dry	Cubic yds.		104,488	152,695			257,183
Total work excavation	Cubic yds.		104,488	297,245	1,024 121		1,425,854
Plant excavation, dry	Cubic yds.		4,196				4,196
Plant excavation, wet	Cubic yds.						
Total	Cubic yds.		4,196				4,196
Total Canal excavation	Cubic yds.		108,684	297.245	1,024,121		1,430,050
Concrete placed in locks, dams, and spillways	Cubic yds.	3,541					3,541
Fill placed in dams	Cubic yds.			15,980			15,980
Explosives used	Tons (Gr.)		32.39	18.19	20		70 58
Rock drilled	Feet		59,059	2,101	14,796		75,956
Tracks removed	Miles		3.82	7.66			11.48
New tracks laid	Miles		4.19	4.61			8.80
Rock crushed	Cubic yds.		17,934	41,880			59,814
Cement used	Barrels	4,487	7,785			3,132	15,404
New roads built	Miles					40	.40
Water mains laid	Feet		1,205			15,620	16,825
Sewers laid	Feet					3,837	3,837
Open drains and ditches dug	Feet		2,422			1,214	3,636
Average daily force		3,831	4,714	1,566	2,319	2,227	14,657
Average rainfall	Inches	.57	.66	.72	.33	.57	.53

First Division—Office of the Chief Engineer.

LOCK GATES AND PROTECTIVE DEVICES.

Work on the lock gates consisted of the application of bitumastic enamel to the top girders; there remains a small amount of painting and similar work.

Three complete chain fender machines have been delivered, and eight additional will be received early in March. Work on the chains and procuring material for them is advancing.

The keel for the lock entrance caisson was laid on February 5. Practically all of the material for the caisson and anchor chains has been authorized for delivery.

PONTOON BRIDGE.

It is expected that the barge of the pontoon bridge that will span the Canal at Paraiso will be launched in the latter part of March.

OPERATING MACHINERY AND ELECTRICAL EQUIPMENT

Work at the hydroelectric station at Gatun advanced so far that it is expected that both the mechanical and electrical equipment will be completely installed during March.

Electrical apparatus for the rising stem valve machines is 98 per cent installed; cylindrical valve machines, 99 per cent; auxiliary culvert valves, 98 per cent; guard valve machines, mechanical erection, 91 per cent, electrical, 25 per cent.

Mechanical installation of the miter gate moving machines, and of the miter gate forcing machines, is complete; electrical installation is, respectively, 76 per cent and 87 per cent completed.

Mechanical erection of the chain fender machines so far received is advancing, and electrical installation has been begun at Gatun.

Towing track at the locks is 98 per cent installed, and all single crossovers, and 87 per cent of double crossovers, are in place.

Mechanical and electrical work on the spillway gate machines at Gatun is completed; at Miraflores, mechanical completed, and electrical, 80 per cent.

Except one motor for chain fender machines, all pumps and motors with float switches and starters have been received complete. The percentage of completion of mechanical and electrical installation is, respectively, 100 and 94 on miter gate sump pumps; 34 and one on chain fender sump pumps; 100 and 76, on drainage sump pumps, and 100 and 20, on culvert pumps.

The installation of transformer rooms is 90 per cent complete at Gatun, 89 at Pedro Miguel, and 86 at Miraflores.

Contracts were let during February for 100,000 feet additional of cable, making the total 2,510,295 linear feet. The total pulled into ducts is 1,702,522 linear feet.

The control houses are practically completed, and the control board is 99 per cent complete at Gatun, 80 at Pedro Miguel, and 20 at Miraflores.

Reflectors for exterior and interior illumination are complete. All but one of the 206 lamp posts are erected at Gatun Locks, and the installation at Pedro Miguel and Miraflores is over half completed.

On the transmission line, 769 foundations for track-span bridges are in place, only 37 remaining to be placed. Bridges have been erected along about 35 miles of the railroad. the total to date being 628.

LOCK AND SPILLWAY OPERATIONS.

Seven lockages were made at Gatun in February, two at Pedro Miguel, and two at Miraflores. Seven of the 14 spillway gates at Gatun were operated satisfactorily during February, with the surface of the lake at 85 feet above sealevel

EMERGENCY DAMS.

The emergency dam at the west lock at Miraflores was completed during the month, completing the contract for the six dams.

AIDS TO NAVIGATION.

Work advanced all along the Canal in the construction of towers, reference targets, and beacons, installation of lighting apparatus, placing poles for the transmission line through Culebra Cut, and similar routine connected with the lighting of the Canal.

Second Division—Office of the Chief Engineer.

BALBOA TERMINALS.

Permanent shops—The work of design, layout, and preparing requistions for machines and materials was advanced. Out of a total of 319 machines to be installed, 66 are in operation, and 99 are about to be installed. Excavation for the shops and yards amounted to 2,353 cubic yards; yard fill, 15,151 cubic yards; concrete placed, 378 cubic yards in shop foundations, 1,443 cubic yards in footings, floors, and walls

Dry docks—Design of dry dock No. 1 was continued and specifications for machinery and valves were started. General revised plans for dry dock No. 2, and its structures, were practically completed. Four steamshovels at work in the excavation for the docks, entrance basin. and coal pocket, excavated 97,884 cubic yards. The maximum depth continued at 30 feet below mean sealevel, but the area at this depth was enlarged.

Coaling plant—Study was continued on the design of the reloader wharf, and detail plans were practically completed for berm crane supports, and reinforced concrete retaining wall along the line of the conveyor track. Excavation amounted to 11,544 cubic yards.

Pier and quay walls—The work of design and computation was continued. Excavation amounted to 4.221 cubic yards; fill, 1,980 cubic yards; concrete placed, 2,220 cubic yards; reinforcing steel used, 144,828 pounds. On the pier, all the caissons, 209, have been sunk to rock; 104 have been filled with concrete, and the balance are being excavated and filled. On Section e–f of the quay wall, six caissons have been started. On Section g–h–i. 63 cubic yards of concrete were placed in the floor. On Section i–j–m–n, the sinking of caissons was completed, 65 in all, of which 49 have been filled with concrete.

Naos Island breakwater—Fill placed upon the breakwater amounted to 84,248 cubic yards by this division, and 136,775 cubic yards by the Fourth Division.

ATLANTIC TERMINALS.

Coaling plant—A plan for a concrete structure, resting upon piling as support for the stocking and reclaiming bridge track of the 700-foot extension, was practically completed, and studies were continued for the construction and support of form work for the deck structure.

West breakwater—The total fill at the end of the month was 1,909,984 cubic yards, of which 16,678 cubic yards were Porto Bello rock added during February. The total of breakwater completed at the end of the month was 6,241 linear feet.

Porto Bello quarry—Breakwater rock shipped during the month amounted to 17,934 cubic yards.

East breakwater—The surfacing and aligning of tracks from Mount Hope to Coco Solo, and unloading of material for the breakwater continued during February.

METEOROLOGY AND HYDROLOGY.

Rainfall was below normal, that over the Gatun Lake watershed being about 50 per cent below the February average in all localities, except the Trinidad valley. The total yield of Gatun Lake watershed was 43 per cent below the 6-year normal for February.

Twenty-two seismic shocks were recorded in February, only three of which were appreciable. None caused damage.

Fourth Division—Office of the Chief Engineer.

Excavation amounted to 173,265 cubic yards; daily average number of steamshovels at work, 6.7. Excavation from Gold Hill amounted to 115,894 cubic yards; from Miraflores spillway, 36,801; from Cocoli borrow pit, 20,570 cubic yards. Fill placed on Naos Island breakwater amounted to 136,775 cubic yards. The volume of material excavated by the hydraulic method from the back of Gold Hill amounted to 132,900 cubic yards.

Dredging Division.

Excavation by dredging in the Canal prism and Balboa harbor was, as follows:

LOCATION.	February. *Cu. yds.*	Remaining. *Cu. yds.*
Miraflores Locks to the Pacific	9,275	2,081,113
Inner harbor, Balboa........	135,150	5,997,694
Miraflores Lake............	....	328,872
Culebra Cut	432,786	2,801,626
Gatun Lake.................	113,437	51,000
Gatun Locks to the Atlantic..	265,197	410,973
Total	955,845	11,674,278

In Culebra Cut, nine dredges removed 97,781 cubic yards of earth, and 335,005 cubic yards of rock. Of the total, 287,223 cubic yards were taken from Cucaracha slide.

Division of Municipal Engineering.

The new waterworks for Colon and Cristobal were placed in operation on February 24.

Work was continued on the new water system for Panama and vicinity, including the purification plant at Miraflores, the pipe lines, new pump station at Ancon, and the high service reservoir at Ancon. The wash water tank at Miraflores was completed, and 11,271 feet of 30-inch pipe were installed from Miraflores to Diablo.

Quartermaster's Department.

Labor force—The force report for February 25 shows a decrease of about 1,800 from the previous month, the totals being: Americans, 4,621; European laborers, 1,400; West Indian negroes, 25,515. Grand total, 31,536.

Buildings—The amount of new construction and other building work going on is greater than at any other time since 1906. Of the 4,800 men now shown on the rolls of this department, over 2,900 are in the building division. Of these, approximately 800 are on the La Boca townsite, the radio station, and Ancon commissary, while the balance are on the administration building, permanent gold quarters at Balboa, substations, and hydroelectric station work.

Quarters—The transfer of quarters continues. The beginning of the movement of the shop forces from Empire to Balboa was made during the month, when the entire Empire shops office force was transferred to Balboa. A number of vacancies in bachelor quarters still exist at Corozal and Ancon, but it has been necessary to supplement the family quarters by the use of the Hotel Tivoli annexes The occupants of quarters numbered: Americans, 5,187 men, 1,792 women, 1,721 children; Europeans, 1,916 men, 91 women, 160 children; West Indian negroes, 6,707 men, 946 women, 1,522 children.

Subsistence Department.

The 13 line hotels served 158,998 meals; 12 laborers' messes, 206,637; Hotel Tivoli, 14,760; Hotel Aspinwall, 1,080. The net profit was $5,385.37, including $6,391.57 profit on Hotel Tivoli.

Department of Civil Administration.

COURTS.

The circuit court disposed of 71 civil and 41 criminal cases; district courts, 35 civil and 425 criminal cases.

POSTS, CUSTOMS, AND REVENUES.

Money order sales for February amounted to $282,885.96; fees, $1.383.33; receipts from stamp and card sales, $6,571.16; deposits in savings accounts, $121,836; withdrawals $89,788. Revenue collections amounted to $12,277.24; court fines, costs, and fees, $1,519.13.

POLICE AND PRISONS.

Arrests numbered 432, of which 38 were of women. Seven convicts were committed to the penitentiary, and 13 were discharged; total in confinement at the close of the month, 85. The cost of guarding and subsisting the convicts was $2,018.66, and the value of their work on the Gamboa-Empire road was $1,319.20.

FIRE PROTECTION.

Forty-two fires occurred in February; damage, $547.05.

SCHOOLS.

The net enrollment in the white schools was 1,211, the average number belonging, 999.2, and the average daily attendance, 955.9. In the colored schools. the net enrollment was 1,361, the average number belonging, 892.7, and the average daily attendance, 722.1. At the close of the month, there were 45 teachers in the white schools and 24 in the colored schools.

Department of Sanitation.

The total number of deaths from all causes among employes was 30 (disease, 22; violence, eight), an annual average per thousand of 5.34 and 1.94, respectively. The annual average death rate per thousand in the cities of Panama and Colon, and in the Canal Zone, including both employes and civil population, for the month of February, was 23.67. Among employes, deaths from the principal diseases were: Lobar pneumonia, four; organic disease of the heart, one; tuberculosis, seven; typhoid fever, one, leaving nine deaths from all other diseases, and eight deaths from external violence. No case of yellow fever, smallpox, or plague originated on, or was brought to the Isthmus, during the month.

Respectfully,

H. F. HODGES,
Acting Chairman and Chief Engineer.

EXECUTIVE ORDER

Relating to the Canal Zone Judiciary.

By virtue of the authority vested in me, I hereby establish the following Order for the Canal Zone:

Section 1. The Balboa Division of the District Court of the Canal Zone, in conformity with the Panama Canal Act, shall include all that part of the Canal Zone which lies within the lines of the 10-mile zone and extends from the south bank of the Chagres River and the shore line of Gatun Lake, 87 feet above mean sealevel, to the Pacific Ocean; and the Cristobal Division of said Court shall include all of the territory within the lines of the 10-mile zone, extending from the Balboa Division to the Atlantic Ocean, and the area of Gatun Lake beyond the lines of the 10-mile zone up to the contour line of 100 feet above mean sealevel and the islands in said lake; and the peninsulas bordering on said lake which have been taken by the United States for the purposes of the Panama Canal.

Section 2. Civil and criminal cases within the original and appellate jurisdiction of the District Court arising in the division of Balboa shall be tried in the town of Balboa, and those arising in the division of Cristobal shall be tried in the town of Cristobal. The Governor of the Panama Canal shall provide a suitable place in each of said towns for the holding of the sessions of the District Court.

Section 3. The Canal Zone is hereby divided into two subdivisions to be known as the subdivision of Balboa and the subdivision of Cristobal. The territorial limits of the subdivision of Balboa shall be coterminous with those provided in this Order for the Balboa Division of the District Court, and the territorial limits of the subdivision of Cristobal shall be coterminous with the Cristobal Division of the District Court.

Section 4. The town of Balboa shall include the townsite at the Pacific terminus of the Canal of that name, as well as the other settlements within the Balboa subdivision; and the town of Cristobal shall include the townsite of that name as well as all other settlements within the Cristobal subdivision of the Canal Zone.

Section 5. There shall be a magistrate and a constable for each of the towns of Balboa and Cristobal to be appointed by the Governor, in conformity with Section 7 of the Panama Canal Act. The said magistrates shall hold court at such places in their respective towns as may be designated by the Governor of the Panama Canal from time to time.

Section 6. Appeals in civil and criminal cases are hereby authorized from the judgments and rulings of the Magistrate Courts to the District Court of the Canal Zone in like manner as appeals have been heretofore allowed from the District Courts of the Canal Zone to the Circuit Courts thereof.

Section 7. Magistrates and constables appointed for the Magistrates Courts, before assuming office, shall be required to subscribe an oath of office before an officer of the Canal Zone authorized to administer the same, to the effect that they will faithfully and impartially discharge the duties of their respective offices; and the constables of said courts shall be required to execute a bond with two or more good and sufficient sureties, or by a bonding company, to be approved by the Governor, in the sum of One Thousand Dollars, conditioned that the officer executing said bond will faithfully comply with his duties as constable, and will turn over all moneys, properties, and effects coming into his hands by virtue of his office to the persons entitled thereto in accordance with law; and the bond may be sued upon in any court of competent jurisdiction by any person who may be injured by reason of a failure of official duty on the part of the constable, and the bond shall not become void upon the first recovery, but successive suits may be instituted thereon until the full amount thereof is exhausted.

Section 8. The rules heretofore governing the District Courts of the Canal Zone and prescribing the duties of the District Judges there, and bailiffs, and those respecting the disposition of fines, costs, forfeitures, and enforcement of judgments in said courts and providing for appeals therefrom to the Circuit Court, shall apply to the Magistrate Courts established by this Order and to the magistrates and constables thereof.

Section 9. The District Judge, in selecting jurors to render jury service in the district court, shall choose them from among those residing within the division in which they are called upon to serve as such jurors.

Section 10. The rules of evidence, practice, and procedure heretofore established in the Circuit Courts of the Canal Zone, not inconsistent with the provisions of the Panama Canal Act, shall govern in the trial of cases in the District Court of the Canal Zone.

Section 11. The District Judge may order a change of venue in any case, civil or criminal, when in his opinion that is necessary to an orderly and due administration of justice, or when for any cause it is not practicable to hold a session in the division where the case was originally instituted; and he may, at his discretion, order a change of venue in any case by consent of the parties. When a change of venue is ordered in any civil or criminal case, the Judge shall state his reasons therefor in the order directing the change of venue.

Section 12. Whenever a change of venue has been ordered by the Court, the clerk shall immediately make out a true transcript of all the orders made in said cause, and certify thereto under his official seal, and transmit the same with the original papers in the case to the other division of the District, and the case shall be tried therein as if it had been instituted there originally.

Section 13. The Supreme Court of the Canal Zone and the judges thereof shall continue to act after this Order takes effect until the cases and business pending therein have been finally determined and disposed of; but cases tried in any of the Circuit Courts prior to April 1, 1914, shall not be heard in the Supreme Court unless the appeal is perfected and the case docketed in the Supreme Court before May 1, 1914.

Section 14. This Order shall take effect from and after April 1, 1914.

Woodrow Wilson.

The White House,
March 12, 1914.
[No. 1898.]

I. B. of S. S. and D. M.

Local No. 19, I. B. of S. S. and D. M., will hold its next regular meeting in Ancon lodge hall, on Sunday, April 5, at 1.30 p. m.

J. I. Major, *Secretary-Treasurer.*

OFFICIAL CIRCULARS.

General Organization.

The Panama Canal,
Office of the Governor.
Culebra, C. Z., April 1, 1914.

Circular No. 660:

1. The Isthmian Canal Commission, together with the organization thereunder, has been abolished by Executive Order, under authority of the Panama Canal Act.

2. By authority of the Executive Order of January 27, 1914, providing a permanent organization for The Panama Canal, and the Executive Order of March 2, 1914, to establish a Washington Office of The Panama Canal, the following departments are hereby established, with duties and jurisdiction, as provided by Executive Order:

(*a*) A Department of Operation and Maintenance.
(*b*) A Purchasing Department.
(*c*) A Supply Department.
(*d*) An Accounting Department.
(*e*) A Health Department.
(*f*) An Executive Office.
(*g*) A Washington Office of The Panama Canal.

3. The Panama Railroad Company, under the jurisdiction of the President of the Company, who is the Governor of The Panama Canal and Head of the Department of Operation and Maintenance, will be operated practically as a division of the Department of Operation and Maintenance, but will still retain its entity as a corporation.

4. The duties and jurisdiction of officials and the assignment of specific duties to divisions or subdivisions of departments will be ordered in other circulars.

5. The heads of departments will be named in a separate circular, and they are hereby directed to submit, as soon as possible, but not later than April 13, the immediate organizations proposed to perform the duties assigned, these organizations to be based on the minimum force necessary to perform these duties during the remainder of the fiscal year. New organizations will afterward be prepared and submitted, to take effect July 1, 1914.

Geo. W. Goethals,
Governor, The Panama Canal.
President, Panama Railroad Company.

Appointments.

The Panama Canal,
Office of the Governor.
Culebra, C. Z., April 1, 1914.

Circular No. 661:

OPERATION AND MAINTENANCE.

1. Colonel Harry F. Hodges, Corps of Engineers, U. S. A., in addition to other assignment, will assume the duties of the Engineer of Maintenance, Department of Operation and Maintenance.

2. Civil Engineer Harry H. Rousseau, U. S. N., in addition to other assignment, will assume the duties of Engineer of Terminal Construction.

3. Captain Hugh Rodman, U. S. N., is appointed Superintendent of Transportation, Division of Canal Transportation.

4. Naval Constructor Daniel C. Nutting, Jr., will continue as Superintendent, Mechanical Division.

5. Captain William H. Rose, Corps of Engineers, U. S. A., is appointed Electrical Engineer, Electrical Division.

6. Lieutenant George R. Goethals, Corps of Engineers, U. S. A., will continue as Assistant Engineer, Fortification Division.

7. Mr. William G. Comber will continue as Resident Engineer, Dredging Division.

8. Mr. George M. Wells will continue as Resident Engineer, Division of Municipal Engineering.

9. Mr. Edward Schildhauer will continue as Electrical and Mechanical Engineer, Division of Erection.

10. Mr. Walter F. Beyer will continue as Assistant Engineer, Division of Lighthouse Construction.

PURCHASING DEPARTMENT.

11. Major Frank C. Boggs, Corps of Engineers, U. S. A., is appointed General Purchasing Officer, Purchasing Department, and Chief of Office, Washington Office of The Panama Canal.

SUPPLY DEPARTMENT.

12. Captain Robert E. Wood, U. S. A., is appointed Chief Quartermaster, Supply Department.

13. Captain Frank O. Whitlock, U. S. A., is appointed Assistant Chief Quartermaster, Supply Department.

ACCOUNTING DEPARTMENT.

14. Mr. H. A. A. Smith is appointed Auditor, Accounting Department.

15. Mr. B. F. Harrah is appointed Assistant Auditor, with headquarters at Washington.

16. Mr. Thomas L. Clear is appointed Collector, Accounting Department.

17. Mr. John H. McLean is appointed Paymaster, Accounting Department.

HEALTH DEPARTMENT.

18. Lieutenant-Colonel Charles F. Mason, U. S. A.,

is appointed Chief Health Officer, Health Department.

19. Doctor Marshal C. Guthrie, Passed Assistant Surgeon, U. S. Bureau of Public Health, is appointed Chief Quarantine Officer.

EXECUTIVE OFFICE.

20. Mr. C. A. McIlvaine is appointed Executive Secretary, Executive Office.

PANAMA RAILROAD COMPANY.

21. Lieutenant Frederick Mears, U. S. A., will continue as Superintendent and Chief Engineer, Panama Railroad Company. The title General Superintendent is abolished.

COURTS.

22. The appointment by the President of Mr. William Howard May, as Marshal, is announced.

23. Mr. Samuel E. Blackburn is appointed Magistrate of the town of Balboa.

24. Mr. John W. Thompson is appointed Magistrate of the town of Cristobal.

25. The above appointments are effective this date.

Geo. W. Goethals,
Governor.

Organization of Department of Operation and Maintenance.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 660-1:

1. The Governor is, by Executive Order, the head of this department, and to him, the heads of certain divisions will report direct, the other heads of divisions reporting to an Engineer of Maintenance, who is second in authority over The Panama Canal.

2. The following divisions of this department are hereby ordered:

(*a*) *The Division of Terminal Construction*, under the supervision of an Engineer of Terminal Construction reporting to the Governor. This division will embrace the forces of the Second Division, Chief Engineer's Office, engaged in the design, inspection, and construction of dry docks, shops, coaling and fuel oil plants, floating cranes, docks, and other terminal facilities, construction transportation by rail and water (not including dredging work), the road, street, and sewer work under the landscape architect, and breakwater construction at the Atlantic terminal. The central office designing, drafting, and clerical forces will be carried on the rolls of the Executive Office, although under the supervision of the Engineer of Terminal Construction. The headquarters of the division will be the Executive Office.

(*b*) The Office Engineer and his force, and the forces engaged on meteorology and hydrography, and on general surveys, heretofore in the Second Division, will report to the Engineer of Maintenance.

(*c*) *The Division of Erection*, under the supervision of the Electrical and Mechanical Engineer reporting to the Engineer of Maintenance. This division will have charge of the completion and operation of the structures of the locks and spillways, the installation, erection, testing, operation, and care of lock and spillway operating and protective machinery, the construction of power plants and transmission line, the handling of vessels while in the locks, and the designing and drafting forces necessary thereto. The central office designing, drafting, and clerical forces will be carried on the rolls of the Executive Office, although under the supervision of the Electrical and Mechanical Engineer. The headquarters of this division will be the Executive Office.

(*d*) *The Electrical Division*, under the supervision of an Electrical Engineer reporting to the Engineer of Maintenance, will have charge of power plants and transmission line, when completed, and of the inspection and testing of electrical equipment.

(*e*) *The Division of Municipal Engineering*, under the supervision of a Resident Engineer reporting to the Engineer of Maintenance, will remain unchanged. Headquarters for the present will be at Gatun.

(*f*) *The Division of Lighthouses*, under the supervision of an Assistant Engineer reporting to the Engineer of Maintenance, will have charge of the construction of lights and beacons. The central office designing, drafting, and clerical forces will be carried on the rolls of the Executive Office, under the supervision of the Assistant Engineer. Headquarters will be the Executive Office.

(*g*) *The Dredging Division*, under a Resident Engineer reporting to the Governor, will remain unchanged. Headquarters will be at Paraiso.

(*h*) *The Mechanical Division*, under a Superintendent reporting to the Governor, will remain unchanged, except that the power plants and forces engaged on electrical installation will be transferred to the Electrical Division. Headquarters will be at Balboa.

(*i*) *The Division of Canal Transportation*, under the supervision of a Superintendent of Transportation reporting to the Governor, will be charged with the safe conduct of vessels through the Panama Canal, except at the locks. The port captains, the Board of Local Inspectors, the pilots, the care and operation of lights and beacons, when completed, the inspection and the admeasuring of vessels, will be under his jurisdiction. Headquarters for the present will be at Ancon.

(*j*) *The Fortification Division*, under the supervision of an Assistant Engineer reporting to the Governor, will remain unchanged. Headquarters will be the Executive Office.

(*k*) The forces engaged in sluicing at Gold Hill, grading and filling at the locks and dams, constructing Naos Island breakwater, and in connection with construction transportation at the Atlantic end, will be under the direct supervision of the Governor.

3. The heads of the above divisions will be named in a separate circular, and are hereby directed to submit through proper channels, as soon as possible, but not later than April 13, the immediate organizations proposed to perform the duties assigned them, these organizations to be based on the minimum force necessary to perform these duties during the remainder of the fiscal year. New organizations will afterward be prepared and submitted, to take effect July 1, 1914.

Geo. W. Goethals,
Governor.

Leave Regulations.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 602:

1. The following extract from the Executive Order of February 2, 1914, "Providing Conditions of Employment for the Permanent Force for the Panama Canal," is published for the information and guidance of all concerned:

LEAVE REGULATIONS.

20. All employes who are citizens of the United States, and aliens whose compensation is more than $75 per month or 40 cents per hour, shall be entitled to leave privileges.

21. Leave will be divided into three classs, viz: (1) annual leave, (2) cumulative leave, and (3) travel leave.

ANNUAL LEAVE.

22. Twenty-four days annual leave will be allowed each employe for each year after entry into service, and, if not granted prior to the close of the year, is forfeited and may not be accumulated, except that any annual leave remaining to an employe's credit in a year in which he is granted cumulative leave may be added to the cumulative leave if taken within two months after the close of his service year.

23. The service year shall date from the day on which an employe's pay in the permanent organization begins.

24. Absences of one-half day, or more, when regularly authorized, will be charged against annual leave; also, absences on account of illness or injury, upon the certificate of an authorized physician in the service of the Panama Canal, except that in the following classes of cases no payment shall be made for time lost, but the time shall be charged against the annual leave.

(a) Illness due to the fault of the employe, as venereal disease and alcoholism.

(b) Injury due to the employe's wilful intention to bring about the injury or death of himself or another.

(c) Elective surgical operations to relieve conditions existing prior to service on the Isthmus.

25. In the case of hourly or per diem employes anual leave on account of sickness or injury shall be based upon a day of eight hours.

26. Not more than 14 days annual leave may be taken during the first six months of a service year. In case of illness or injury in the first six months, to cover which no annual leave remains to the employe's credit, the time lost will be charged against the annual leave remaining for the year, and payment will be made after completing 10 months of the service year. After the entire 24 days annual leave has been used, additional leave in that service year on account of illness or injury will be deducted from the cumulative leave for that year, and when the cumulative leave becomes due the employe will be paid.

27. After exhausting both annual and cumulative leave for the year, additional absence on account of illness or injury will be without pay, except such compensation as may be prescribed by law for employes receiving personal injuries.

CUMULATIVE LEAVE.

28. Thirty days cumulative leave will be allowed each employe paid on a monthly or annual basis for each year of his service, and 20 days to each employe paid on an hourly basis. This leave will be due after completing 10 months' service each year, and may be taken when the employe's service can be spared. It may be taken annually or left to accumulate to the credit of the employe, provided, however, that leave may not be accumulated for more than three years. If it is not desired to take the entire leave accumulated, the leave earned for the first year, or the first and second years, may be taken, provided that no employe, except at termination of service, may be granted more than 90 days leave with pay at one time. Employes will be paid for cumulative leave at the rate earned when the leave became due at the end of the tenth month of each respective year.

29. In case an employe serves part of a year on the monthly or annual basis and part on the hourly basis, he will be allowed 20 days cumulative leave, except that if he has served eight months or more on the monthly or annual bsais during the year he will be granted 30 days cumulative leave.

TRAVEL LEAVE.

30. Employes who travel to points outside the tropics, when on cumulative leave, will be allowed seven days additional leave (or travel leave) with full pay. Travel leave may be allowed approximately once a year and is not cumulative.

31. Employes will be compensated for travel leave and annual leave taken in conjunction with cumulative leave at the rate earned when cumulative leave last became due.

32. After accumulating leave for three years, an employe ceases to earn additional cumulative leave until he is granted all or part of the cumulative leave already earned, unless he shall enter on cumulative leave within two months after completing the third year, or be ordered by the Governor to defer taking leave for official reasons.

33. When an employe's services are terminated on account of misconduct or unsatisfactory service, any annual leave due and travel leave will be forfeited, and cumulative leave will also be forfeited unless written notification has been given that the employe has accumulated the leave, or the four months period within which the employe may enter on leave has passed. Such written notice must be given by employes as soon as possible after cumulative leave becomes due.

34. When an employe's service is terminated, a cash payment in commutation of leave will be made to him for the number of days' cumulative leave due, plus the annual leave due. In the event of his death his estate will be paid the sum due.

35. Employes must enter on cumulative leave within four months after the date when it becomes due, except when accumulated, or unless otherwise authorized by the Governor.

36. Employes must report from leave within one week after the authorized leave expires, or forfeit pay for the leave. In case of unavoidable delay, the Governor will decide whether the circumstances warrant an exception to this rule.

37. No restrictions are placcd on the localities where leave may be spent.

38. Any employe transferred from the present force to the permanent operating force will be paid at the time of transfer, in addition to his regular compensation, the amount he would have received in payment for leave had he been separated from the service at the time of transfer.

39. Leave may be taken only at the convenience of heads of departments, who may direct an employe to accumulate his leave if necessary for the conduct of the work.

40. Leave without pay may be granted by the Governor to all employes, including laborers, for such period as may be prescribed by him.

2. Leave of absence for more than five days must receive prior approval of the Executive Office and will be entered on the daily leave order.

3. Permission to be absent five days, or less, may be granted, prior to taking the time off, by the head of the department, or by such officers of the department as may be given authority to permit absences. In such cases the employe will turn in an excuse card (Form PC-425) to the timekeeper when he reports for duty. No time will be allowed for days absent with permission, except when covered properly by an excuse ard signed by proper authority.

4. Permission to be absent with pay will not be granted for a period of less than one-half day, or for any fraction of a day other than one-half. Halfday absences should be avoided and only full days granted, unless employe's services are urgently needed for part of the day.

5. Employes must report from leaves of absence and sick leave at the beginning of the forenoon or afternoon period of their working day, and will not be permitted to report during working hours. Time will begin only after reporting for duty.

6. In case of absence on account of illness, certificate of disability, after the employe has shown same to his superior, must be turned in to the timekeeper in the first period after reporting for duty.

7. Upon return to duty of an employe, timekeepers will report to the Executive Office the date and time of return to duty, the date and time absence began, total number of days absent, and authority for absence, on Form PC-465.

8. In all cases where a Sunday or holiday falls within a leave of absence, so that the employe is on leave both prior and subsequent to such day, the day shall be counted as one day of leave. If an employe either enters upon, or returns from, a leave of absence on a Sunday or holiday, or on the day following a Sunday or holiday, the Sunday or holiday shall not be considered a part of his leave if the employe worked the full day preceding, in case of entry on leave, or the full day following, in case of return from leave.

9. Except when necessitated by illness or injury, the total amount of annual leave used by an employe within the first seven months of his service year shall not aggregate at any time more than two days for each month. After seven months service any part or all of the unused annual leave due for the service year may be granted by proper authority.

10. Leave without pay will not be granted, except in meritorious cases, and will be limited to periods of

not more than 42 days, except in cases of great necessity.

11. The service year dates from the day on which an employe's pay in the permanent organization begins, and the date of the commencement of the service year remains constant until the employe's service is terminated.

12. If an employe is absent from duty on account of (a) leave without pay, or (b) on account of illness or injury not chargeable to annual or cumulative leave credits, for a period of 30 or more consecutive days, he shall forfeit for each full period of 15 days in excess of the first 15 days two days of any unused leave allowable for the service year in which the absence begins, the two days to be charged to annual or cumulative leave credits. If such absence is less than 30 days, no forfeit will be charged. In other words, if absent as stated above, deductions will be made from annual and cumulative leave, instead of changing the date of the service year.

13. In the case of employes transferred from the Isthmian Canal Commission organization to the new organization who would have had a leave due between April 1, 1914, and February 1, 1915, under the old rules, or who shall have had no leave for approximately a year, or more, and who desire to take a leave without pay within that period, 42 days without pay may be granted, without any forfeiture of privileges, and only leave in excess of that amont shall be counted under Item (a), Paragraph 12, above.

14. Cumulative leave for any one year must all be taken at one time; i. e., it cannot be divided, except when it is used to cover absence on account of illness or injury, as provided in Paragraph 26 of the Executive Order above quoted.

15. Annual leave may be divided to suit the convenience of the employe and his superiors.

16. Employes are expected to report for duty on the day their authorized leave terminates.

17. Hereafter, all days or half days off with permission, or reserve days, must either be charged against the annual leave of employes, or be without pay. In case a monthly employe regularly employed in the day time works at night, he may be allowed time off the following day, if needed, for rest or recuperation.

18. Service in the new organization of employes transferred thereto from the Isthmian Canal Commission, who on April 1, 1914, are on leave of absence, sick leave, or injury leave, will date from the day their pay in the new organization begins upon their return to duty.

19. Employes who receive two rates of pay, with and without subsistence, will be paid for leave of absence and transit time in accordance with the following rules:

(a) An employe appointed in the United States for duty on the Isthmus, who is granted free transportation will be paid for his time in transit at the subsistence (or lower) rate of pay.

(b) Cumulative leave, travel leave, and such annual leave as is taken in connection therewith, and any time spent in transit, going to or returning from such leave, will be paid at the nonsubsistence (or higher) rate, provided, that no part of the transit time is in excess of the total amount of leave granted with pay.

(c) Employes who are under treatment in hospitals of the Panama Canal, and whose time off on account of sickness is properly chargeable to annual leave, will be paid at their subsistence (lower) rate of pay.

(d) No employe who is being furnished subsistence will be paid the higher, or non-subsistence rate for any time off taken by him and charged against his annual leave, unless such time consists of more than two consecutive days.

20. An employe who resigns and commutes his leave into a cash payment shall be ineligible for reemployment within a period of 30 days.

Geo. W. Goethals,
Governor.

Leave Privileges.

Culebra, C. Z., March 28, 1914.

Circular No. 132-o:

Employes who on March 31, 1914, shall have served less than six months for which no leave has been granted and who on April 1 are transferred to the new organization, will be granted leave at the rate of 3½ days in the case of monthly employes and 2⅓ days in the case of hourly employes for each such full month's service, this leave to be commuted into a cash payment under the following provisos:

1. All employes in the service continuously from April 1, 1914, to June 30, 1914, will be paid the commutation for the leave allowed above for service prior to April 1.

2. If the employe should be discharged on account of unsatisfactory workmanship or conduct on or prior to June 30, 1914, no allowance will be made.

3. If the employe should be discharged on account of reduction of force or resign on or before June 30, 1914 the allowance will be made, provided his service in the new organization, added to the time prior to April 1 for which the leave is to be allowed, aggregates six months or more. If such service aggregates less than six months no allowance will be made.

Geo. W. Goethals,
Chairman.

Preparation of Memorandum Receipts.

Culebra, C. Z., March 28, 1914.

Circular No. 535-c:

Memorandum receipts will be prepared in accordance with Paragraph 2, Circular 535-a, as follows:

Form C. E. 395 will be used, and articles shall be listed in alphabetical order, giving full information regarding description and sizes, so that articles can be readily priced. Great care must be taken in the preparation of these receipts, as they are to be used as a basis for the physical and financial accounting on the Panama Canal. No items should be taken up on these memorandum receipts which are absolutely unserviceable, but same should be collected and presented for survey in the regular manner. Items that are so badly worn that they have actually lost their value must be so noted on memorandum receipts, and lists made of such items separate from serviceable items. In case any question arises as to manner in which these memorandum receipts are to be prepared, the accountable or responsible officers should communicate direct with the surveying officer at Culebra, who will give necessary instructions.

The foregoing regulations will not apply to the taking of memorandum receipts by district quartermasters from occupants of quarters for furniture. The memorandum receipts to cover furniture in quarters will not be required until July 1, 1914, when same should be taken by all accountable officers, and submitted as required in the series of Circulars Nos. 535-a, b, etc.

Geo. W. Goethals,
Chairman, Isthmian Canal Commission.
President, Panama Railroad Company.

Standardization of Stationery Forms.

Culebra, C. Z., March 27, 1914.

Heads of Departments and Divisions:

All stationery forms, except those of the Auditing Department, the Panama railroad, and the Commissary-Subsistence Department, will, hereafter, be issued under one series of numbers, bearing the prefix "PC."

Numbers will be assigned by this office for all forms of the "PC" series. All existing forms will retain their present numbers until it becomes necessary to reprint them, when they shall be forwarded to this office for renumbering, and transmission to the printer.

To facilitate the printing of forms which are being "Rushed," especially at present, form numbers will be furnished upon telephone request.

The printer will furnish this office a copy of each form hereafter printed in the "PC" series. Otherwise, the provisions of the circular for the standardization of stationery will govern.

Geo. W. Goethals,
Chairman and Chief Engineer.

Property Accounting.

Culebra, C. Z., March 23, 1914.

Circular No. 535-a:

1. Property returns for the period ending March 31, 1914, will be rendered by all accountable officers and will not thereafter be required.

2. All accountable officers will require all responsible officers and employes to renew their memorandum receipts April 1, 1914. The memorandum receipts will be so prepared as to describe definitely the different kinds and sizes of the various items of property for which receipt is given. Detailed instructions in regard to the manner of preparing memorandum receipts will be issued by the surveying officer.

3. Accountable officers will consolidate the memorandum receipts and send two copies of the consolidated statements to the Auditor as soon as possible after the first of April, 1914.

4. As of April 1, 1914, the Board of Local Inspectors will appraise, in company with the surveying officer, all floating equipment; the Chief Quartermaster and the surveying officer will appraise all rolling stock and other large units of equipment, except that all machinery and equipment of the Mechanical Division shall be appraised by or under the direction of the Superintendent of the Mechanical Division and the surveying officer. All appraisals shall be sent currently to the Auditor, as completed.

5. One copy of the statement made by accountable officers of the property in their possession shall be furnished by the Auditor to the surveying officer, who will insert the current prices opposite all items not appraised. The Chief Quartermaster, the Superintendent of the Mechanical Division, and the surveying officer shall determine what items are to be appraised, and what items are to be given current prices.

6. The original, duplicate, and quadruplicate of foremen's orders for nonexpendable property shall be forwarded by storekeepers to the Auditor. The Auditor will make a record of the property issued to divisions after April 1, 1914, and forward the quadruplicate copy of foremen's orders to the accountable officer to use as a basis for obtaining the memorandum receipt from the responsible officer or employe having possession of the property. When nonexpendable property is transferred from stores to divisions, one copy of invoice should be sent direct to the Auditor by storekeepers, and three accomplished copies by receiving division. One accomplished copy of the invoice will be sent by the Auditor to the accountable official for property record.

7. When nonexpendable property is transferred from one division to another, five copies of invoice will be sent to the Auditor, one copy to be forwarded direct by the invoicing official, and four accomplished copies by the receiving official. One accomplished copy will be forwarded by the Auditor to each of the accountable officials interested, for property records.

H. F. Hodges,
Acting Chairman, Isthmian Canal Commission.
Second Vice-President, Panama Railroad Company.

Superintendent of Mechanical Division an Accountable Official.

Culebra C. Z., March 23, 1914.

Circular No. 529-b:

Mr. D. C. Nutting, Superintendent of the Mechanical Division, is designated an accountable official, and will account for the property of the Mechanical Division, with the exception of that carried on the return of Mr. Hartley Rowe.

H. A. A. Smith,
Examiner of Accounts.

Approved:
H. F. Hodges,
Acting Chairman and Chief Engineer.

Inventory of Nonexpendable Property, P. R. R., and P. R. R. Commissary Department.

Culebra, C. Z., March 23, 1914.

Circular No. 535-b:

The Panama Railroad Company, and the commissary department of the Panama railroad, will take an inventory April 1, 1914, of all nonexpendable property on hand, for use in establishing accountability for such property.

In the inventory all articles should be definitely described, so that similar items on the inventory of one division may be readily consolidated with similar itemson the inventory of other divisions.

After April 1, the records of nonexpendable property shall be maintained under the rules governing the maintenance of the record of nonexpendable property of the Panama Canal.

H. F. Hodges,
Acting Chairman, Isthmian Canal Commission.
Second Vice-President, Panama Railroad Company.

Discontinuance of Labor Trains.

Balboa, C. Z., March 28, 1914.

Transportation Bulletin No. 81:

Effective at the close of business March 31, 1914 labor trains Nos. 123 and 102, running between East Balboa and Caimito, will be discontinued.

The following labor trains between Gold Hill engine house and the suspension bridge will also be discontinued at the same time: Nos. 149, 148, 151, 150, 153, 152.

W. J. Holmes,
Superintendent of Transportation.

Telegraph Office at Caimito Closed.

Panama Railroad Company,
Office of General Superintendent,
Colon, R. P., March 26, 1914.

G. S. Bulletin No. 63:

All concerned—Effective April 1, the telegraph office at Caimito will be closed. Arms and lamps will be removed from train order signal.

F. Mears,
General Superintendent.

Automatic Signals Between Caimito and Pedro Miguel.

Panama Railroad Company,
Office of General Superintendent,
Colon, R. P., March 26, 1914.

G. S. Bulletin No. 64:

All concerned—Automatic signals will be placed in service between Caimito and Pedro Miguel within the next 15 days, the exact date to be covered by a later bulletin. Train crews will please familiarize themselves with the location of signals, and all foremen using hand cars and push cars within this territory will see that they are insulated before the signals are placed in service.

F. Mears,
General Superintendent.

Married.

MEACHAM-RAMSBROK—At Christ Church, Colon, on Thursday, March 26, Miss Julia Taylor Ramsbrok to Mr. Jerome Franklin Burnett Meacham, Rev. E. J. Cooper officiating. Canal Zone residence, Empire.

COMMISSION CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The schedule of moving picture dates for the week April 6 to 11 is, as follows: Monday, Pedro Miguel; Tuesday, Culebra and Balboa; Wednesday, Cristobal; Thursday, Empire; Friday, Gatun; Saturday, Corozal

BALBOA.

Moving pictures of the Shriners' visit to the Canal Zone will be shown at the clubhouse on Friday night, April 3, consisting of 40 scenes in four reels. Special music will be provided for the occasion. The usual moving picture prices will prevail.

The barber shop is almost completed. Prices for work will be the same as at other clubhouses.

COROZAL.

Duckpin activities occupied the bowling alleys the entire week; scores of 100, or over, were, as follows:

Steele, 106; Davis, 103, 105, 106, 108; Phillips, 105; Louch, 105; Ruggles, 105; Barte, 104; King, 100; Webb, 100.

Walter Eccles and the Four College Girls Company gave a return engagement at Corozal on Tuesday, March 24. There was a complete change of program. An informal reception was held after the entertainment.

The films of the Osman Temple pilgrimage were shown on Monday, March 30. The regular "movies" will be shown April 1.

PEDRO MIGUEL.

On March 27, two months after the formal opening of the Pedro Miguel clubhouse, the membership was 158.

The high scores in duckpins for the week ending March 29 was, as follows: Davis, 109; Whiston, 105; Piper, 102; Barlow, 102.

The boys enjoyed an outing into the jungle on Saturday, March 28.

F. F. Dougherty, the bowling alley manager, who has spent several weeks at Ancon Hospital and Taboga Island, on account of illness, has returned to work. Fred Whiston relieved him during his illness.

The Gatun gymnasium team gave an exhibition on Saturday evening. The program was, as follows: Barbell drill by the Gatun boys; tumbling by Mr. Williams; dumbbell drill by the Gatun men; electric club swinging by Messrs. Williams and Russell; pyramids by the Gatun team; parallel bar exercises by Messrs. Williams and Russell.

Mr. Ward of Paraiso, who was away on a leave of absence, has returned, and resumed his duties as desk clerk in the evenings. Mr. J. V. Lyles, who leaves on April 2 for the United States, will be relieved by Mr. Wang, the local postmaster.

At the song service on Sunday evening, the Rev. Mr. Funkhauser spoke on the subject "Making of the man."

CULEBRA.

There was an attendance of 160 at the second entertainment given by Walter Eccles and the Four College Girls Company on Friday night, March 27.

On Sunday night, March 29, a set of colored slides, with accompanying lecture, were shown illustrating John Bunyan's story "The dreamer of dreams." Song slides were thrown on the screen during the reading of the lecture. The date for the exhibition of the set of slides "Strolling through old England" will be announced later.

High scores in duckpins for the past week were, as follows: Seely, 107, 107; Brown, 104, 108, 102, 103; Palmer, 101.

The person taking the library book *V. V's Eyes* from the reading room is requested to return same.

EMPIRE.

The chess carnival to be held at Empire on Saturday evening, April 4, is intended for all the chess players in the Zone. A special program has been prepared.

The Empire duckpin team will bowl the Cristobal team at Cristobal on Saturday, April 4.

Plans are under way for a celebration to be held on May 5 and 6, of the seventh anniversary of the opening of the Empire clubhouse.

GATUN.

John Gray played several violin solos at the motion picture entertainment on Monday, March 23.

An order for 50 new library books was sent to the United States this week.

◆

Examinations by Board of Local Inspectors.

THE PANAMA CANAL,
ANCON, C. Z., April 1, 1914.

The Board of Local Inspectors will conduct examinations at the Administration Building, Ancon, on Wednesday, April 8, 1914, beginning promptly at 2 p. m., for persons desiring the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for licenses must procure from the Executive Office, Ancon, forms of application and information respecting the filling out of same, not later than the day previous to the examination. In addition, all persons desiring chauffeurs' licenses must provide themselves with automobiles with which to demonstrate their ability to properly operate the same.

NOTE—The demonstration test for applicants for chauffeurs' licenses will be given on Tuesday, the day preceding the regular examination at 2 p. m., at the Administration Building, Ancon; on Wednesday, the day of the regular examination, for out-of-town applicants, at 2 p.m., at the Administration Building, Ancon. No demonstration tests will be given at Cristobal, except by appointment.

HUGH RODMAN,
Chairman, Board of Local Inspectors.

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Movements of Vessels, Port of Balboa.

The following vessels arrived at, or departed from, the port of Balboa during the week ending March 28, 1914:

Arrivals—March 22, *Thor*, from Puget Sound; March 23, *Pachitea*, from Callao; March 25, *Huasco*, from Valparaiso; March 26, *City of Sydney*, from San Francisco; March 27, *Chile*, from Guayaquil; *Shearwater* (British warship), from northern ports; *Elsinore*, from Port Harford.

Departures—March 23, *Santa Cecilia*, to Antofagasta; *Huallaga*, to Callao; *Manavi*, to intermediate ports; *Mexico*, to Valparaiso; March 27, *Ecuador*, to Guayaquil; March 28, *Barracouta*, to Central America.

◆

Rainfall, March 1 to March 28, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	Ins.		Ins.
Ancon	0	......	0
Balboa	0	......	0
*Miraflores	0	......	0
Pedro Miguel	.02	9	.02
Rio Grande	T	9 & 20	T
Central Section—			
Culebra	.01	20	.01
*Camacho	0	......	0
Empire	T	18	T
Gamboa	.02	18	.02
*Juan Mina	.01	13 & 20	.02
Alhajuela	.02	20	.05
*El Vigia	.06	9	.14
Frijoles	.17	22	.40
*Monte Lirio	.34	20	.80
Atlantic Section—			
Gatun	.28	18	.96
*Brazos Brook	.20	19	1.06
Colon	.28	18	.90
†Porto Bello	.14	15	.73

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight. †To 5 p. m., March 27.

◆

Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes for the week ending midnight, Saturday, March 28, 1914. All heights are in feet above mean sealevel:

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela.	Gamboa.	Gatun Lake.	Miraflores Lake.
Sun., March 22	124.8	91.2	84.9	84.8	50.4
Mon., March 23	124.8	91.2	84.8	84.8	50.4
Tues., March 24	124.8	91.3	84.9	84.9	50.3
Wed., March 25	124.8	91.2	84.8	84.9	50.2
Thurs., March 26	124.8	91.2	84.8	84.9	50.2
Fri., March 27	124.8	91.2	84.8	84.8	50.3
Sat., March 28	124.8	91.3	84.8	84.8	50.4
Height of low water to nearest foot.	125.0	91.0			

◆

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending April 11, 1914:

DATE.	High	Low	High	Low	High
•	A.M.	A.M.	A.M.	P.M.	P.M.
April 5	......	4.28	11.36	5.09	11.05
April 6	......	5.42	11.54	6.22	......
			P. M.		
April 7	12.25	6.51	1.01	7.24	......
April 8	1.30	7 48	1.56	8.16	......
April 9	2.24	8.39	2.44	9.05	......
April 10	3.12	9.26	3.31	9.50	......
April 11	3.58	10.12	4.15	10.34	......

75th meridian time.

MOVEMENTS OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.

		Sails.	Arrives.
*Cristobal	P. R. R.	Mar. 26	April 2
*Panama	P. R. R.	April 2	April 8
Allianca	P. R. R.	April 8	April 14
*Colon	P. R. R.	April 14	April 20
*Advance	P. R. R.	April 20	April 27
*Panama	P. R. R.	April 27	May 3

CRISTOBAL TO NEW YORK.

†Colon	P. R. R.	April 1	April 7
†Advance	P. R. R.	April 7	April 14
†Panama	P. R. R.	April 14	April 20
†Allianca	P. R. R.	April 20	April 26
†Colon	P. R. R.	April 26	May 2
†Advance	P. R. R.	May 2	May 9
†Panama	P. R. R.	May 9	May 15

NEW YORK TO COLON.

*Metapan	U. F. C.	Mar. 25	April 1
*Pastores	U. F. C.	Mar. 28	April 4
Prinz Aug. Wilhelm	H.-A.	Mar. 28	April 6
Tagus	R. M.	Mar. 28	April 6
*Zacapa	U. F. C.	April 1	April 8
Prinz Sigismund	H.-A.	April 4	April 14
*Tenadores	U. F. C.	April 4	April 11
*Almirante	U. F. C.	April 8	April 15
Prinz Joachim	H.-A.	April 11	April 20
*Calamares	U. F. C.	April 11	April 18
Magdalena	R. M.	April 11	April 20
*Santa Marta	U. F. C.	April 15	April 22
*Pastores	U. F. C.	April 18	April 25
Prinz Eitel Friedrich	H.-A.	April 18	April 28
*Metapan	U. F. C.	April 22	April 29
Prinz Aug. Wilhelm	H.-A.	April 25	May 4
*Tenadores	U. F. C.	April 25	May 2
Oruba	R. M.	April 25	May 3
*Zacapa	U. F. C.	April 29	May 6
Calamares	U. F. C.	May 2	May 9

COLON TO NEW YORK.

Santa Marta	U. F. C.	April 2	April 9
Pastores	U. F. C.	April 5	April 15
Prinz Eitel Friedrich	H.-A.	April 6	April 15
Metapan	U. F. C.	April 9	April 16
Tenadores	U. F. C.	April 12	April 22
Oruba	R. M.	April 14	April 22
Prinz Aug. Wilhelm	H.-A.	April 14	April 22
Zacapa	U. F. C.	April 16	April 23
Calamares	U. F. C.	April 19	April 29
Prinz Sigismund	H.-A.	April 20	April 29
Almirante	U. F. C.	April 23	April 30
Pastores	U. F. C.	April 26	May 6
Prinz Joachim	H.-A.	April 28	May 6
Trent	R. M.	April 28	May 6
Santa Marta	U. F. C.	April 30	May 7
Tenadores	U. F. C.	May 3	May 13
Prinz Eitel Friedrich	H.-A.	May 4	May 13

NEW ORLEANS TO COLON.

Heredia	U. F. C.	Mar. 25	April 1
*Atenas	U. F. C.	Mar. 28	April 2
Parismina	U. F. C.	April 1	April 8
*Turrialba	U. F. C.	April 4	April 9

COLON TO NEW ORLEANS.

‡Abangarez	U. F. C.	April 2	April 7
Heredia	U. F. C.	April 2	April 10
‡Atenas	U. F. C.	April 9	April 14
Parismina	U. F. C.	April 9	April 17

BOSTON TO COLON.

Tivives	U. F. C.	Mar. 26	April 3
Sixaola	U. F. C.	April 2	April 10

COLON TO BOSTON.

Tivives	U. F. C.	April 5	April 13
Sixaola	U. F. C.	April 12	April 20

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Pier 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 2 p. m.; for Southampton, on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays at 3 p. m.; for New Orleans, via Bocas del Toro and Havana, on Thursdays at 4 p.m.; ships for New York, via Kingston, on Thursdays, at 2 p. m.; for New York, via Limon and Havana, on Sundays at 5 p. m.; for Limon and Bocas del Toro on Saturdays at 4 p. m.; for Bocas del Toro direct, on Thursdays at 4 p. m.; and for Boston, via Port Antonio, on Sundays at 3 p. m.

The Hamburg-American steamers *Prinz Eitel Friedrich* and *Prinz Sigismund* sail for New York, via Kingston and Fortune Island, on Mondays at 10 a.m.; the *Prinz August Wilhelm* aud *Prinz Joachim* sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays at 10 a. m.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, APRIL 8, 1914. No. 33.

The Canal Record

Official publication of The Panama Canal.

The Canal Record is published weekly free of charge, one copy each, to all employes of the Panama Canal and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,

THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Over 5,000,000 Cubic Yards of Concrete.

The amounts of concrete laid in the major features of the Canal and its auxiliary works to March 1, 1914, are, as follows:

ITEM.	*Cubic Yards.*
Gatun Locks	2,068,424
Miraflores Locks	1,506,563
Pedro Miguel Lock and Dam	929,232
Gatun Dam and Spillway	232,256
Miraflores Dam and Spillway	79,004
Pedro Miguel–Miraflores duct line	6,193
Central Division	1,271
Balboa terminals	69,996
Cristobal terminals	63,785
Hydroelectric station	14,323
Transmission line	6,939
Aids to navigation	*5,000
Relocated Panama railroad	63,123
Permanent buildings, Balboa	7,202
Total	5,053,311

*Approximate.

Including the work on fortifications, the pontoon barge piers at Paraiso, Quartermaster's construction, municipal engineering, etc., the total concrete placed by the American Canal forces is well above 5,000,000 cubic yards.

◆

Difference in Water Density Causes Current in Lower Locks.

Forces of the meteorology and hydrology subdivision are making a study, at the lower end of Miraflores Locks, of a current caused by the difference in density of the water on the two sides of the lower gates when the gates are opened for the passage of vessels to the sea. At the stage of a downward lockage when the surface of water in the lower chamber has been lowered to evenness with that in the approach, the water within the chamber is more than half fresh. It has, in consequence, less density than the sea water beyond the lower gates and when the gates are opened the heavier water thrusts its way inward against the lighter, causing a current opposed to the outward passage of a vessel.

Surface indications are that the current has a velocity of from three to four miles per hour. Being temporary, it causes no serious inconvenience and it is being studied principally to determine accurately the conditions for the manipulation of the towing locomotives. The density of sea water is about 2.5 per cent greater than that of fresh water; a simple illustration of the difference is seen in the fact that chewing gum will float in sea water, but not in fresh. At the lower end of the locks, the difference in density of the water on both sides of the gates is less, because a considerable proportion of sea water is mixed with the fresh water in the lower chamber before the lower gates are opened. The conditions exist only at Miraflores and Gatun Locks, the water at both ends of Pedro Miguel Lock being fresh at present.

◆

New 15-Yard Dredge Begins Operations.

The dipper dredge *Gamboa*, which arrived at Colon on March 15 and was towed to Paraiso on March 17 for the reerection of parts of its machinery, was placed at work on April 3. It is excavating at the base of Hagan's slide, on the west bank of Culebra Cut, about opposite the Lirio planing mill. This slide is not actively encroaching on the Canal channel, but the channel opposite it is not at full depth. The *Gamboa* is excavating rock from a depth of approximately 35 feet below the surface of the water, and its machinery is, in general, working satisfactorily. It is using a dipper of 15-yards capacity. The spoil from its excavation is being handled in some of the new 1,000-cubic yard steel barges, and is being dumped in shallows of Gatun Lake, south of the site of the former village of Gorgona.

◆

Terminal Construction Work at Atlantic End.

Effective April 1, the work of the Division of Terminal Construction at the Atlantic end has been divided, as follows: Atlantic breakwater construction, in charge of Assistant Engineer F. C. Stanton; Cristobal coaling plant construction, in charge of Assistant Engineer R. B. Tinsley; Atlantic fuel oil plants, in charge of Assistant Engineer F. C. Nichols.

◆

Transmission Line Partly in Use.

The portion of the new transisthmian transmission line on the west side of the railroad, between Gatun and Cristobal, was placed in temporary service on March 29, in substitution for the former 6600-volt transmission line between the steam generating station on the west side of Gatun Locks and the transformer substation at Cristobal. The current is generated at 2,200 volts and stepped-up, through transformers, to 6,600 volts for transmission. At the present Cristobal station, it is reduced to 2,200 volts for primary distribution, the various local circuits receiving it through a smaller pole-line type of transformers, which step the pressure down to 220, or 110 volts, as desired.

This substitution will allow the removal of the old Gatun-Cristobal 6,600-volt line, with two troublesome crossovers; moreover, as the new line has larger wires (No. 00) than the old (No. 2), it effects both an increase in line capacity and a decrease in voltage drop. The larger wires carry the load so easily that it is proposed to use those on the east side of the track to deliver to Cristobal a supplementary current without the use of transformers, taking it direct from the Gatun generators to the Cristobal mains at 2,200 volts. These connections are temporary, and will be supplanted, in the permanent system, by transmission from the new substation at Gatun to a substation in Cristobal at 44,000 volts.

Two other crossovers, at which high tension lines were in dangerous proximity to the conductors of the new line, have been remedied by raising or lowering the wires of the old line. These were at mile post No. 40, a quarter of a mile north of Pedro Miguel station, and on top of the hill above Miraflores tunnel; both were made necessary by the 11.000-volt line between Miraflores power station and Gold Hill. This line is using 76,000 feet of No. 00 copper wire, borrowed from the stock of the permanent transmission line.

The conductors of the 44,000-volt transmission line, three on each side, have been strung between Pedro Miguel and Mount Hope. The track-span bridges are erected between Cristobal and Diablo, with the exception of one at Gatun and one at Pedro Miguel. The seven at Gamboa, on the Chagres River bridge, and five special spans at Frijoles, 39 feet six inches in length, have been erected during the last month. The completed track-span bridges are being numbered with plates affixed to the cross-bridge girder, connecting the side-frames, directly in the center of the span. Each is numbered with the mile of railroad in which it is set, and its sequence in that mile; thus, No. 7-3, south of Gatun, is the third bridge past the seventh mile post, from the initial point of the Panama railroad at Colon.

◆

Additional Family Quarters Authorized for Balboa.

Authority has been granted by the Governor for the construction of 10 additional 4-family, and 30 two-family, concrete quarters at Balboa, and work on them by the permanent building forces of the Supply Department will be begun shortly. In addition, the building of two bachelor quarters of the permanent type for the higher salaried men, and of a police station, fire station, schoolhouse, and clubhouse, has been authorized. The construction of the commissary and railroad station has already been ordered, and the cost thereof will be paid out of Panama railroad funds.

The drafting room force of the permanent building division is now engaged on the plans for some of the new public buildings, including the schoolhouse, which will probably be one of the first to be erected. The present school facilities at Ancon, due to the increase in the Canal population at the Pacific terminus, have been outgrown, and, in order to provide adequate accommodations and to avoid a continuance of the brake service, it is desired to have the new schoolbuilding in readiness, if possible, for the opening of the fall term on October 1. Some consideration was given the matter of moving and reerecting the Empire clubhouse at Balboa, but owing to the heavy removal cost, and to the likelihood of quartering troops at Empire, which can make good use of the present building, the erection of a new permanent structure has been definitely decided upon.

The work of the permanent building division of the Supply Department on quarters at Balboa now includes the following: Erection of 80 four-family concrete quarters authorized some time ago; removal and reerection of frame gold married quarters from various Canal Zone settlements; construction of barracks and removal of East Balboa labor camp to the silver townsite at La Boca, and the construction of 400 additional apartments at La Boca.

Since January 24 of this year, the carpenter gangs of the Chief Quartermaster have removed and reerected, or are now engaged in the removal and reerection, of the following type buildings: Quarters at one time occupied by the late Colonel Gaillard at Culebra; one Type-17, and three Type-4 quarters in the same settlement; one Type-20, one Type-10 and two Type-17 quarters at Empire, and four Type-17 houses at Gatun.

The work at the La Boca silver camp, with the exception of that newly authorized, is drawing to a close, and it is thought probable that some of the gangs at this point can be transferred to the removal and reerection work some time this month. It is expected that about all of the frame quarters required for gold employes will be moved by August 1 of this year.

◆

American Institute of Electrical Engineers.

Owing to extraordinary duties in connection with the reorganization on April 1, 1914, the members, who had planned to deliver papers at the April meeting of the Panama section of the American Institute of Electrical Engineers, have been unable to prepare them.

The executive committee, therefore, has cancelled the April meeting. The next meeting will be held early in May. The date of the May gathering, which is the annual meeting to hear reports, to elect officers, etc., will be announced later.

◆

Levelman and Transitman Examination.

Examination for promotion to the positions of levelman and transitman is scheduled to be held in the Canal clubhouse at Empire, on Sunday, May 10.

The examination will commence promptly at 9.35 a. m. and will be divided into three parts, which will be given in the order indicated, viz: Written and oral examinations, and a statement of education and experience. Competitors will be required to complete the written portion of the examination *before 1 p. m.*

Applications for examination should be addressed to the undersigned, *through the head of department or division*, before the close of business on Thursday, May 7.

Applicants should bring to the examination room, pens, ink, pencils, triangles, and tables of circular functions, but no paper or blotters.

Applicants who fail to appear for examination before 9.35 a. m., or who do not apply for examination through the proper channels before the close of business on Thursday, May 7, will not be admitted to the examination No card of admission will be needed.

A. B. Nichols,
Chairman, Examining Board.

Culebra, C. Z., April 6, 1914.

◆

A Record Repair Operation.

On April 2, pipeline dredge *No. 85*, engaged in inner harbor excavation at Balboa, was shut down at 8.25 a. m. for complete change of pump. This work was completed, and the dredge resumed operations at 6.45 p. m. on the same day, making a record for renewing machinery of this character.

◆

PERSONAL.

Surgeon James C. Perry, U. S. Bureau of Public Health, resigned as Chief Quarantine Officer on March 31, but was requested to remain in an advisory capacity until April 14. He will sail for the United States on the *Panama* on Tuesday, April 14, and has asked and been granted a year's leave of absence, which he will spend in travel. He was detailed to the Isthmus by the United States Public Health and Marine Hospital Service early in 1904, to make a report on local sanitary conditions, arriving at Colon on February 7. On June 27, 1904, he was transferred to the sanitary service of the Isthmian Canal Commission, and on July 13 of that year, he was appointed quarantine officer at Colon. On May 3, 1905, he was promoted to Chief Quarantine Officer, and since February 14, 1910, in addition to his other duties, he has filled the officeof health officer of Panama. He was born in 1865, in Elizabeth City, N. C., and received his early education in the schools of that state. He was graduated from the University of Maryland in 1889; on March 27 of that year, he was appointed to the post of assistant surgeon in the Public Health and Marine Hospital Service, and on March 1, 1904, he was promoted to the rank of surgeon. In 1899, he was at Hong Kong, China, where he made a study of plague conditions, and in the following year, he was transferred to Manila to organize the quarantine service of the Philippine Islands, remaining there until March, 1903.

Mr. John K. Baxter, at one time chief clerk in the former Department of Civil Administration, and later, assistant chief clerk in the office of the Chairman and Chief Engineer at Culebra, in charge of the personnel division, but who resigned in April, 1912, to enter the United States consular service, returned to the Isthmus on Saturday, April 4, and has accepted the position of Chief of the Division of Civil Affairs in the Executive Office, effective as of that date. Mr. Baxter was consul at St. Pierre, a French island possession off the coast of the Dominion of Canada until January 2 of this year, when he was transferred to Maracaibo, Venezuela, where he remained but two months.

First Lieut. Henry P. Carter, Medical Corps, U. S. A., one of the new health officers, arrived on the Isthmus from New Orleans, on the *Atenas*, on Wednesday, April 1.

Maj. Robert E. Noble, Medical Corps, U. S. A., and Dr. S. T. Darling, who accompanied Surgeon General Gorgas on his trip to South Africa, returned to the Isthmus on the *Panama*, which docked at Cristobal, on Wednesday, April 8.

Representatives Henry Bruckner, J. F. Carew, H. H. Dale, and J. H. O'Brien, Members of Congress from the State of New York, arrived on the Isthmus on Wednesday, April 8, on the *Panama*. They are accompanied by members of their families.

Maj. G. A. Helfert of the Philippine Constabulary, and former governor of the province of Zamboanga, arrived on the Isthmus on April 2, on the steamship *Atenas*, from New Orleans He has been requested by the Government of Panama to act as instructor of its police.

◆

Annual Dinner of the Incas.

Invitations have been issued for the annual dinner of the Society of the Incas, which will be held on Monday, May 4, the anniversary of the taking over of the Canal property from the French. The secretary, Milo C. Pratt, advises that he is not in possession of a complete list of the 1904 men still on the Isthmus, and requests that any one overlooked in the matter of invitations communicate with him at Ancon, C. Z.

◆

Special Excursion Through Culebra Cut and Gatun Lake, Good Friday, April 10, 1914.

The Panama railroad sightseeing barge will be run from Paraiso to Gatun and return on the above date, for account of the Isthmian Sunday School Association. For tickets and further information apply direct to Mr. John F. Warner, Executive Office, Culebra.

Positively the last trip of the barge, from Paraiso through to Gatun and return, during the present dry season, will be on Sunday, April 19, on the following schedule:

The Panama railroad sightseeing barge, accommodating 300 passengers, will leave the dredge landing, at Paraiso, at 8.15 a. m., Sunday, April 19, for an excursion through Culebra Cut and Gatun Lake. The barge will arrive at Gatun at 12.30 p. m. The Bas Obispo shuttle train, which leaves Bas Obispo at 7.10 a. m., and the 7.30 a. m., train from Panama will both deliver passengers at Paraiso in time for this trip. A special stop on the main line opposite Paraiso, will be made by the 7.30 train from Panama, to accommodate excursionists.

There will be an afternoon excursion with the sightseeing barge, leaving the concrete dock, Gatun, at 1.30 p. m., going back over the same course to Paraiso, arriving about 5.30 p. m., connecting with both main and branch line trains. Train No. 7, which leaves Colon at 4.45 p. m., will make a stop opposite Paraiso cabin to accommodate excursionists. Passengers from Panama desiring to make the afternoon trip from Gatun to Paraiso, can take train No. 6, which leaves Panama at 11 a. m , arriving at Gatun at 12.34 p. m., giving time for lunch. Passengers from Colon desiring to make the afternoon trip, can take train No. 5, leaving Colon at 11 a. m., and arriving at Gatun at 11.16 a. m., giving time for lunch.

The fare for this trip will be $1.50, U. S. currency, each way. Employes can use mileage books, from which 32 miles "Mileage" will be detached for each trip.

The barge will *not* be operated Sunday, April 12.

F. Mears,
Superintendent and Chief Engineer.

◆

Cristobal Dance Club.

The mask ball of the Cristobal Dance Club will be held on Monday, April 13, at the Canal clubhouse. A flashlight photograph will be taken. All members are requested to appear in costume.

EASTER IN ZONE CHURCHES.

Special Services to be Held Commemorative of the Day.

The Easter services in Christ Church, Colon Beach, will be, as follows: Parish communion at 5.30 a. m.; choral eucharist at 10.30 a. m.; choral vespers and anthem at 4 p. m.; evensong, with sermon, at 7.30 p. m.

At Culebra, there will be a celebration of the holy communion in the upper room of the schoolhouse at 7 a. m., the Rev. H. R. Carson, chaplain of Ancon Hospital, officiating.

At St. Luke's, Ancon, there will be morning prayer at 9 a. m. This will be the children's service, and the Sunday school will make its lenten offering for missions at this time. The holy eucharist will be at 10 a. m. A special service for the Knights Templar, by request, will be held in the afternoon at 4 o'clock.

At St. Paul's, Panama, there will be morning prayer at 5 a. m., the holy eucharist at 11 a. m., and evening prayer and sermon at 7.30 p. m.

In the missions for West Indians, the services will be as usual. Special music for the day will be sung in all the Episcopal churches throughout the Canal Zone.

The Cristobal Union Church Sunday school will celebrate Easter on Sunday evening, April 12, the exercises being held in the chapel at 7.30 o'clock. The program includes numbers by the primary and beginners' classes, and the junior boys and girls, assisted by the adults of the school. The first part of the program is composed of Easter numbers and the second part is a missionary program. The offering of the school will be made at this time, and will be presented to Miss Annie Coope for use in her work among the San Blas Indians.

The Union Sunday school at Empire will have a special program at its regular session on Easter Sunday. The session will be held from 9.45 to 10.45 o'clock, as usual. Immediately after this meeting, the Christian Endeavor Society will hold its regular meeting.

The Methodist Church on the seawall will hold a combination Easter service with the Sunday school, on Sunday morning at 10 o'clock.

There will be special exercises at the mission in Guachapali, in the afternoon, at 3 o'clock.

There will be a simple Easter program at the recently organized Sunday school in East Balboa on Sunday morning.

At the church of the Sacred Heart, Ancon Hospital, the first mass will be said at 6 a. m., and the hour for the second mass, is as usual, 9.30 a. m. At this service, Madam Adolf Faure of Culebra will sing.

First communion will be taken by a Spanish class of children at the church of St. Ferdinand, in Empire, on Easter morning. The services for the day will be according to the usual schedule.

Mass will be celebrated in the new church at Corozal on Easter morning at 8 o'clock, and in the church at Balboa, at 9 o'clock. The Rev. Father MacDonald will be the celebrant in both churches.

The Women's Clubs.

The sixth annual meeting of the Cristobal Woman's Club will be held at the Canal clubhouse on Wednesday, April 15. It is expected that plans will be made to hold the present officers over until the opening of the club year in October. The year just completed has been one of the best years of the club life in Cristobal.

Mrs. Eleanor Brackenridge of San Antonio, Texas, has been a visitor to the Isthmus during the past week, making interested inquiries concerning the woman's club movement in the Canal Zone. Mrs. Brackenridge was the organizer and, for seven years, president of the Woman's Club of San Antonio, and is president of the Equal Franchise Society of San Antonio.

The Tuesday morning meetings of the Woman's Altar Guild of St. Luke's Hospital Chapel, Ancon, will be discontinued after this week. The regular semimonthly meetings will be resumed. Future plans for the guild's work will be announced later.

There will be no meeting of the Ancon Study Club on Thursday, April 9. Further announcements of meetings will be given in THE CANAL RECORD.

The last meeting for the season of the Ladies' Aid Society of the Cristobal Union Church will be held on Tuesday, May 12, when it is expected that Miss Annie Coope, the American missionary teacher engaged in work among the San Blas Indians, will be present and give an address on her work.

Isthmian Sunday School Association.

The quarterly meeting of the Isthmian Sunday School Association was held at the Panama Canal clubhouse in Pedro Miguel on Sunday afternoon, April 5. Representatives were present from the following Union Sunday schools on the Isthmus: Balboa, Panama (Methodist), Pedro Miguel, Culebra, Empire, Gatun, and Cristobal. The Rev. Aquila Lucas, international secretary of the International Sunday School Association, was present, being at this time making his sixth visit to the Sunday schools in the Canal Zone. Features of the program were an address by Mr. Lucas, and a paper on primary work in the Sunday school by Mrs. Harrison.

Reorganization of Gatun Sunday School.

The Gatun Sunday school has recently been reorganized, the entire system of the school being remodeled. The officers elected were: Superintendent, Frank Gardner Smith; assistant superintendent, Mrs. A. C. Arthur; recording secretary, Frank Sisson. The other officers will be elected at an early meeting. The school has nine classes, and a teacher has volunteered for each class. A meeting of the officers and teachers of the Sunday school will be held in the chapel on Wednesday evening, April 15, when there will be a round table discussion on Sunday school methods, and an address by the international secretary, the Rev. Aquila Lucas.

Corner Stone of New Baptist Church in Panama to be Laid on Good Friday.

On Good Friday, April 10, the foundation stone of a new Baptist church building in the district of Chorrillo, Panama, will be laid, the Hon. William Jennings Price, the American minister to Panama, performing the official act. Others who are to take part in the ceremonies are the Rev. J. L. Wise, superintendent of the Baptist mission work for Panama and the Canal Zone, the Rev. Stephen Witt, pastor of the churches at Colon and New Gatun, the Rev. G. Hardwick, superintendent of the Wesleyan missions in Panama and the Canal Zone, the Rev. J. Pinnock, of Panama, and the Rev. A. Lucas, the visiting secretary of the International Sunday School Association. The church has been built under the direction of the pastor in charge, the Rev. S. Moss Loveridge of Culebra, who will also take part in the program. The ceremonies will take place in the afternoon, at 5 o'clock.

Memorial Services for I. N. DeLong.

On Sunday evening, April 5, the Cristobal Union church united with its affiliated societies in holding a memorial service for the late Mr. I. N DeLong, who died in Colon Hospital on March 31. Mr. DeLong was president of the Christian Endeavor Society, and had been prominently connected with the work of the church for two years. The service consisted of appropriate musical numbers, Scripture reading, and prayer, with addresses by Mr Lawson, Mr. Page, and Mr. Larcom. Judge Thomas Edwin Brown, Jr., was the chairman of the meeting, and made a short address. The Odd Fellows' memorial service was held during the program, with Mr. J. P. Mead, as leader.

Miscellaneous Notes.

The Rev. Harry Compton, pastor of the Methodist Episcopal Church in Panama, is in Quito recovering from an attack of yellow fever, which, it is thought, was contracted on the coast. Mr. Compton left Panama on February 23, accompanying the Rev. Mr. Taylor and his evangelistic singer, for a missionary trip in Ecuador. He had expected to be away from his church only one month, but owing to his illness his absence will be protracted considerably beyond that time.

The juvenile library in connection with St. Luke's Sunday school is open for the distribution of books on Wednesday afternoons at 4.30 o'clock.

Obituary.

Irvin N. DeLong, an American employed in the Second Division, with residence at Cristobal, died at Colon Hospital on Tuesday, March 31. He was 25 years of age, married, and had been on the Isthmus four years. His former home was at Allentown, Pa.

Charles W. Crafts, a printer employed in the Isthmian Canal Commission printing plant from 1907 to 19[illegible], died at the home of his father in Silver City, N. M., on March 3, aged 21 years. He was the son of Charles P. Crafts, who was an inspector in the service of the former Department of Sanitation for nine years, resigning a short time ago. A brother, Mr. L. H. Crafts, is employed at the Balboa commissary store.

Dennis D. Sheehy, an employe in the Quartermaster's Department at Cristobal, died on April 1, in a hospital car while on his way to Ancon Hospital. Death was due to brain abscess. He was born 39 years ago in Ireland, but became a citizen of the United States, living in Philadelphia prior to coming to the Isthmus. He arrived on the Isthmus on January 19, 1907, and was employed in the Panama Canal service continuously until the time of his death. He is survived by his wife and two children, living at Cristobal. He was a member of the American Veterans of Foreign Service, and of the Knights of Columbus. Memorial services will be held at St. Joseph's Church, Cristobal on Sunday, April 12, at 1.30 p. m., under the auspices of the Knights of Columbus.

PERMANENT PLAYGROUNDS.

Report of Committee has been Approved and Work Begun.

The report of the playground committee has been approved, and the work of grading the playground area at Pedro Miguel has already been begun.

The following areas have been reserved:

CRISTOBAL.

1. Space immediately adjoining clubhouse.
2. Plot opposite clubhouse, formerly occupied by French buildings.
3. Area between public school and houses Nos. 344 and 35.
4. Area adjoining house No. 27.
5. Low area between Camp Bierd and Dock 13.

GATUN.

1. Various flat areas between clubhouse and small lake.
2. Space now occupied by house No. 2, providing this house is torn down.
3. Space now occupied by machine shops, near locks.

PEDRO MIGUEL.

1. Northerly ridge on which clubhouse is situated, including grove of mango trees.
2. Fill adjoining Miraflores road and lying between this road and Pedro Miguel settlement.

BALBOA.

1. Space immediately in rear of proposed permanent clubhouse, including mango grove.
2. Area adjacent to proposed permanent schoolhouse.
3. Plot of about 10 acres in lee of roundhouse and terminal yards.

The advisability of taking over the present concrete tennis court at Gatun is now being considered.

It is likely that a playground plot for Ancon will be recommended.

The original committee, appointed by Colonel Goethals to consider the provision of playgrounds for permanent towns, consisted of Mr. A. B. Dickson, superintendent of clubhouses, Mr. W. L. Phillips, landscape architect, and Mr. F. P. Wagg, superintendent of schools. Owing to the resignation of Mr. Wagg, Messrs. Dickson and Phillips made the report, in which the following points were considered in the formation of a policy for the creation and conduct of such grounds:

1. Age groups to be provided for.
2. Extent of sex separation needed.
3. Kinds of recreation to be provided for, and facilities.
4. Supervision, including instruction, policing, and maintenance.
5. Regulation of hours of use.
6. Available lands.
7. Cost.

It was the opinion of the committee that recognition should be made of four age groups, namely: Children under six years, children from six to 12 years, 12 to 15 years, and adults, including all over 16 years.

On the point of sex separation, there was a concensus of opinion that separate grounds, or separate use at different hours, should be provided for the two sexes in the 6-12 and 12-15 year groups, and this was recommended.

The following recreative facilities were recommended:

For small children—Simple amusements, sand boxes, a kindergarten swing, scups; these to be placed in a small, shady square, grove, or garden place, where the mothers can take some pleasure in staying with the children.

For boys six to 12 years old—Informal games and light exercise, gymnastic drill, for which a free space about 100 feet square will be provided, with dirt or gravel surface, swings, giant strides, and see-saws.

For girls six to 12 years old—Same as above.

For boys 12 to 15 years old—Sports, gymnastic exercise, tennis court, trapeze, and baseball diamond.

For girls 12 to 15 years old—Folk dancing, tennis, systematic exercise.

For adults (all over 15)—Sports, tennis courts, and a baseball diamond.

The school yards at Cristobal and Gatun should be made adequate in size, should have a surface suitable for running about on, and should be shaded. At Pedro Miguel and Balboa, the school would be served by immediately adjacent playgrounds.

The committee was of the opinion that trained supervision and instruction are indispensable, where exercise is contemplated involving the use of apparatus, the playing of organized games folk dancing, and the like. The committee recommended that the general supervision be in the hand of the Division of Clubhouses, and the work of supervising the activities be a duty of physical directors of the Y. M. C. A., assisted by teachers of public schools between 4 and 5 p. m.; also, that the hours of use be unrestricted for those under six; that from 3 to 5 p. m., week days, and from 9 to 11 a. m. on Saturdays and holidays, the grounds will be for the use of those six to 12 and 12 to 15 years of age, with the understanding, however, that employes shall have first choice of the tennis courts and baseball diamonds after business hours, and on Sundays and holidays.

Accessibility is thought to be of paramount importance, and as a general ideal, it is thought desirable to place clubhouse, school, and recreation areas in close relation. In no one of the towns, however, has it been found practicable to make a thoroughly ideal arrangement in this respect.

Following the original report, the committee was enlarged and was directed by the Acting Chairman to review the previous plans and make additional suggestions. The final recommendations of the playground committee are given herewith:

"The committee appointed in your letter of February 11 to study a previous report on playgrounds for the permanent towns, and make additional recommendations, have the honor to report, as follows:

The members of your committee agree with the recommendation of the original committee as to age groups, recreation to be provided, supervision, policing, instruction, maintenance, and hours of use. It is our opinion that the various areas mentioned in the original report are conveniently located for playground use, with the exception of the proposed baseball ground at Gatun, which, if possible, should be placed in a more available location. It is suggested that the site of the present shops at Gatun would be suitable for a ball park, providing same would be available after the shops are dismantled. In the opinion of the superintendent of schools, and the committee, the school at Gatun should be moved nearer, or housed in a building nearer, the center of the community. This would bring the children of Gatun in much closer touch with the proposed playgrounds.

Old French buildings Nos. 41 and 48, opposite Cristobal clubhouse, are now being torn down, and we learn that it is the intention of the Quartermaster's Department to tear down old French buildings Nos. 33, 34, 40, 42, and 43. There is, therefore, ample room now opposite the Cristobal Y. M. C. A. for a tennis court. There is also sufficient space available near the Gatun Y. M. C. A. for a tennis court.

The head of the Division of Police and Prisons advises that while there are district prisoners now on road work near Gamboa who could be used for grading, yet there is so little of this work that could be started at present that he is of the opinion that it could be more advantageously performed by the Municipal Engineer. Furthermore, the availability of these men for playground grading work would depend largely on decision as to the urgency of the road work on which they are now engaged. and will be for some 10 months more.

Your committee recommends, therefore:

1. That the plots described in the drawings be reserved at this time definitely for use of playground work, irrespective of the time of beginning operations.
2. That work be begun on the entire Pedro Miguel system at once, the apparatus to be installed as soon as possible.
3. That work be begun at once on one tennis court, each, for Cristobal and Gatun.
4. That work be begun on the playground adjoining the proposed new schoolhouse at Balboa. the apparatus allotted for this area to be installed and ready for use at the time of opening the school.
5. That no additional work, except that mentioned in preceding paragraph, be started at Balboa until the beginning of the next dry season, inasmuch as the surface soil is not now in proper condition to withstand the coming rainy season.

It is our understanding that the cost of apparatus and tennis court will be paid from clubhouse funds, in accordance with the first pararagraph of your letter of the 11th ult

Respectfully submitted,

A. B. DICKSON, chairman of committee, W. L. PHILLIPS, C. W. BARBER, A. R. LANG, C. C. MCCOLLEY."

Committee of Inquiry in Case of John Burke.

The Governor of the Panama Canal has appointed a committee of inquiry, consisting of Col. H. F. Hodges, chairman; Lieut. Frederick Mears, and Capt. F. O. Whitlock, to review the evidence presented by John Burke intended to establish his innocence of the charges made against him. Mr. Burke returned to the Isthmus on the *Cristobal*, on Thursday, April 2.

Indoor Pistol Matches.

The indoor matches of the United States Revolver Association will be held April 19 to 26, inclusive. The Ancon Pistol Club will hold its matches at the Balboa range. All those desiring to enter are requested to communicate with M. E. Woodward, secretary and local governor of the United States Revolver Association on the Isthmus, whose address is Balboa C. Z.

Steamship Baggage.

Steamship baggage for Colon should be delivered at the stations at least 30 minutes before leaving time of the train carrying same.

CIRCUIT COURTS CLOSE.

Last Sessions Marked by Speechmaking—Brief Review of Former Zone Judicial System.

The judicial system of the Canal Zone, under the old order, ceased to exist on March 31. The Circuit Court of the Third Judicial Circuit at Cristobal, Judge Thomas E. Brown, Jr., presiding, held its last regular criminal session on Thursday, March 26; at Ancon, the last regular session of the Circuit Court of the First Judicial Circuit was held on Monday, March 30, with Judge H. A. Gudger, presiding, and at Empire, the last session of the Circuit Court of the Second Judicial Circuit was held on Tuesday, March 31, with Judge W. H. Jackson presiding. At all of the closing sessions, speeches were made by the presiding officers, by former Assistant Prosecuting Attorney Chas. R. Williams, and members of the local bar. While all further business relating to these courts was formally ordered over to the new District Court provided for by the Panama Canal Act, it is probable that attention will be given urgency cases pending the confirmation by the Senate of the nomination of Justice W. H. Jackson, as District Judge, and the organization of the new District Court. The members of the Canal Zone Supreme Court were assigned to the several circuits of the Zone in the capacity of circuit judges; they will continue to exercise their functions as members of the Supreme Court bench, in accordance with the Executive Order of the President, until the Supreme Court docket has been cleared.

When the Canal Zone was taken over by the American authorities on May 4, 1904, justice was administered by the Supreme Court of Panama, composed of five justices, by a superior tribunal, composed of several judges, by several circuit court judges, by the alcaldes, and by the inspectors of police. By order of the Government of Panama, exercise of all judicial functions by these officers ceased on June 16, 1904, at which time it became necessary for Major General Geo. W. Davis, then Managing Representative for the Isthmian Canal Commission, to adopt temporary measures. The municipal officers in four of the then existing municipal districts was instructed to continue to discharge their duties, but this left two districts, Ancon and Cristobal, where there were no officials of the Panama Government, save two or three inspectors of police. In these districts, trustworthy members of the police force were selected to administer local government, and some of the powers of the former alcaldes were conferred upon them At the time the Panama Government ceased to exercise its judicial powers in the Canal Zone, generally speaking, one-half of the Zone pertained to the judicial circuit of Colon, and the other half to the province of Panama. In each of these circuits there were one or more circuit judges, but they were not only prohibited from continuing in office by the Panama Government order, but were prevented from acting on account of their being alien to the Zone. Thus, the rather extraordinary situation developed, that from June 16 to September 2, 1904, when Act No. 1 of the Canal Zone laws, dated August 16, 1904, went into effect, there was no court that could hear or determine a case ordinarily falling within the jurisdiction of circuit judges.

Under the above Act, a Supreme Court of the Canal Zone, three circuit, and five municipal courts were created. According to the minutes, a meeting of the Canal Zone Supreme Court was held on January 9, 1905, presided over by Judge Kyle, but this was probably a formality to comply with the Canal Zone laws, as the first appointment on the Supreme Court bench was not made until about two months later. The minutes of that meeting read, as follows:

> "ANCON, January 9, 1905.
>
> This being the second Monday in January of this year, the Supreme Court of the Canal Zone met pursuant to law, the Hon. Osceola Kyle, justice of the Supreme Court being present and presiding. There being no other justice, the Court was adjourned until the further order of the Chief Justice, or until the second Monday in July, 1905. And the Court was duly adjourned upon the day and date abovementioned."

Although Mr. H. A. Gudger was appointed Justice of the Canal Zone Supreme Court on February 24, 1905, the organization of the Court did not take place until the first day of June of that year, on which date, Mr. F. Mutis Duran, the newly appointed Chief Justice, took his seat. The first session was also held on June 1, and several cases were taken up. The personnel of the Supreme Court bench was not fully completed until the appointment of Mr. Lorin C. Collins on June 21, 1905.

The first circuit court was established at Ancon, and for a time it transacted all of the circuit court business of the Zone. The first session was held in the old French building, formerly used by the District Court judge, now occupied by the new Magistrate's Court, in the old corral reservation, known in French times, and for a year or so after the Americans came, as "Ancon Section." The date of the first session, as indicated by the existing records, was September 16, 1904. Mr. Osceola Kyle, who was the first circuit court judge, presided, and the first case tried was that of the Government of the Canal Zone vs. Baldomero Cortez, charged with the theft of a quantity of quicksilver from the Pacific Mail steamship *City of Peking*. The court dismissed the case, stating that it was not shown whether the goods alleged to have been taken consisted of "Quicksilver, or shavings."

The Cristobal Circuit Court held its early sessions in a room in the present commissary building; later, it was moved to building No. 2, one of the old DeLesseps houses on Cristobal Point, and, in 1911, when the noise in connection with the work on the new Cristobal docks became too great, the quarters were again changed, this time to the upper floor of the Cristobal lodge hall.

The first circuit court sessions at Empire were held in the old wooden jail building, situated on the east side of the railroad; later, the court was moved into the old, but well preserved one-story French building on the main street, nearly opposite the clubhouse.

The Executive Order of the President, effective April 15, 1907, abolished the municipal districts, and established in their stead, four administrative districts, those of Cristobal, La Boca, Empire, and Gorgona, and five district judges were appointed, including a senior district judge. The district court at La Boca was transferred to Ancon in the latter part of June, 1908. Judge S. E. Blackburn held court at La Boca on June 26 of that year, and on the following day, presided over a session at the new location in Ancon. Since the removal to Ancon the district courthouse has been the old French building, east of the frame structure that has housed the Supreme and Circuit Courts. The district court at Gorgona was consolidated, consequent on the abandonment of that village, by the Executive Order of the President, dated September 12, 1913, with the administrative district of Empire.

◆

Transportation and Traffic Conditions.

Superintendent D. C. Nutting, Jr., of the Mechanical Division, Trainmaster F. R. Blunt of the Panama railroad, Superintendent J. A. Walker of the Balboa terminals, Mr. W. T. Snyder, assistant superintendent of transportation, and Mr. R. K. Morris of the Supply Department, have been appointed a committee to consider and report on existing transportation and traffic conditions at Balboa, covering the Panama railroad, as well as The Panama Canal, and to include train and car movements, use of tracks, the best means of securing cooperation, etc. The committee held its first meeting at the office of the superintendent of the Mechanical Division at Balboa on Friday, April 3.

◆

Rainfall, March 1 to March 31, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	T	31	T
Balboa	0	......	0
*Miraflores	0	......	0
Pedro Miguel	.02	9	.02
Rio Grande	T	9 & 20	T
Central Section—			
Culebra	.01	20	.01
*Camacho	0	......	0
Empire	T	18	T
Gamboa	.02	18	.02
*Juan Mina	.01	13 & 20	.02
Alhajuela	.02	20	.05
*El Vigia	.06	9	.14
Frijoles	.17	22	.40
*Trinidad	.16	31	.71
*Monte Lirio	.39	30	1.19
Atlantic Section—			
Gatun	.28	18	.96
*Brazos Brook	.20	19	1.21
Colon	.28	18	.91
Porto Bello	.15	31	.98

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight.

◆

Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes for the week ending midnight, Saturday April 4, 1914. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela	Gamboa.	Gatun Lake.	Miraflores Lake.
Sun., March 29	124.8	91.2	84.8	84.8	50.2
Mon., March 30	124.7	91.1	84.8	84.8	50.2
Tues., March 31	124.8	91.2	84.8	84.8	50.1
Wed., April 1	124.8	91.2	84.8	84.8	50.1
Thurs., April 2	124.7	91.2	84.8	84.8	50.1
Fri., April 3	124.8	91.1	84.8	84.8	50.1
Sat., April 4	125.1	91.5	84.9	84.9	49.9
Height of low water to nearest foot	125.0	91.0			

◆

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending April 18, 1914:

DATE.	Low	High	Low	High	Low.
	A.M.	A.M.	A.M.	P.M.	P.M.
April 12	......	4.42	10.57	4.59	11.19
April 13	......	5.27	11.41	5.43	......
			P. M.		
April 14	12 04	6.12	12.27	6.28	......
April 15	12.52	6.59	1.17	7.16	......
April 16	1.42	7.50	2.11	8.09	......
April 17	2.40	8.50	3.14	9.14	......
April 18	3.46	10.02	4.27	10.34	......

75th meridian time.

CANAL CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

On another page of this issue of THE CANAL RECORD will be found a summary of the report of the playgrounds committee, which has been approved. The general supervision of the playgrounds will be in the hands of the Division of Clubhouses, and the work of supervising the activities will be looked after by the physical directors, who will be assisted at times by school teachers.

The feature film "Passion play" 3,500 feet in length, hand colored throughout, and with reading matter in English, will be presented at the clubhouses on the following dates: Wednesday, April 15, Cristobal; Thursday, April 16, Corozal; Friday, April 17, Empire; Tuesday, April 21, Gatun; Wednesday, April 22, Culebra; Thursday, April 23, Pedro Miguel; Friday, April 24, Balboa.

Arrangements have been made whereby a larger number of comic reels will hereafter be shown in the motion picture exhibitions given at the clubhouses.

The schedule for the week April 13 to 18, is, as follows: Monday, Corozal; Tuesday, Pedro Miguel; Wednesday, Empire and Balboa; Thursday, Cristobal; Friday, Gatun; Saturday, Culebra.

The Misses Crosby, Leavitt, Sherin, and LaSheck, and Messrs. Eccles and Madden, sailed on the *Tivives* for Boston, on Sunday, April 5. During their stay on the Isthmus, this company appeared 17 times under the auspices of the Y. M. C. A. It is estimated that there was a total attendance of 6,000 at the entertainments given.

BALBOA.

The barber shop was opened to the public on Monday, April 6. This shop is intended for the use of all the men of Balboa, whether members or not.

A competent tailor has been placed in charge of the pressing club, which, it is expected, will insure good work in future.

There was an attendance of 150 at the special exhibition of motion pictures of the visit of the Shriners to the Canal Zone.

COROZAL.

High scores in bowling during the past week were, as follows:

Rubber duckpins—McDonald, 108; Violette, 107; Louch, 120; Regan, 105; Goodnow, 109; McNeil, 101; Davis, 119; Parkis, 143; Hutchson, 105.

Duckpins—Louch, 104; King, 103; Regan, 107; Parkis, 109; Davis, 131; Barte, 100; Ruggles, 101; Steele, 111.

Tenpins—Edwards, 233; Parkis, 217.

The new books for the library have arrived, and are ready for issue.

The regular moving pictures this week will be shown on Thursday, April 9.

PEDRO MIGUEL.

Sixty-five of the children of Pedro Miguel and Paraiso gave a surprise party to their friend, Mr. J. V. Lyles, on Tuesday evening, March 31, on the occasion of his departure from the Isthmus. A number of games were played, and a home made lunch, consisting of cakes and sandwiches, was served. The children made Mr. Lyles the present of a set of Canal souvenir stones, set in a tie clasp and tie pin.

An April fool banquet was given at the clubhouse on Wednesday evening, April 1, as a farewell to former Pedro Miguel and Paraiso residents, who were leaving the Isthmus. A program of toasts and speeches was given, and music was furnished by Gray's orchestra. Mr. H. Darnell Brittin acted as toastmaster, and the following toasts were offered: "To the Canal builders," by Mr. Funkhauser; "To April Fool," by Dr. Gibson; "To those who are leaving," by Mr. F. H. Wang; "To those who are to stay," by Mr. G. W. A. Palmer. The banquet was further enlivened by April Fool jokes. About 100 were present.

On Thursday evening, April 2, the Culebra duckpin team took two out of three games from the Pedro Miguel team. Scores:

Culebra.				*Pedro Miguel.*			
Koperski...	92	98	90	Davis......	83	91	98
Kiernan....	95	94	91	Whiston....	86	78	89
Barnes.....	80	91	88	Orr........	91	100	80
DeCora....	76	85	100	Bartholo'ew	94	92	106
Case.......	81	93	90	Dougherty..	94	92	76
Total	424	461	459		448	453	449

CULEBRA.

High scores in bowling for the past week were, as follows: Ferguson, 100; Case, 104; Kronmiller, 102.

In the handicap billiard tournament just closed, E. E. Barnes, scratch, won first place without losing a game.

A handicap pool tournament will start soon. Those desiring to enter are requested to sign their names on the notice posted in the pool room, or see Mr. Cook.

A "Smoker" will be held on Wednesday night, April 15. Admission will be free for men only. Every member is requested to be present.

EMPIRE.

Empire took three games from the Culebra team on Tuesday evening, March 31, in tenpins. Scores:

Empire.				*Culebra.*			
Barrett.....	104	86	88	Koperski...	77	84	89
King.......	91	103	89	Kiernan.....	86	86	88
Sims.......	107	109	100	Barnes.....	68	94	88
Potter......	83	89	116	DeCora.....	90	83	84
Gustaveson.	93	82	84	Case.......	82	88	89
Totals....	478	469	477		403	435	438

On Saturday, April 11, the Empire team will bowl at Gatun.

The Empire association entertained the chess clubs of the Isthmus on Saturday evening, April 4. Twenty-eight players were present, representing Corozal, Pedro Miguel, Culebra, Gatun, Cristobal, and Empire. A souvenir program was prepared, containing a picture of the Empire clubhouse; also, of Mr. H. A. A. Smith, the winner of the individual chess tournament of the Isthmus, and of Mr. William Dubois, the organizer and promotor of chess activities in the Canal Zone. The program opened with a reception at 8 o'clock, followed, at 8.15, with chess play, silent partners. At 9.30, refreshments were served, Mr. J. F. Warner acting as toastmaster. Toasts were responded to by Mr. S. P. Verner, on "Chess and other games;" Mr. W. H. Warr, on "Why I play chess;" Mr. D. Wilson, on "Chess secrets;" and by Mr. Francis Oakey on "Chess problems." The following prizes were awarded: One, for scholarship, to Mr. J. B. Shropshire; one, for generosity, to Mr. George Strong, and one, for the first losers, to Messrs. Stevenson and Patterson. The presentation of a medal was made to Mr. H. A. A. Smith, by Mr. William Dubois, and the presentation of a Hamilton watch was made to Mr. William Dubois, by Mr. Smith, on behalf of the former's Canal Zone chess friends.

GATUN.

At the motion picture entertainment given on Saturday evening, April 4, Mr. Thos. L. Byrne of the submarine flotilla sang two baritone solos, accompanied by Mr. S. C. Fagard.

On Thursday evening, April 2, a basketball game was played between the "Millionaires" and the "Sports." At the end of the second half, the score was tied, 29 to 29, making it necessary to play an extra period. The final score was 31 to 29 in favor of the "Millionaires."

Group photographs of the various gymnasium classes were taken recently, and will be placed on sale in the near future.

A handsome silver medal will be given to the bowler who rolls the largest number of games of 100, or over, during the month of April.

Phillip Marquand and Chester Logan represented Gatun clubhouse at the chess carnival held at Empire on April 4.

The two boys who were prize winners in the recent athletic tournament have been selected as captains of two teams, which are holding a team contest during the month of April. Essex Griffiths is captain of the "Blues," and Francis Loulan is captain of the "Golds."

The game of basketball is being exploited in the girls' gymnasium class. A spirited game took place on Friday afternoon, April 3.

CRISTOBAL.

Two games of indoor baseball in the boys' league resulted in the following scores: Team No. 1 28, Team No. 3, 12; Team No. 2, 12, Team No. 4, 11.

The total attendance of all gymnasium classes during March was 788. The attendance for the first month of 1914 was 495. The Cristobal young men's gymnasium class would like to compete with any other clubhouse on the Zone, in athletics, handball, volleyball, or indoor baseball

Twenty-two men participated in the variation bowling tournament on Wednesday night, April 1. Cocked hat with a feather, Newport, and five-back, were played. For having the highest percentage for pinfall, Mr. Syhrett was given a box of cigars. A solid silver match case was presented to Mr. C. M. Bullard by the bowlers present for his long service in charge of the alleys.

In one of the closest matches ever played on the Cristobal alleys, Empire took two out of three games on Saturday night, April 4, by the following scores:

Empire.				*Cristobal.*			
Barrett.....	88	98	85	Pinney.....	90	86	102
King.......	97	90	99	Scheid.....	101	95	83
Sims.......	93	93	113	Bullard.....	96	97	91
Potter......	83	108	88	Barte......	98	97	91
Gustaveson.	93	99	85	Smith......	85	93	102
Total.....	454	488	470		470	468	469

Mr. Pinney made the unusually high score of 140 at duckpins this week. Other high scores were: Scheid, 111; Smith, 105; Buser, 104; Gill, 104; Brittin, 100; Ott, 100.

The monthly married folks duckpin tournament will be held Monday, April 13. Entries are in order.

Mr. Baxter, of the Panama railroad sightseeing service, gave an exceedingly instructive address before the discussion club, on Thursday night, April 2. He spoke of the purchase from the French, the United States agreement with Panama regarding land, the variation in tides on the Atlantic and Pacific sides, the water supply in Gatun Lake, etc. The meeting for April 9 will be devoted to discussion of The United States Express Company's dissolution, the unrest in Ireland, and the present status of our relations with Mexico.

Supplies for the Canal.

The following steamers, with supplies for The Panama Canal and Panama Railroad Company, arrived at the ports of Colon and Cristobal during the week ending March 28:

Prinz Joachim, March 23, from New York, with 71 kegs rivets, 1,343 pieces galvanized pipe, 50 drums lime, for stock.

Rescue, (tug) March 25, from New York, with two barges, for Dredging Division.

Cartago, March 25, from New Orleans, with 212 pieces untreated yellow pine piling, for Second Division, five barrels dipper teeth, for stock.

Abangarez, March 25, from New Orleans, with 602 bundles sash, doors, etc., for permanent buildings, 206 pieces untreated yellow pine piling, for Second Division.

Santa Marta, March 25, from New York, with 1,500 sacks plaster, four cases hardware, for permanent buildings: 57 pieces chain fender material, for First Division; 280 pieces bridge iron, for Division of Municipal Engineering; 280 cases varnish, 40 boxes lead washers, 35 cases paint, 167 kegs wire nails, 600 cases linseed oil, for stock.

Colon, March 26, from New York, with 464 crates roofing tile, 155 cases glass shades, nine cases machinery, 10 cases hardware, 116 boxes plumbing supplies, for permanent buildings; 10 steel couplings, for Dredging Division; 50 boxes electric lamps, two cases electrical machinery, 72 bundles pipe and fittings, 38 barrels fire brick, 18 boxes iron pipe and fittings, eight cases paint, for Mechanical Division; 287 cases electrical machinery, 177 bundles steel bars, for First Division; 89 cases electrical machinery, for Lighthouse Division; 300 pieces steel ties for Panama Railroad Company; 230 crates roofing tile, 14 boxes range parts, 313 bags oats, 500 bundles plain wire, 235 pieces steel bars, 32 pieces steel plates, 500 garbage cans, 160 bales oakum, 20 cases lubricating oil, 75 cases lubricating grease, 37 kegs washers, 106 cases paper, 20 cases galvanized stove pipe, 30 cases sheet brass, 32 reels wire rope, 40 cases lamp black, 145 packages iron pipe-fittings, 150 boxes candles, 133 bundles steel bars, for stock; and a miscellaneous cargo, the whole consisting of 5,463 pieces, weighing 201 tons.

Carrillo, March 28, from Boston, with 20 reels copper cable, for First Division.

Calamares, March 28, from New York, with 19 cases hardware, 1,560 sacks plaster, for permanent buildings; five pieces car bumpers, for Panama Railroad Company.

Tyskland, March 28, from Jacksonville, with 15 pieces yellow pine car lumber, for Mechanical Division 540 pieces switch ties, for Panama Railroad Company; 782.056 board feet yellow pine lumber, 687 pieces yellow pine untreated piling, 200 drums and 500 cases gasoline, for stock.

Movements of Vessels, Port of Balboa.

The following vessels arrived at, or departed from, the port of Balboa during the week ending April 4, 1914:

Arrivals—March 30, *U. S. S. Denver*, from Corinto, Nic., March 30, *Ucayali*, from Callao; March 30, *Peru*, from Callao; March 30, *Rupanco*, from intermediate ports; April 2, *Pleiades*, from San Francisco; April 3, *Manavi*, from intermediate ports.

Departures—March 30, *Pachitea*, to Callao; March 30, *Huasco*, to Valparaiso; March 30, *Elsinore*, to Port Harford; April 4, *Shearwater*, to northern ports; April 4, *Chile*, to Guayaquil; April 4, *City of Sydney*, to Central America and San Francisco.

Proposals for Clearing Trails.

OFFICE OF THE CHIEF QUARTERMASTER,
CULEBRA, C. Z., April 6, 1914.

Sealed proposals will be reecived at this office until 3 p.m., Wednesday, April 15 1914, and then opened for:

1. Clearing the Arraijan-Rio Grande trail from the Canal Zone boundary, east of the village of Arraijan, to Rio Grande reservoir, a distance of 32,722 feet, or 6.20 miles.

2. Clearing the Arraijan-Cochinito trail from the Canal Zone boundary, south of Arraijan, to Cochinito village, a distance of 33,970 feet, or 6.43 miles.

Full information can be secured upon application to this office. Bids must be accompanied by cash, certified check, or post-office money order for five per cent (5%) of amount bid. Proposals should be marked "Proposal for clearing trails," and addressed to Capt. R. E. Wood, Chief Quartermaster, Culebra, Canal Zone.

OFFICIAL CIRCULARS.

Organization of the Executive Office.

THE PANAMA CANAL,
OFFICE OF EXECUTIVE SECRETARY,
ANCON, C. Z., April 1, 1914.

ALL CONCERNED:

1. The following organization to take care of the work of the old Department of Civil Administration, is ordered:

2. Capt. Charles W. Barber. U. S. A., Chief of Police, will continue in charge of the Division of Police and Prisons, with the present organization.

3. Mr. A. R. Lang, Superintendent of Schools, will continue in charge of the Division of Schools, with the present organization.

4. Mr. J. J. Gilbert, is designated Acting Director of Posts, Division of Posts. The work of this division will hereafter be limited to post-office affairs.

5. Mr. C. E. Weidman, Fire Chief, will continue for the present in charge of the Division of Fire Protection, with the permanent organization.

6. Effective April 15, 1914, the Division of Fire Protection will be merged with the Division of Police and Prisons, which will, thereafter, be the Police and Fire Division, and will be under the charge of Captain Barber, as Chief, Police and Fire Division. The positions of fire chief and assistant fire chief will be abolished. The position of inspector will be created.

7. A Division of Civil Affairs is hereby created to be in charge of a chief of division, who will be administrator of estates, shipping commissioner for The Panama Canal, and in charge of customs inspection. He will issue licenses and supervise the office work of the Executive Secretary in Ancon. Effective April 4, Mr. John K. Baxter is appointed Chief of Division in charge of the Division of Civil Affairs.

COURTS.

8. The property, timekeeping, personnel matters, estimates for appropriations and control of expenditures not fixed by law, for the Courts of the Canal Zone, will be taken care of by this office. The personnel of the Courts, including judges, marshal, magistrates, constables, clerks, and others, but not the district attorney, will be carried on a separate roll under the general heading "Courts."

C. A. MCILVAINE,
Executive Secretary.

Approved:
GEO. W. GOETHALS,
Governor.

Magistrates Courts.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 600-3:

1. The Magistrate's Court for the town of Balboa shall hold its regular sessions in Ancon, and shall hold special sessions at Empire at such times as, in the opinion of the Magistrate, may be necessary and convenient to dispose of business arising at Empire and vicinity with reasonable dispatch.

2. The Magistrate's Court for the town of Cristobal shall hold its sessions in the townsite of that name.

GEO. W. GOETHALS,
Governor.

Telephones.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR.
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 650:

1. Telephones will be installed in offices and private residences for the transaction of official business, cost of installation, changes, additions, and removals being borne by the division or department making the work request.

The telephone instrument and its necessary accessories are to remain the property of the Panama railroad at all times.

2. Personal calls must not be made between the hours of 7 a. m. and 12 noon, and between 1 p. m. and 5 p. m., except in cases of emergency.

3. Telephones for private use will be installed upon approval by the General Superintendent of the Panama railroad, and will be classed as A and B.

4. A monthly charge of $2.50, U. S. C., will be made for Class A telephones, and this service will cover local calls that pass through the home exchange only. An additional charge of 25 cents, U. S. C., will be made for all calls going to another exchange.

5. A monthly charge of $7.50, U. S. C., will be made for Class B telephones, and this service will cover business to any exchange on the Panama railroad telephone system.

6. The subscriber for telephones of Class A and Class B shall pay for installation, changes, or removal of telephone.

7. Calls from Class A and B telephones will be limited to five minutes between the hours of 7 a. m., and 12 noon, and between 1 p. m., and 5 p. m., except on Sundays and holidays.

8. Telephones at the Hotel Tivoli, Hotel Washington, and at railroad stations, will be maintained on a strictly pay station basis, except that holders of telephone franks may use such telephones on official business, by giving the operator on duty their name and the number of their frank. Such franks will also permit the holder to call subscribers on the Panama railroad telephone system from the telephones of the Isthmian Telephone Company, and the Cia. de Telefonos de Panama, provided he gives the operator his name and frank number.

GEO. W. GOETHALS,
Governor.

Lists of Gold Employes.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 2, 1914.

HEADS OF DEPARTMENTS AND DIVISIONS:

1. It is necessary for this office to have, at the earliest possible date, a complete list of the roster of gold employes in the new organization.

2. Please make up lists immediately on sheets 8 by 14 inches, showing at top of each sheet, the name of department and division and, in a table following, the name of each employe, designation, rate of pay, and date compensation began in the new organization, thus:

THE PANAMA CANAL.

Department........... Division.................

Name.	Designation.	Grade.	Rate of pay.	Date compensation began in new organization.

3. These should be in this office by April 15. The timekeeping office will cooperate as much as practicable. No special arrangement of names is necessary.

GEO. W. GOETHALS,
Governor.

Applications for Accrued Leave.

CULEBRA, C. Z., March 31, 1914.

HEADS OF DEPARTMENTS AND DIVISIONS:

Please have every man in your force entitled to leave submit an application for accrued leave on form C. E. 194-3. This information is to be used in computing leave due on April 1, and only the parts of the form pertinent to the computation of accrued leave need be filled out. One copy only is required, and this should be sent to the office of the Governor, Culebra, as soon as possible.

GEO. W. GOETHALS,
Chairman, Isthmian Canal Commission.
President, Panama Railroad Company.

Sailing of the "Cristobal."

PANAMA RAILROAD COMPANY,
OFFICE OF SUPERINTENDENT AND CHIEF ENGINEER,
COLON, R. P., April, 7, 1914.

CIRCULAR No. 415:

All concerned—The sailing date of the steamship *Cristobal* has been set for Monday, April 13, 1914, at 3 p. m., from pier No, 8, Cristobal.

F. MEARS,
Superintendent and Chief Engineer.

Transfer of Accountability.

EMPIRE, C. Z., March 28, 1914.

CIRCULAR No. 55:

All accountable officials—Effective at close of business March 31, 1914, Mr. W. A. Schwab, assistant district quartermaster, Toro Point, will cease to be an accountable official. Mr. Schwab will make final return of property, as of that date, and transfer his accountability to Mr. B. C. Poole, district quartermaster, Cristobal.

H. A. A. SMITH,
Examiner of Accounts.

Approved:
GEO. W. GOETHALS,
Chairman and Chief Engineer.

Acting Local Treasurer, P. R. R.

PANAMA RAILROAD COMPANY,
OFFICE OF SUPERINTENDENT AND CHIEF ENGINEER,
COLON, R. P. April 7, 1914.

CIRCULAR No. 412:

All concerned—During the absence of Mr. R. H. Wardlaw, local treasurer, on leave, Mr. B. M. Fennell is appointed acting local treasurer, effective Thursday. April 9, 1914.

F. MEARS,
Superintendent and Chief Engineer.

Approved:
GEO. W. GOETHALS, *President.*

Transfer of Lieut.-Col. W. V. Judson.

Special Orders, No. 67.
WAR DEPARTMENT,
WASHINGTON, March 21, 1914.
Extract.

* * * * *

5. Lieut.-Col. William V. Judson, Corps of Engineers, at his own request is relieved from duty under the Isthmian Canal Commission, to take effect March 31, 1914, and will then proceed to Chicago, Ill., take station at that place, and report by telegraph to the Chief of Engineers for duty. The travel directed is necessary in the military service.

[2139474, A. G. O.]

* * * * *

BY ORDER OF THE SECRETARY OF WAR:

LEONARD WOOD,
Major General, Chief of Staff.

OFFICIAL:
GEO. ANDREWS,
The Adjutant General.

Hotel Aspinwall, Taboga.

Families of employes are entitled to the employes' rate of $2.25 per day, per person, at the Hotel Aspinwall, Taboga.

Launch tickets to Taboga are on sale at all I. C. C. hotels and the Hotel Washington

March Rainfall for Three Years.

STATIONS.	1912	1913	1914	Station Av.	Years of record	Rai'y days, '14
Pacific Section–						
Ancon........	.01	.43	T	.71	16	0
Balboa.......	0	0	0	.73	15	0
Miraflores....	0	0	0	.60	6	0
Pedro Miguel..	.02	0	.02	.32	7	1
Rio Grande...	.03	.30	T	.29	10	0
Central Section–						
Culebra.......	.02	.57	.01	.65	24	1
Camacho.....	.06	0	0	.43	8	0
Empire.......	.01	.22	T	.36	9	0
Gamboa......	.10	.08	.02	.78	30	1
Juan Mina....	.07	.36	.02	.17	4	2
Alhajuela.....	.02	.08	.05	.58	15	4
El Vigia......	.08	.10	.14	.60	6	4
Frijoles.......	.10	.29	.40	.26	3	8
Trinidad......	.28	1.11	.71	2.52	7	16
Monte Lirio...	.24	.60	1.19	2.94	7	5
Atlantic Section–						
Gatun......	.55	1.01	.96	2.53	10	17
Brazos Brook..	.53	.71	1.21	2.67	8	15
Colon........	.66	.79	.91	1.63	45	13
Porto Bello	.60	1.17	.98	2.2[illegible]	7	17

WEATHER CONDITIONS, CANAL ZONE, MARCH, 1914.

Dry season weather continued throughout the month. The rainfall in the Canal Zone amounted to about one-third of the March average during past years. The monthly totals ranged from Zero at several stations to 1.21 inches at Brazos Brook. The maximum precipitation recorded in one day was 0.39 inch, at Monte Lirio on the 30th.

Air temperatures and wind movement were above normal at all stations. The average hourly wind movement for the month was the highest of record at both Colon and Gatun. The relative humidity and daytime cloudiness were generally somewhat deficient. The atmospheric pressure was approximately normal. Practically no fogs were observed during the month.

The following table summarizes the weather conditions for the month:

STATION.	Press're (reduc'd to mean of 24 hours).	Temperature.					Mean relative humidity	Precipitation.			Wind.				
		Mean.	Maximum.	Date.	Minimum.	Date.		Total inches.	Station average.	Days of .01 inch or more.	Total movement (miles)	Prevailing direction.	Max. velocity (in miles).	Direction.	Date.
Colon.......	29.898	81.3	87	Mar.21	72	Mar. 5	80	.91	1.63	13	12,779	N.	35	N.E.	Mar. 10
Culebra.....	29.878	80.2	92	Mar. 3	69	Mar. 4	80	.01	.65	1	8,776	N.W.	31	N.	Mar. 25
Ancon.......	29.852	82.9	96	Mar.28	68	Mar. 2	76	T	.71	0	8,801	N.W.	27	N.W.	Mar. 14

COMMISSARY DEPARTMENT.

The commissary stores are open during the following hours:

Cristobal, 8 a. m. to 12.30 p. m., and 2 to 7 p. m.
Balboa, 8 a. m. to 12.30 p. m., and 2.30 to 7 p. m.
Ancon, 8 a. m. to 1 p. m., and 3 to 6 p. m.
All others, 8 a. m. to 1 p. m., and 3 to 7 p. m.

Retail prices of cold storage provisions for the week beginning April 1, 1914:

FRESH MEATS.	*Price.*
Mutton—Stewing, per pound	7
Shoulder, neck trimmed off (4 pounds and over), per pound	9
Entire forequarter (not trimmed, 10 pounds and over), per pound	8
Legs (8 to 10 pounds), per pound	17
Cutlets, per pound	18
Short cut chops, per pound	20
Lamb—Stewing, per pound	8
Entire forequarter, neck trimmed off, per pound	10
Legs (5 to 8 pounds), per pound	20
Chops, per pound	24
Cutlets, per pound	24
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	17
Chops, per pound	26
Loin, for roasting, per pound	26
Cutlets, per pound	30
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	8
Plate, per pound	9
Corned, No. 1, per pound	14
Corned, No. 2, per pound	12
Chuck roast, (3 lbs., and over), per pound	12
Rib roast, second cut (not under 3½ pounds), per pound	16
Rib roast, first cut (not under 3 pounds), per pound	18
Pot roast, per pound	19
Rump roast, per pound	19
Porterhouse roast, per pound	20
Steak, chuck, per pound	12½
Round, per pound	13
Rib, per pound	18
Sirloin, per pound	19
Rump, per pound	19
Porterhouse (not less than 1½ pounds), per pound	20
Tenderloin (Western), per pound	30
Pork—Hams, fresh, per pound	§20
Loin chops or roast, per pound	19
Shoulders, fresh, per pound	§17
Spare ribs, per pound	15
Backbones, per pound	15
Pigs' feet, each	7
Pigs' heads, whole	60
Pigs' heads, ½-head	30
Sausage, home made, per pound	20

MISCELLANEOUS.	
Livers—Beef, per pound	†13
Calf, each	60
Half, each	30
Steak, Hamburger, package	13
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	*12
Devonshire Farm, per pound	22
Sweetbread, beef, per pound	27
Eggs, fresh, per dozen	*29
per ½-dozen	*15
Bluefish, per pound	†19
Halibut, fresh, per pound	*09
Salmon, per pound	*09
Shad roes, per pair	40
Oysters, per quart	28

POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, large, each	1.40
Fancy roasting, milk fed, med., each	1.10
Fancy roasting, corn fed, about 5½ pounds, each	1.25
Fancy roasting, corn fed, about 4½ pounds, each	1.00
Fowls, each ††66, 77, 88, 99, and	1.10
Ducks, Western (about 4½ pounds), each	1.10
Capons, about 8½ pounds, each	3.00
Broilers, milk fed, each	†75
Broilers, corn fed, each	60
Turkeys, per pound	†28
Squabs, each	50
Ducks, Teal, each	40
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30

CURED AND PICKLED MEATS.	
Ham—Real York and Cumberland, per pound	37
Genuine Westphalia, per pound	40
Sugar cured, per pound	20
Sliced, per pound	22
Half, (for boiling), per pound	21
Boiled, per pound	28
Hocks, per pound	18
Beef, salt, family, per pound	12
Bacon, breakfast, whole piece, per pound	25
Sliced, per pound	26
Ham, lunch, per pound	32
Pork, salt, family, per pound	14
Ox tongues, each	1.10

	Price.
Pigs' feet, per pound	7
Tongues, per pound	18

DAIRY PRODUCTS.	
Butter—Creamery special, per pound	†37
Sheffield Farms, extra fancy, per pound	46
Cheese—Philadelphia cream, cake	10
Roquefort, per pound	35
Young America, per pound	22
Swiss, per pound	27
Edam, each	75
Edam, tin	25
Parmesan, per pound	35
Gouda, per pound	30
Snappy, per cake	10
Milk (certified), per bottle	**20
Fer-mil-lac, per bottle	**20
Ice cream, quart	‡25
½-gallon	‡50
Cream (certified), per pint bottle	45

VEGETABLES AND FRUITS.	
Beets, per pound	3½
Celery, per head	9
Cabbage, per pound	3
Cucumbers, per pound	*18
Carrots, per pound	†3½
Cauliflower, per pound	10
Green onions, per pound	8
Lettuce, per pound	†10
Onions, per pound	†6
Potatoes, white, per pound	3
Potatoes, sweet, tropical, per pound	2
Yams, per pound	3
Parsley, per bunch	3
Parsnips, per pound	4
Squash, per pound	7
Turnips, per pound	2½
Tomatoes, per pound	10
Apples, per pound	7
Cranberries, per pound	9
Grape fruit, American, each	8
Tropical, each	4
Lemons, per dozen	15
Pineapples, Cuban, each	13
Oranges, Jamaican, per dozen	15
Tangerines, each	2

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*Indicates reduction from last list.

**Indicates five cents allowed for return of bottle.

†Indicates advance on last list.

††Fowls weigh each, about, as follows: 3, 3½, 4, 4½, and 5 pounds. Prices are based accordingly; when size ordered is not in stock, next lightest weight is supplied and refund note sent for difference.

‡Sold only from commissaries; no orders taken for delivery.

§Not less than half of a fresh ham or shoulder will be sold.

Misdirected Letters.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Acting Director of Posts, and may be secured upon request of the addressees:

Carey, Elizabeth A. C.
Collins, Mrs. E. T.
Casan, John B.
Dougherty, Mr. J. C.
Grider, Richard, L. (pkg.)
Honeycutt, H. H.
Needham, L. K.
Strickland, Col. H. C.
Vaughn, Chas. N. (2)

LETTERS UNCALLED FOR APRIL 1, 1914.

Baty, John
Bazemore, H. R.
Barneby, Walter
Cleland, J. A.
Collins, Mrs. T. Edgar
Davis, S. Stanley
Dempnolf, Mrs. E. A.
Gielow, Miss Martha S.
Gipson, Ralph
Groves, R. B.
Hartshorne, Eugene
Hing, E. G.
Hipp, J. C.
Hoff, Miss Emolyn
Jablonsh, John
Kirton, Geo.
Merel, Pio
Mettke, E. G.
Miller, John H.
Nanton, Hugh
Ossont, Raymond
Packard, C. R. (parcel)
Rose, L. E. (parcel)
Russell, John
Schon, Adolf
Sensenbach, Walton
Slade, John R.
Story, Lee
Tate, Mrs. S. E.
Thompson, Leroy A.
Van Brocklin, A. C.
Walker, H.
Walsh, M. H.
Watson, David
Webb, Albert B.
Wiedemann, F.
Wood, Miss Elsie

LETTERS UNCALLED FOR MARCH 25, 1914.

Arboiren, G. C. S. (pkg.)
Barrat, J.
Benedict, Bernard
Brown, W. T.
Chapman, Floyd
Clark, George
Davis, C. G.
Drewey, W. D.
Elmoe, Albert
Gagnon, Joe
Gardner, F. W.
Graff, Chas. H. and Paul N.
Lee, Harry H.
McLean, J. R.
Morgan, Wm. M.
Nelson, C. H.
Nixon, Mrs. Julia Campbel
Oyen, Mrs. C. V.
Pottesfeld, L.
Settle, Eugene
Sharp, Fred B.
Shepard, Frank
Slingerland, I. M., M. D.
Storms, Juluous
Wadkins, Garfield
Wilson, Jas. G.

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LOST—3-A camera, No. 338430 on train between Gatun and Colon. Finder please leave at Gatun Y. M. C. A.

MOVEMENTS OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.		*Sails.*	*Arrives.*
*Panama	P. R. R.	April 2	April 8
Allianca	P. R. R.	April 8	April 14
*Colon	P. R. R.	April 14	April 20
*Advance	P. R. R.	April 20	April 27
*Panama	P. R. R.	April 27	May 3
CRISTOBAL TO NEW YORK.			
†Panama	P. R. R.	April 14	April 20
†Allianca	P. R. R.	April 20	April 26
†Colon	P. R. R.	April 26	May 2
†Advance	P. R. R.	May 2	May 9
†Panama	P. R. R.	May 9	May 15
NEW YORK TO COLON.			
*Zacapa	U. F. C.	April 1	April 8
Prinz Sigismund	H.-A.	April 4	April 14
*Tenadores	U. F. C.	April 4	April 11
*Almirante	U. F. C.	April 8	April 15
Prinz Joachim	H.-A.	April 11	April 20
*Calamares	U. F. C.	April 11	April 18
Magdalena	R. M.	April 11	April 20
*Santa Marta	U. F. C.	April 15	April 22
*Pastores	U. F. C.	April 18	April 25
Prinz Eitel Friedrich	H.-A.	April 18	April 28
*Metapan	U. F. C.	April 22	April 29
Prinz Aug. Wilhelm	H.-A.	April 25	May 4
*Tenadores	U. F. C.	April 25	May 2
Oruba	R. M.	April 25	May 3
*Zacapa	U. F. C.	April 29	May 6
Calamares	U. F. C.	May 2	May 9
Prinz Sigismund	H.-A.	May 2	May 11
*Almirante	U. F. C.	May 6	May 13
Trent	R. M.	May 9	May 17
Pastores	U. F. C.	May 9	May 16
Prinz Joachim	H.-A.	May 9	May 18
COLON TO NEW YORK.			
Metapan	U. F. C.	April 9	April 16
Tenadores	U. F. C.	April 12	April 22
Oruba	R. M.	April 14	April 22
Prinz Aug. Wilhelm	H.-A.	April 14	April 22
Zacapa	U. F. C.	April 16	April 23
Calamares	U. F. C.	April 19	April 29
Prinz Sigismund	H.-A.	April 20	April 29
Almirante	U. F. C.	April 23	April 30
Pastores	U. F. C.	April 26	May 6
Prinz Joachim	H.-A.	April 28	May 6
Trent	R. M.	April 28	May 6
Santa Marta	U. F. C.	April 30	May 7
Tenadores	U. F. C.	May 3	May 13
Prinz Eitel Friedrich	H.-A.	May 4	May 13
Metapan	U. F. C.	May 7	May 14
Calamares	U. F. C.	May 10	May 20
Prinz August Wilhelm	H. A.	May 12	May 20
NEW ORLEANS TO COLON.			
Parismina	U. F. C.	April 1	April 8
*Turrialba	U. F. C.	April 4	April 9
Cartago	U. F. C.	April 8	April 15
*Abangarez	U. F. C.	April 11	April 16
COLON TO NEW ORLEANS.			
‡Atenas	U. F. C.	April 9	April 14
Parismina	U. F. C.	April 9	April 17
‡Turrialba	U. F. C.	April 16	April 21
Cartago	U. F. C.	April 16	April 24
BOSTON TO COLON.			
Sixaola	U. F. C.	April 2	April 10
Carrillo	U. F. C.	April 9	April 17
Tivives	U. F. C.	April 16	April 24
COLON TO BOSTON.			
Sixaola	U. F. C.	April 12	April 20
Carrillo	U. F. C.	April 19	April 27
Tivives	U. F. C.	April 26	May 4

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Piers 8, 9, and 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 2 p. m.; for Southampton, on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays at 3 p. m.; for New Orleans via Bocas del Toro and Havana, on Thursdays at 4 p.m.; ships for New York, via Kingston, on Thursdays, at 2 p. m.; for New York, via Limon and Havana, on Sundays at 5 p. m.; for Limon and Bocas del Toro on Saturdays at 4 p. m.; for Bocas del Toro direct, on Thursdays at 4 p. m.; and for Boston, via Port Antonio, on Sundays at 3 p. m.

The Hamburg-American steamers *Prinz Eitel Friedrich* and *Prinz Sigismund* sail for New York, via Kingston and Fortune Island, on Mondays at 10 a.m.,; the *Prinz August Wilhelm* and *Prinz Joachim* sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays at 10 a. m.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, APRIL 15, 1914. No. 34.

The Canal Record

Official publication of The Panama Canal.

The Canal Record is published weekly free of charge, one copy each, to all employes of the Panama Canal and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

First Handling of Vessels by Towing Locomotives.

The first use of the electric towing locomotives for handling vessels through the locks, was effected on April 1 at Gatun Locks, when locomotives Nos. 641, 642, 643, and 644 towed the launch *Balboa*, clapet *No. 1*, and a scow through the west flight from Gatun Lake to the Atlantic entrance channel.

The clapet and the scow were lashed together, alongside, the scow leading by about one-half length, and as they have low freeboards the conditions made about as unfavorable angles for the towing lines as are ever likely to obtain. For precautions in the first use of the locomotives and on account of the doubtful strength of the chocks and cleats on the vessels, all of which are old, four manila towing lines were carried along the lock walls by laborers. The extra lines were not needed, and the lockage, starting at 9.12 a. m., was accomplished in one hour and 17 minutes, which is only two minutes more time than is to be allowed for a passage through Gatun Locks, under the schedule contained in Circular No. 650.

◆

Raft of Piles Towed through the Canal.

The piles unloaded from the steamship *Thor*, which arrived at Balboa on March 22 and discharged its cargo overboard in the entrance channel, opposite the inner harbor, have been towed in a raft through the Canal, as far as Gatun Locks. They were handled through the Pacific entrance channel and Miraflores Locks and Lake on April 8 by the Panama railroad gasoline harbor tug *Naos*. In the lift through Pedro Miguel Lock to Culebra Cut, on April 1, they were towed by the recently installed electric towing locomotives. As the raft was about 800 feet long by 90 feet wide, it was necessary to divide it into several sections for the passage through the 60-foot gap under the steel girder in bridge No. 57½. The *Naos* was used in the work of dividing and assembling. The raft was towed by stages, through the Cut and across Gatun Lake to Gatun Locks, arriving in the east upper forebay at 11.30 a. m., Wednesday, April 15, in tow of the tug *Chamé*. From the lower end of Gatun Locks the raft will be towed to its destination at Coco Solo Point. The piles, which are creosoted, are to be used in the trestle construction for the east breakwater, protecting the Atlantic entrance and Colon harbor.

◆

Submarines and "Corozal" Removed from Dry Dock in Gatun Locks.

The submarines *C-1*, *C-2*, *C-3*, *C-4*, and *C-5*, which were placed in the east chamber of Gatun Locks on March 9 for general cleaning and overhauling, were withdrawn on April 11. They spent two days in maneuvers and tests in Gatun Lake. In company with the tender *Severn*, which had been moored alongside the upper approach wall of the locks and killing its barnacles in the waters of Gatun Lake, they were towed through the locks by the electric towing locomotives during the forenoon of April 15, on their way to Dock 13, Cristobal. The flotilla will leave shortly for Bocas del Toro for target practice.

The ladder dredge *Corozal*, which was placed in dry dock in the chamber with the submarines on March 17, was also withdrawn on April 11. It returned on the following day, under its own steam, to its work in Culebra Cut.

◆

Marine Encampment Consolidated with Bas Obispo.

The buildings of Camp Elliott at Bas Obispo, formerly occupied by the Panama Battalion of the United States Marine Corps, have been turned over to the Supply Department. The battalion sailed for Vera Cruz, Mexico, on January 21, leaving behind the post quartermaster with 27 enlisted men to finish packing the equipment and close the camp. The latter left the Isthmus to join their command on March 27.

Such of the buildings of the camp as are of quality and condition to warrant moving will be torn down and reerected at other Canal villages, principally Ancon. Others will be sold. For the present, the encampment has been consolidated with the Canal buildings in the village, for the purposes of supervision and maintenance. It was originally the purpose to abandon the village entirely at this time, as the employes formerly quartered there were principally those employed at Empire and Las Cascadas and required the operation of labor trains. Recently, however, a number of employes of the Dredging Division have been allowed to occupy quarters at Bas Obispo, with the understanding that any expense for maintaining the quarters in habitable condition should be borne by them, and they were not to be accorded the usual commissary privileges of delivery of supplies, coal, ice, etc. With these provisions the commissary store has been maintained there for for their benefit. The post-office was closed on February 5, since which date all mail for the village goes to the Las Cascadas office, or the recently opened office at Gamboa.

◆

Completing New Trestle South of Miraflores Locks.

The new 600-foot trestle crossing the Rio Grande diversion, which is now the discharge channel for Miraflores Spillway, is practically completed. It was placed in service on the morning of Monday, March 30, the final gap over the old trestle, which was six feet lower than the new, having been completed by rush work over Sunday. The bents of the old trestle are being pulled up by cranes, and the channel is being widened by excavation of the embankments which formed the approaches to the old trestle.

◆

Additional Corozal-Balboa Labor Train.

An additional labor train between Corozal and Balboa was placed in service on April 2, to take care of employes working on the night shift at the shops. It will be operated on the following schedule: Leave Corozal, at 4.30 p.m.; arrive at building No. 4, Balboa shops, at 4.45 p.m.; leave building No. 4, at 1.15 a. m., run to Ancon, and return over Canal tracks to Corozal, arriving there at 1.35 a. m. Since putting this train into service, the employes carried have averaged 42 gold and 92 silver, daily.

◆

Alternating Current Motors for Cargo-Handling Cranes.

For purposes of economy in future operations, the direct current motors on the 20-ton French crane and the five cargo-handling Shaw cranes on the steel pier at Balboa are to be supplanted by alternating current motors. These will conform with the 3-phase, 25-cycle standard set for the Canal equipment, beginning with the steam electric plants at Gatun and Miraflores, and followed by the hydroelectric station and the motors in the locks.

In making these changes, as well as current repairs to the superstructure of the wharf, the Superintendent and Chief Engineer of the Panama railroad, who controls the docks, is bearing in mind the provisions of the circular of November 11, 1913, that all wooden dock structures in the Canal Zone shall be destroyed, or so altered as to be made ratproof, by January 1, 1919. It will probably be practicable to retain this wharf in service after that date; in any event, the cranes could be transferred to any of the new concrete terminal docks.

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Interior Decorations at Hotel Washington.

Work on the interior decorations of the Hotel Washington was begun on Friday, April 3, under the direction of Mr. E. H. Henry, superintendent of the firm of Mack, Jenney, and Tyler of New York. The contract was awarded to this firm after a competitive contest, the judges being the Na tional Committee of Fine Arts. This committee is composed of Daniel Chester French, Cass Gilbert, John W. Alexander, Frederic Law Olmstead, and Thomas Hastings. The portions of the hotel interior to be decorated are the lobby, the two dining rooms, and the ballroom. The designs follow the general architectural style of the building and are to to be executed in "Cool" colors. Twelve decorators have been sent to the Isthmus by the firm, under the direction of Mr. Henry. It is expected that the work will be completed in two and one-half to three months.

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Ancon Crusher.

Following is a statement of rock crushed at Ancon quarry during the four weeks ending April 11:

DATE.	Hours worked.	Cubic yards.
March 16	8.50	1,593
March 17	7.10	2,368
March 18	7.20	2,076
March 19	8.15	2,102
March 20	7.45	2,481
March 21	8.45	2,414
Total	48.05	13,034
March 23	7.55	2,952
March 24	8.45	2,317
March 25	7.50	2,116
March 26	8.00	2,355
March 27	8.25	2,512
March 28	8.20	2,110
Total	49.15	14,362
March 30	8.20	2,107
March 31	5.45	1,745
April 1	8.35	2,558
April 2	7.40	2,121
April 3	7.20	1,855
April 4	8.05	2,270
Total	45.45	12,656
April 6	8.10	2,770
April 7	7.10	1,967
April 8	7.55	2,254
April 9	8.00	2,216
April 10 (Holiday)	....	....
April 11	8.05	2,165
Total	39 20	11,372

◆

Drawing on Storage Pile of Crushed Rock.

On account of an increased demand for crushed rock of No. 2 size, especially in the construction of pier No. 1 at the Pacific terminals and in the municipal work for the permanent town of Balboa, steamshovel No. 128 was placed at work on April 8, loading dump cars from the storage pile at Miraflores. The storage pile, which has been built up in the past six months with surplus output, in provision for such a contigency as has arisen, contains now about 15,000 cubic yards of rock. About 800 cubic yards are being taken from it each day to supplement the regular output of the crusher.

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Emigration in March.

There was a slight increase in the emigration from the Isthmus during the month of March, as compared with February, the figures of the quarantine service showing that 3,764 persons landed from foreign ports with the intention of remaining, as against 4,161 embarkations, making the net emigration 397. The total net emigration for eight months ending March 31, 1914, was 12,840, the greater part of which consisted of Canal employes.

The total number of steamship passengers embarking from the ports of Colon and Cristobal for foreign ports during March was 3,602, consisting of 1,670 cabin, and 1,932 steerage passengers. The number of persons landing from foreign ports was 3,108, consisting of 1,348 cabin, and 1,760 steerage passengers. The number of persons who embarked over those who landed at these ports was 494 There were but 57 steerage passengers from all of Europe, 78 from Colombia, 68 from Guatemala, 102 from Costa Rica, and 38 from the United States. Jamaica and the other West India islands, as usual, contributed the larger number of passengers in this class, namely, 1 370. The number of persons arriving at the Atlantic ports "In transit" during March, nearly all tourists, was 3,211, as compared with 4,052 in February.

The number of persons arriving at the ports of Panama and Ancon from foreign ports during March was 656, consisting of 531 cabin, and 125 steerage passengers. The number of persons embarking for foreign ports was 562, consisting of 388 cabin, and 174 steerage passengers. The number of those who landed over those who embarked was 94.

The total number of vessels arriving at Colon during the month of March was 102; at Ancon, 18.

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Red Cross Finances.

The financial statement of the Canal Zone Chapter, American National Red Cross, for the month of March is, as follows:

RECEIPTS.

March 1,	Balance on hand, transferred to me by Colonel John L. Phillips	$4,395.29	
March 1,	Accrued interest	8.63	
March 4,	Collections on account of Red Cross ball	3.00	
March 5,	Return of unused balance of amount appropriated for benefit of stranded American at Colon	16.50	
March 10,	Proceeds of sale of Red Cross seals	30 00	
March 31,	Membership dues	4.00	
			$4,457.42

DISBURSEMENTS.

March 3,	Relief of disabled and stranded Jamaican	15.00	
March 12,	Remittance to Treasurer, American National Red Cross, Washington, D. C., one-half of membership dues received	25.00	
March 14,	Percentage of proceeds of sales of Red Cross seals remitted to Secretary, American National Red Cross, Washington, D. C.	58.49	
March 15,	Postage, treasurer	1.00	
March 22,	Panama railroad, for Red Cross ball badges	147.20	
March 30,	Isthmian Canal Commission, printing	2.21	
			$248.90
March 31,	Balance on hand		$4,208.52

T. L. CLEAR,
Treasurer.

Approved:
EDW. SCHILDHAUER,
Chairman.

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A. F. and A. M.

Funeral services over the remains of the late Theodore A. Buker will be held in St. Luke's Church, Ancon, April 26, at 2 p. m. All Masons attending the services will meet in Ancon lodge hall at 1 p. m. There will be a special car, attached next to the chair car on train No. 5, leaving Colon at 11 a. m., for the accommodation of those who attend the funeral services.

FRANK L. HEALD, W. M.

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The Corozal Sunday school teachers' association will meet on Friday, April 17, instead of on Thursday.

SAILING CHART FOR CANAL.

Standard Type of Mariner's Chart Showing All Aids to Navigation.

A sailing chart for the Canal, patterned after the standard form for mariners' charts, similar to those prepared by the United States Coast and Geodetic Survey and the Great Lakes Survey, has recently been completed by the Division of Lighthouses. It is on a scale of one to 40,000. with an inset map of the Culebra Cut section on a scale of one to 20,000. It shows all the aids to navigation and gives the true azimuth and compass bearing of each course through the Canal. At the ends of the Canal, the depths of ocean water adjacent to the approaches are given, in feet. Those shown for the Pacific waters are from soundings taken by the Coast and Geodetic Survey in 1912; for the Atlantic waters, they are from soundings taken by the Coast and Geodetic Survey at various times, and by the former Atlantic Division. Notes on the chart give information concerning the reference planes, depths of water, sailing directions, signs, abbreviations, tides, etc.

With the exception of the soundings, the chart was prepared from various trigonometric surveys made by the Isthmian Canal Commission forces from 1904 to 1914. The original drawings are in two sheets, each measuring 56 by 72 inches. They have been mailed to the United States, where they will be photolithographed for the printing of charts in colors. The printed charts will be in two sections, each 28 by 36 inches. The first section, Chart No. 1, will show the Canal from deep water in Limon Bay to Mile 29, which is approximately opposite the site of the former village of Gorgona. The second section, Chart No. 2, will show the territory from Mile 29 to deep water in Panama Bay. The inset map of Culebra Cut will appear on Chart No. 2.

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Steamship "Advance" to Be Converted into Freight Vessel.

The steamship *Advance* of the Panama Railroad Steamship Line, now laid up at New York for repairs to its hull, is to be converted into a freight vessel for carrying explosives. A completely insulated magazine of 300 tons capacity will be installed, at a cost of about $10,500. The vessel will not carry passengers and will be operated otherwise in accordance with the regulations of the Department of Commerce and Labor with regard to the transportation of explosives. It will be operated on an independent "wild cat" schedule, making such calls as are required by its new service. In addition to its cargoes of explosives, it will carry as ballast on both outward and homeward voyages such freight as will stand the delays incident to its principal service.

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Laying of Transisthmian Duct Line Begun.

The first excavation for the laying of the proposed 4-way transisthmian duct line began on Saturday, April 11, at Gamboa. It was intended to begin this work at the beginning of the dry season, but delays in arrival of material have made this the earliest practicable time to begin operations. Some of the tile has been laid and concreted over, and work is to advance north and south from Gamboa.

ALASKA RAILROAD BILL.

Sum of $35,000,000 Appropriated for Government Development of Territory.

The Act (S. 48) authorizing the President of the United States to locate, construct, and operate railroads in the Territory of Alaska, and for other purposes, was signed by President Wilson on Thursday, March 12. The bill reads, as follows:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the President of the United States is hereby empowered, authorized, and directed to adopt and use a name by which to designate the railroad or railroads and properties to be located, owned, acquired, or operated under the authority of this Act; to employ such officers, agents, or agencies, in his discretion, as may be necessary to enable him to carry out the purposes of this Act; to authorize and require such officers, agents, or agencies to perform any or all of the duties imposed upon him by the terms of this Act; to detail and require any officer or officers in the Engineering Corps in the Army or Navy to perform service under this Act; to fix the compensation of all officers, agents, or employes appointed or designated by him; to designate and cause to be located a route or routes for a line or lines of railroad in the Territory of Alaska not to exceed in the aggregate 1,000 miles, to be so located as to connect one or more of the open Pacific Ocean harbors on the southern coast of Alaska with the navigable waters in the interior of Alaska, and with a coal field or fields, so as best to aid in the development of the agricultural and mineral or other resources of Alaska, and the settlement of the public lands therein, and so as to provide transportation of coal for the Army and Navy, transportation of troops, arms, munitions of war, the mails, and for the other governmental and public uses, and for the transportation of passengers and property; to construct and build a railroad or railroads along such route or routes as he may so designate and locate, with the necessary branch lines, feeders, sidings, switches, and spurs; to purchase or otherwise acquire all real and personal property necessary to carry out the purposes of this Act; to exercise the power of eminent domain in acquiring property for such use, which use is hereby declared to be a public use, by condemnation in the courts of Alaska in accordance with the laws now or hereafter in force there; to acquire rights-of-way, terminal grounds, and all other rights; to purchase or otherwise acquire all necessary equipment for the construction and operation of such railroad or railroads; to build or otherwise acquire docks, wharves, terminal facilities, and all structures needed for the equipment and operation of such railroad or railroads; to fix, change, or modify rates for the transportation of passengers and property, which rates shall be equal and uniform, but no free transportation or passes shall be permitted, except that the provisions of the interstate commerce laws relating to the transportation of employes and their families shall be in force as to the lines constructed under this Act; to receive compensation for the transportation of passengers and property, and to perform generally all the usual duties of a common carrier by railroad; to make and establish rules and regulations for the control and operation of said railroad or railroads; in his discretion, to lease the said railroad or railroads, or any portion thereof, including telegraph and telephone lines, after completion under such terms as he may deem proper, but no lease shall be for a longer period than 20 years, or in the event of failure to lease, to operate the same until the further action of Congress: *Provided,* That if said railroad or railroads, including telegraph and telephone lines, are leased under the authority herein given, then and in that event they shall be operated under the jurisdiction and control of the provisions of the interstate commerce laws; to purchase, condemn, or otherwise acquire upon such terms as he may deem proper any other line or lines of railroad in Alaska which may be necessary to complete the construction of the line or lines of railroad designated or located by him: *Provided,* That the price to be paid in case of purchase shall in no case exceed the actual physical value of the railroad; to make contracts or agreements with any railroad or steamship company or vessel owner for joint transportation of passengers or property over the road or roads herein provided for, and such railroad or steamship line or by such vessel, and to make such other contracts as may be necessary to carry out any of the purposes of this Act; to utilize in carrying on the work herein provided for any and all machinery, equipment, instruments, material, and other property of any sort whatsoever used or acquired in connection with the construction of the Panama Canal, so far and as rapidly as the same is no longer needed at Panama, and the Isthmian Canal Commission is hereby authorized to deliver said property to such officers or persons as the President may designate, and to take credit therefor at such percentage of its original cost as the President may approve, but this amount shall not be charged against the fund provided for in this Act.

The authority herein granted shall include the power to construct, maintain, and operate telegraph and telephone lines so far as they may be necessary or convenient in the construction and operation of the railroad or railroads as herein authorized and they shall perform generally all the usual duties of telegraph and telephone lines for hire.

That it is the intent and purpose of Congress through this Act to authorize and empower the President of the United States, and he is hereby fully authorized and empowered, through such officers, agents, or agencies as he may appoint or employ, to do all necessary acts and things in addition to those specially authorized in this Act to enable him to accomplish the purposes and objects of this Act.

The President is hereby authorized to withdraw, locate, and dispose of, under such rules and regulations as he may prescribe, such area or areas of the public domain along the line or lines of such proposed railroad or railroads for townsite purposes as he may from time to time designate.

Terminal and station grounds and rights-of-way through the lands of the United States in the Territory of Alaska are hereby granted for the construction of railroads, telegraph and telephone lines authorized by this Act, and in all patents for lands hereafter taken up, entered or located in the Territory of Alaska there shall be expressed that there is reserved to the United States a right-of-way for the construction of railroads, telegraph and telephone lines to the extent of 100 feet on either side of the center line of any such road and 25 feet on either side of the center line of any such telegraph or telephone lines, and the President may, in such manner as he deems advisable, make reservation of such lands as are or may be useful for furnishing materials for construction and for stations, terminals, docks, and for such other purposes in connection with the construction and operation of such railroad lines as he may deem necessary and desirable.

Section 2. That the cost of the work authorized by this Act shall not exceed $35,000,000, and in executing the authority granted by this Act the President shall not expend nor obligate the United States to expend more than the said sum; and there is hereby appropriated, out of any money in the Treasury not otherwise appropriated, the sum of $1,000,000 to be used for carrying out the provisions of this Act, to continue available until expended.

Section 3. That all moneys derived from the lease, sale, or disposal of any of the public lands, including townsites, in Alaska, or the coal or mineral therein contained, or the timber thereon, and the earnings of said railroad or railroads, together with the earnings of the telegraph and telephone lines constructed under this Act, above maintenance charges and operating expenses, shall be paid into the Treasury of the United States as other miscellaneous receipts are paid, and a separate account thereof shall be kept and annually reported to Congress.

Section 4. That the officers, agents, or agencies placed in charge of the work by the President shall make to the President annually, and at such other periods as may be required by the President or by either House of Congress, full and complete reports of all their acts and doings and of all moneys received and expended in the construction of said work and in the operation of said work or works and in the performance of their duties in connection therewith. The annual reports herein provided for shall be by the President transmitted to Congress.

Approved March 12, 1914.

The provisions of the Act are to be carried out under the direction of the Secretary of the Interior.

PERSONAL.

Mr. Frank Feuille sailed for the United States on Monday, April 13, on special leave of absence.

Mr. Thomas E. Brown, Jr., associate justice of the Supreme Court of the Canal Zone, sailed for the United States on special leave, on April 9. He is due to arrive at Colon, on his return, on April 29.

Mr. Howard T. Critchlow, chief hydrographer in the hydrology and meteorology subdivision, resigned from the service of The Panama Canal, effective April 14, and sailed for the United States the same day.

Mr. C. D. Christie, resident engineer in the employ of the United States Steel Products Company, left for the United States on Tuesday, April 14. During his stay on the Isthmus he has had charge of the contractor's forces in the erection of the emergency dams, the steel framework of the buildings at the Balboa terminals, the framework of the electric substations at Gatun, Cristobal, and Miraflores, and the assembling of the track-span bridges of the 44,000 volt transmission line.

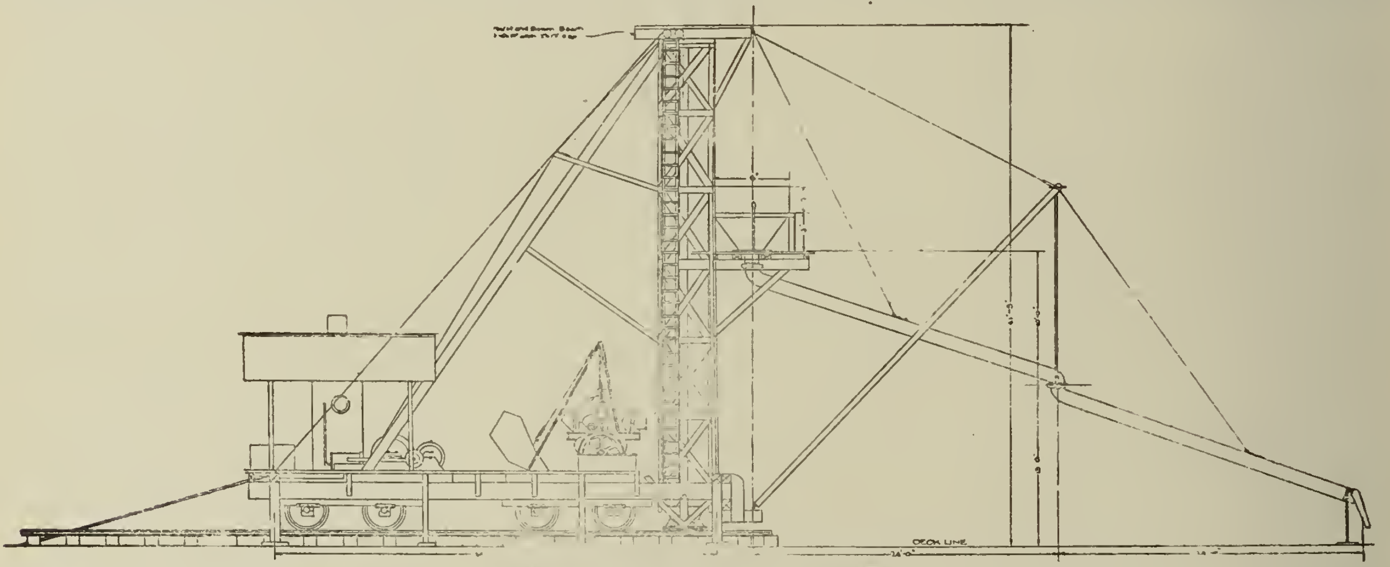
TRAVELING CONCRETE PLANT.

Portable System for Mixing and Placing Concrete in Pier Construction.

A concrete mixing plant with elevator tower and distributing chute is being used for mixing and placing the concrete in the caisson shells and superstructures of the quay wall and pier now under construction at the Balboa terminals. Four units of the type are in use. The system has advantages of convenience, speed, and reduced labor cost.

Each unit consists of a hoisting engine, of approximately 20 horse-power, steamdriven; a ½-cubic yard portable mixer; an elevator for raising the concrete so that it can be distributed from a hopper by gravity; and a jointed distributing chute, for placing the concrete from the hopper. All of these items are mounted on a single flat car, resting on a 5-foot gage track. The plant is advanced along the track with the progress of the placing. The sand, rock, and cement for the concrete may be handled to the mixer direct from cars coupled to the flat car in the rear, or from stock piles alongside the site of operations. In either case, they are carried to the mixer in wheelbarrows, over suitable staging.

The hoisting engine boiler furnishes steam for the mixer, and, by cables running over sheaves at the top of the elevator tower, raises and lowers the elevator car.

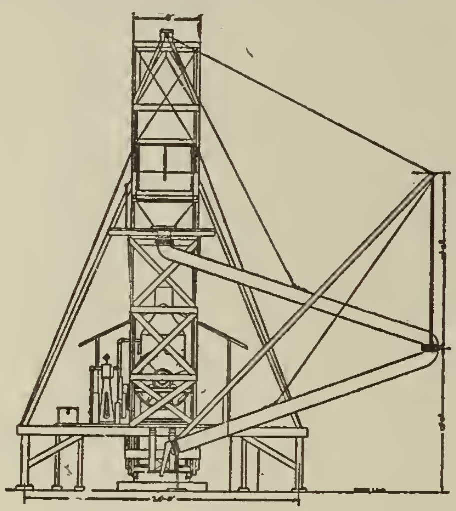


TRAVELING CONCRETE MIXING PLANT—SIDE VIEW.

The elevator is a hollow timber framework, 4½ by six feet in plan. In the unit of which the side and front views are shown herewith, the tower rises to a height of 41 feet three inches above the deck line; in this type, the distributing chute is 52 feet long, with a distributing radius of 48 feet. In two other units of similar general design, the chute is longer, having a distributing radius of 78 feet. The elevation of the tower is determined by the requirements of distributing the concrete by gravity. In each case, the tower is braced by timber outriggers.

The elevator car is the body of an ordinary ½-yard Decauville dump car, mounted on trunnions. At an elevation determined by the length of the chute, it dumps automatically into a hopper which rests on a projection on the front side of the elevator shaft. The hopper is six by six feet in plan at its top, converging into juncture with the distributing chute. It has a capacity of about one cubic yard.

The distributing chute is of 14-inch steel pipe. It is in two sections of equal length, connected by means of a swivel joint. The upper section is known as the swivel arm, and the lower section as the nozzle arm. The upper section is connected with the hopper discharge by a swivel joint, and can swing to either side to a position at right angles with the axis of the flat car. The nozzle arm, swinging under the upper section, can describe a circle, the center of which is the joint between the two sections. This combination of motions allows the mouth of the chute to be placed over any point in the semicircle described by swinging the chute with both sections extended in the same plane.



TRAVELING CONCRETE MIXING PLANT—FRONT VIEW.

The method of supporting the chute is of especial interest. Both sections of the chute are supported by means of a pivoted latticework boom, projecting outward and upward from the front of the base of the elevator tower. The timbers of the boom pass on both sides of the upper section of the chute, allowing its support to be effected by the cross pieces. In addition, the boom passes far enough beyond the upper section to allow vertical guys to be attached to the intermediate joint, and slanting guys to be extended to the end of the nozzle arm. This does away with extraneous supports for the nozzle arm, and with the services of laborers in carrying it from point to point.

The system allows the mixing and placing of from 180 to 200 cubic yards of concrete per day from the ½-yard mixer. The arrangement of the chute allows the placing of concrete all over the semicircle in front of the mixer without the use of men with wheelbarrows, operating on runways laid over the reinforcement. These features are especially desirable in the pier construction, where it is important to complete a section, including a main girder and extending half-way to the girders on either side, in one day, in order that the concrete may harden in a complete unit.

In the new pier No. 1, each section is 29 feet six inches long by 75 feet 11 inches wide, and contains 191 cubic yards of concrete. One mixing unit will complete a section a day; but in case of breakdown, another unit can be withdrawn from caisson work and sent to supplement the placing for the pier. Each outfit is practically as portable as a wrecking crane.

The force for each unit consists of approximately 30 silver employes in charge of a white foreman. Twenty-five men are engaged in wheeling materials from the cars or stock piles and supplying the mixer; one man is in charge of the mixer; one runs the hoisting engine; and three are out at the end of the chute, distributing the concrete into the forms. This arrangement makes the labor cost very low.

This system is a development, for the local conditions, of the system used for the manufacture of the concrete caisson shells at Balboa, described in The Canal Record of February 19, 1913. Both systems were originated by Mr. J. A. Walker, the superintendent in charge of the construction of the Balboa terminals.

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The forces of the shops and dry dock at Mount Hope have completed repairs to the tug *Rey del Rio*, which is operated at Bocas del Toro by a subsidiary corporation of the United Fruit Company. The repairs consisted principally of remedying a bent propeller shaft and a broken wheel, and required two days' work.

HYDRAULIC GRADER.

For Sluicing Slides and Sloping Banks of Culebra Cut.

The General Purchasing Officer has been instructed to purchase in the open market boilers, pumps, and other specified machinery for the conversion of the hull of a vessel, now in the Canal dredging service, into a hydraulic grader. The hull of dredge *No. 3*, a nonpropelling iron vessel, equipped at either end with a stiff-legged derrick for the operation of orangepeel or clamshell buckets, will be used for mounting the new equipment. The equipment will be purchased according to specifications furnished by the Mississippi River Commission, and will be practically the same as that in use on two new graders, *No. 1011* and *No. 1012*, placed in service during the past year in the Memphis district. The river commission has been requested to forward the foundation plans, in order that the hulls in which the equipment is to be mounted may be prepared in advance.

The grader will be simply an arrangement of high pressure boilers and pumps to pump water from alongside the vessels, and deliver it at high pressure to pipeline, or hose, for sluicing material down from the banks of the Canal. Essentially the same kind of work is being done now at Cucaracha slide by pipeline suction dredge *No. 82*, pumping to monitors, but the dredge pumps give a discharge pressure of from 45 to 50 pounds at the pumps, in contrast with which, the grader will deliver at a pressure of from 225 to 235 pounds to the square inch. Discharging through a 3-inch hose at an elevation of 50 feet above the water line, it will sluice down approximately 3,000 cubic yards in a working day of eight hours. It will be able to work at levels considerably above the 50-foot elevation, though with diminishing effectiveness. The high pressure will give the stream a sharp cutting power, which will be effective in grading the banks to an even slope.

The grader will be used principally in sluicing at Cucaracha slide, and in grading the banks on both sides of the Canal between Gold Hill and Empire.

The principal items for the equipment of the grader will conform, in general, to the following specifications:

Boilers—The set will consist of two horizontal boilers of 125 horsepower, with at least 1,250 square feet of heating surface, with the furnace not less than 45 inches in diameter, and flues not less than 3½ inches in diameter, made to withstand a working pressure of 200 pounds to the square inch. The boilers will be tested hydraulically to a pressure of 300 pounds to the square inch before acceptance. The two boilers will be erected side by side and connected with a suitable circulating pipe below the water level.

Pumping equipment—The vessel will be equipped with two steam turbines, direct-connected to centrifugal pumps. The duty required of each will be the discharge of 1,500 gallons of water per minute against a pump pressure of 225 pounds to the square inch, from a suction lift of eight feet. The turbines are to make not more than 2,000 revolutions per minute. Each pump will be of the horizontal, four or more stage, turbine type, and will be furnished with independent suction and discharge pipe. The equipment will be designed with reference to the sand and dirt likely to be encountered in the water which it will handle.

A surface condenser, with at least 600 square feet of cooling surface, will be furnished with each turbine set.

Electric plant—A steam turbine of sufficient capacity to drive, direct-connected, a generator of 7½ kilowatts capacity, will be furnished. The generator will deliver current at 110 volts.

The total weight of the machinery to be installed is about 60 tons.

No Plague on Board the "Aysen."

An examination of a reported case of bubonic plague on board the steamship *Aysen*, held in quarantine at the Culebra Island station, was conducted on April 10 by Dr. Samuel T. Darling, chief of Ancon Hospital laboratory and member of the board for the diagnosis of infectious diseases, with negative results. The Chief Health Officer and the Chief Quarantine Officer were present during the examination. Bacteriological examinations of material obtained at the time of examination were also negative for plague.

Operations at Frijoles Plantation.

Authority has been given for the purchase of a pulverizer, at a cost of $650, f. o. b. at Chicago for use in pulverizing limestone to be spread on the cleared tracts of the Frijoles Plantation, which is being operated by the Supply Department. In addition to the areas in whole or part cultivation at the time the plantation was taken over by the Subsistence Department, in August, 1913, approximately 50 acres of new land have been cleared. It has been decided not to clear any more at present, but to proceed with the liming of the areas ready for cultivation. The limestone will be recovered from a bed near milepost No. 24 on the Panama railroad, about a mile north of Radio Station. This is one of the deposits recommended by Mr. A. B. Nichols in a report submitted in January. The pulverizing will be done at Frijoles, at a central location for distribution to the soil.

Up to March 1, 1914, the expenditures on the plantation exceeded the receipts by $2,369.22. The charges of operation have included an overhead general office and plant charge amounting to $585.37, and in view of the potentially productive operations which have been carried on, the superintendent of the plantation believes that adequate returns may soon be realized. At the time the tract was acquired the planted areas were much overgrown: these and 50 acres of new land have been cleared, 1,500 alligator pear seedlings have been raised, 300 budded orange and grapefruit trees and 3,500 plants of unbudded nursery stock have been purchased, and the number of pineapples has been increased by about 250. At the present time, the banana fields are in good shape, and a crop of cane is ready for harvesting.

Liming the soil is expected to begin shortly after the beginning of the rainy season. The pulverizer will be used to prepare lime for the Corozal Farm, as well as the Frijoles Plantation.

Obituary.

Mr. Harry Gray, an employe in the Dredging Division, died at Ancon Hospital on April 8. He was 52 years of age, had lived on the Isthmus four years, and is survived by his wife, living in Colon. His body was buried in Mount Hope cemetery.

CHURCH WORK CONTINUES.

On Independent Basis Since Reorganization.—Church Notes.

The established church work in the Canal Zone has not suffered by the reorganization that has been taking place in the Canal forces. The newly formed Union Church of the Canal Zone is winning members among those who are adherents of the nonsectarian idea as being the practical solution of the question of religious activity in the Canal Zone. Newly organized Sunday schools are increasing in membership and organizations are being developed for work among the young people and children of the church. The present transition period has served to place the religious activities of the Canal Zone people on a permanent and independent basis; independent, that is, of the financial support of the government of The Panama Canal.

The churches in the Canal Zone were filled to the doors at the services on Easter Sunday. Beginning with the celebration of the holy communion, in the Episcopal and Roman Catholic churches at 5.30 a. m., the Easter bells were rung at intervals from the various churches until the beginning of the latest service at 11 o'clock. Special music was rendered at all the services; Easter offerings were made and the Easter message was preached. The churches were decorated with white flowers, ferns, and palms.

The next meeting of the Woman's Altar Guild of St. Luke's Hospital chapel, Ancon, will be held at the home of Mrs. Charles F. Mason on Tuesday morning, April 21, at 9.30 a. m. The guild will continue its work for the church orphanage in South Carolina for a number of weeks longer. Meetings will be held semimonthly, instead of weekly, as during Lent. The hour and nature of these meetings will be announced later.

The April meeting of the woman's foreign missionary society of the Methodist Episcopal Church was held in Corozal on Saturday, April 4, the society being entertained by Mrs. Hackenberg and Mrs. Bray. There was a full attendance. On Saturday, May 2, the meeting will be in Balboa, at the residence of Mrs. James Stokoe.

A special song service has been planned for the Christian Endeavor meeting at Corozal, Sunday, April 19, at 7.30 p. m. The subject for discussion will be, "The consecration of time."

Final Volume of Supreme Court Decisions.

The publication of a second volume of decisions of the Supreme Court of the Canal Zone has been authorized. The first volume, published in 1909, contains opinions or abstracts of decisions in 81 cases, and is a book of 153 pages. Since its publication, from 65 to 70 opinions have been handed down and it is probable that there will be 10 or 12 more before the final adjournment of the Supreme Court, which is now engaged in clearing its docket, in accordance with Section 13 of Executive Order No. 1898.

Cards of Authorization to Buy Coupon Books.

As the result of attempts by white ex-employes to purchase commissary and hotel books on presentation of the metal checks which they were allowed to retain on termination of their services with the Canal Commission, or the Panama railroad, cards of identification have been issued to employes, to be presented in lieu of metal checks.

This form of abuse was not anticipated when the privilege of retaining checks was granted to gold employes, in October, 1912, as the cash sale of commissary and hotel books was authorized at a later date. The great number of checks in circulation, with the possibility of other abuse and misrepresentation, renders impracticable the issuing of bulletins by which cash sale clerks might keep themselves advised of the validity of checks. The clerks have been authorized to confiscate checks presented by exemployes.

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Order of Isthmian Conductors.

The next regular meeting of the Order of Isthmian Conductors will be held in Ancon lodge hall, on Sunday morning, April 19, at 9.30 o'clock. GEO. B. ALLEN,
Secretary-Treasurer.

COROZAL, C. Z., April 13, 1914.

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Ancon Club to Shoot in Championship Pistol Matches.

The Ancon Pistol and Rifle Club will compete in the indoor championship matches of the United States Revolver Association, which will be shot simultaneously, in the period from April 18 to April 26, by various clubs throughout the United States and its possessions, affiliated with the association. The matches will be shot at night, and the Mechanical Division has been authorized to install the requisite electric wiring and lights at the range of the local club, at Balboa, at the expense of the organization.

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Lowering Water in Miraflores Lake.

The surface of Miraflores Lake is being lowered approximately 10 feet, after which it will be raised by water let in from Culebra Cut, through Pedro Miguel Lock, in order to allow the making of certain tests. The lowering began on April 3, when the surface was at 50.1 feet above sealevel, and is being accomplished by means of lockages through the west flight of Miraflores Locks. Eleven lockages made on April 11 lowered the surface 1.8 feet. On the morning of April 13, the surface was at elevation 45.0 feet. The surface will be lowered to 42 feet, and possibly to 40, depending on the effect of the decreased head of water on the pump intake at the temporary pumping station north of Miraflores tunnel.

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Postal Savings Transactions.

A statement of postal savings transactions at Canal Zone post-offices for the month of March, follows:

OFFICE.	Amount issued.	Amount paid.
Ancon	$16,846.00	$18,329.00
Balboa	24,532 00	27,526 00
Corozal	25,724.00	27,866.00
Cristobal	17,123.00	16,630.00
Culebra	9,029.00	7,266.00
Empire	18,471.00	10,927.00
Gatun	10,339.00	12,099.00
Las Cascadas	2,110.00	1,909.00
Paraiso	12,877.00	13,420.00
Pedro Miguel	8,233.00	5,290.00
Cristobal, Sta. "A"	500.00	795.00
Cristobal, Sta. "B"	1,672.00	1,427.00
Total	$147,456.00	$143,484.00
Balance on hand March 1, 1914	$595,776.00	
Deposited during month	147,456.00	
Withdrawn during month		$143,484.00
Balance on hand March 31, 1914		599,748.00
	$743,232.00	$743,232.00

CANAL CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

Moving picture dates for the week of April 20 to 25 are, as follows: Monday, Pedro Miguel; Tuesday, Cristobal and Balboa; Wednesday, Corozal; Thursday, Gatun; Friday, Culebra; Saturday, Empire.

The following is the standing of the all-Isthmian duckpin league, up to and including games of April 11, 1913:

Cristobal	24	15	9	.625
Empire	27	15	12	.555
Corozal	27	14	13	.518
Pedro Miguel	24	12	12	.500
Culebra	27	12	15	.444
Gatun	21	7	14	.333

High single game—Davis, Corozal, 135.

High three games—Davis, Corozal, 320.

Individual standings for those over 90 pins per game were, as follows:

Name.	*Team.*	*G'ms.*	*Total.*	*Av.*
Sims	Empire	21	2,037	97.00
Davis	Corozal	26	2.500	96.04
King	Empire	21	2,009	95.14
Parkis	Corozal	27	2,565	95.00
Webb	Corozal	1	95	95.00
Smith	Cristobal	21	1,986	94.12
Bullard	Cristobal	3	284	94.02
Claherty	Gatun	15	1,409	93.14
Davis	Pedro Miguel	6	562	93.04
Walsh	Gatun	13	1,211	93.02
Potter	Empire	21	1,948	92.16
Dougherty	Pedro Miguel	15	1,387	92.02
Gustaveson	Empire	21	1,938	92.06
Barrett	Empire	21	1,934	92.02
Kiernan	Culebra	22	2,018	91.16
Chadhourne	Culebra	12	1,098	91.06
Kromiller	Culebra	5	459	91.04
Barte	Cristobal	20	1,822	91.02
Whiston	Pedro Miguel	21	1,898	90.08
Steele	Corozal	23	2.076	90.06
Case	Culebra	24	2.165	90.05
DeCora	Culebra	18	1,620	90.00

BALBOA.

The regular moving picture show will be held on Tuesday night, April 21. Mr. C. G. Fagard of Panama will furnish music during the evening.

Easter service was held at the Y. M. C. A. hall on Sunday morning, April 12, the Rev. A. P. Funkhouser conducting the service.

A new talking machine has been purchased for the clubhouse to replace the old one, which was badly in need of repairs. The new records for April have been received.

A fountain pen was found on the writing table last week, and an umbrella was left at the refreshment room. These articles may be secured by the owners by application to the secretary.

A movement has been started to hold "Mothers' day" in Balboa the second Sunday in May.

Wednesday afternoon of each week will be ladies' day at the local clubhouse. All the ladies of Ancon and Balboa are invited to use the privileges of the Y. M. C. A. on that day.

COROZAL.

The regular motion picture show was held Monday night, April 13. An extra picture show will be given on Thursday night, April 16, with the "Passion play."

The high scores in tenpins for the past week were made by A. Sims, 213, 203, and Thurst, 237, 212.

An open double duckpin tournament, held on Friday, April 10, resulted, as follows: Parkis and A. Sims 620; Davis and Boesen, 564; high score by Parkis, 112.

Mr. Ralph Regan having resigned his position with The Panama Canal, his place as manager of the bowling alleys will be taken by Mr. C. E. Davis.

Fifty-seven new books have been added to the library.

PEDRO MIGUEL.

On Tuesday evening, April 7, the Pedro Miguel duckpin team defeated the Empire team in three games. The scores were, as follows:

Empire.				*Pedro Miguel.*			
Barrett	91	79	102	Davis	117	94	89
King	97	97	99	Whiston	193	93	113
Sims	84	90	89	Vandeburgh	78	89	102
Potter	92	84	84	Barthol'mew	91	98	87
Gustaveson	93	100	88	Dougherty	92	86	102
Totals	457	450	462		481	460	495

The Pedro Miguel chess club meets every Tuesday evening. All members interested in this game are invited to meet with the club and to help further the interest in chess.

The gymnasium floor has been painted recently in preparation for a number of the indoor games, such as basketball, volleyball, handball, and baseball. With the floor in good condition now for any of these games, it is hoped that those who are interested will join a class which will have two evenings each week for recreationa games. Teams from other culbhouses will be secured for competitive games if enough men will join this class.

On Wednesday evening, April 22, a "Shipbored" social will be held at the clubhouse for the members and their friends. All adults are invited to be present to enjoy the fun and the games. Games similar to those played on board a ship will be indulged in. The men should be attired in white duck trousers and without coats. The ladies will wear sailor blouses.

The children of the Pedro Miguel Sunday school gave a pleasing Easter program on Easter Sunday, which was enjoyed by all who attended.

CULEBRA.

On Saturday night, April 11, the Cristobal bowling team took two out of three games from the local team, with the following scores:

Cristobal.				*Culebra.*			
Pinney	87	91	93	Koperski	90	98	68
Schied	85	89	97	Kiernan	82	91	90
Farr	85	91	94	Barnes	85	85	83
Barte	82	92	89	DeCora	105	86	94
Smith	78	86	95	Case	105	87	101
Totals	417	449	468		467	447	436

High scores for the week were, as follows: Ellsworth, 102; Kiernan, 100; Koperski, 101; Case, 107.

At the regular service on Sunday evening, colored slides of "Majestic Niagara" were shown. Mr. J. F. Warner read the accompanying lecture.

The date of the next moving picture show has been changed to Friday, April 17.

EMPIRE.

On Tuesday evening, April 7, Mr. W. W. Warwick spoke on the accounting of the Treasury Department. About 100 men attended.

Arrangements are being made to celebrate the closing up of the work at Empire on April 23 and 24. On April 23, a "Smoker" will be given to the men of Empire, and those who have recently moved to other points are invited to attend. On April 24, a special program and reception will be given to the people of Empire, and all friends of the Empire clubhouse are invited. Arrangements are being made for a special train to run from Panama and return on that evening. Mr. W. W. Warwick will be the speaker of the evening. A reception and refreshments will follow the program. Music will be furnished by the Tenth Infantry Band.

GATUN.

The boys of the Cristobal Y. M. C. A., in company with their physical director, Mr. Brittin, were guests of the Gatun Y. M. C. A. on Tuesday, April 7. The morning was spent in athletics and the afternoon in a baseball game. The boys spent a very enjoyable day. In the athletic contests, Cristobal scored 39 points and Gatun, 25; the baseball score was 10 to 8, in favor of Cristobal.

Robert Pearson, general agent of the Southern Settlement and Development Organization, gave a lecture at the clubhouse on Tuesday evening, April 14, under the auspices of the Colonization Club of the Canal Zone.

Gatun won two out of three games of duckpins from Empire on Saturday, April 11. The results were, as follows:

Gatun.				*Empire.*			
Dumville	85	81	98	Barrett	82	82	81
Walsh	67	85	100	King	94	88	84
Conley	81	97	86	Sims	117	95	81
Richardson	78	89	75	Potter	80	82	87
Claherty	97	92	89	Gustaveson	106	94	103
Totals	408	444	448		479	441	436

An unusually large number of out-of-town people were visitors at the Gatun clubhouse on Easter Sunday.

CRISTOBAL.

The C. A club defeated the C. T club in a dual athletic meet; score 67-72. The new intercollegiate system of scoring was used and proved very satisfactory. In this sytem the first five contestants to finish receive credit points. S. McKeown, competing unattached, lead all contestants, making 18 points.

Messrs. Wehmeier and Hagan are the winners of the handball tournament, having ten victories and two defeats.

The present standing of the boys' athletic teams is:

	Won.	*Lost.*	*P.C.*
Team No. 1	2	1	.666
Team No. 2	1	1	.500
Team No. 3	0	2	.000

Plans are being arranged to hold a circus about the middle of May. Approximately 130 persons will participate in the various acts.

Pedro Miguel will bowl at Cristobal on Saturday night, April 18, in the all-Isthmian duckpin tournament. This series of games will practically decide the standing of the teams in the league for this year. At the present time, Cristobal is in the lead.

Mr. A. R. Lang, superintendent of schools of the Canal Zone, will address the discussion club on Thursday night, April 30, on "The present trend toward vocational schools."

OFFICIAL CIRCULARS.

Wage Scales.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 8, 1914.

CIRCULAR No. 669:

1. The Urgent Deficiency Act, approved April 6, 1914, provides:

> Section 53. The wage scale of the persons employed in the construction of the Panama Canal in effect prior to April first, nineteen hundred and fourteen, shall continue unchanged during the period of actual construction, but not later than June thirtieth, nineteen hundred and sixteen, and no claim of any person employed in connection with the construction of the Panama Canal shall be recognized or paid by the United States for longevity service or lay-over days accruing subsequently to June thirtieth, nineteen hundred and nine.

2. The effect of the first part of the section quoted is that no change will be made in schedules of wages now being paid, except as certain parts of the organization are placed on a permanent basis from time to time, or as other parts develop in connection with the operation and maintenance of the Canal, as, for instance, the forces to be organized to operate the locks and to conduct vessels through the Canal. The entire force as organized on April 1 will meanwhile be considered a construction force, and the wage scales of such classes of construction men as railroad transportation employes, steamshovel men, track men, skilled mechanics, etc., will not be changed until the period of construction is ended; this period not to extend in any case beyond June 30, 1916.

3. The effect of the second part of the section quoted is to affirm the stand heretofore taken by Congress on the question of longevity and lay-over days; it does not change the percentage of longevity paid to employes now in the service, nor does it allow longevity pay to any class of employes who have not received it heretofore. Longevity will not be paid to employes in organizations declared on a permanent basis and it will cease for all classes after June 30, 1916.

GEO. W. GOETHALS,
Governor.

Special Attorney and Attorney for the Panama Railroad Company.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 661-3:

1. Judge Frank Feuille is appointed special attorney, reporting to the Governor. He will perform the same duties in connection with the handling of land matters heretofore performed by him as Head of the Department of Law, and will, in addition, be charged with the codification of the various laws, Executive Orders, and ordinances in effect for the Canal Zone. This appointment is effective April 1, 1914.

2. Mr. Chas. R. Williams is appointed attorney for the Panama Railroad Company, on the Isthmus, reporting to the President of the Company. He will represent the company before the courts of the Isthmus and will assist the special attorney in land and such other matters as the President may direct. This appointment is effective April 1, 1914.

GEO. W. GOETHALS,
Governor, The Panama Canal,
President, Panama Railroad Company.

Chief Clerk, Executive Office.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 661-2.

Effective April 1, 1914, Mr. W. P. Copeland is appointed chief clerk, Executive Office, Culebra.

GEO. W. GOETHALS,
Governor.

Examinations by Board of Local Inspectors.

THE PANAMA CANAL,
BOARD OF LOCAL INSPECTORS,
ANCON, C. Z., April 11, 1914.

The Board of Local Inspectors will conduct examinations at the Administration Building, Ancon, on Wednesday, April 22, 1914, beginning promptly at 2 p. m., for persons desiring the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. Applicants for licenses must procure from the office of the board, Ancon, forms of application and information respecting the filling out of the same, not later than the day previous to the examination. In addition, all persons desiring chauffeurs' licenses must provide themselves with automobiles with which to demonstrate their ability properly to operate the same.

NOTE—The demonstration test for applicants for chauffeurs' licenses will be given on Tuesday, the day preceding the regular examination, at 2 p. m., at the Administration Building, Ancon; on Wednesday, the day of the regular examination, for out-of-town applicants, at 2 p. m., at the Administration Building, Ancon. No demonstration tests will be given at Cristobal, except by appointment.

HUGH RODMAN,
Chairman, Board of Local Inspectors.

PANAMA RAILROAD COMPANY,
OFFICE OF SUPERINTENDENT AND CHIEF ENGINEER,
COLON, R. P., April 11, 1914.

CIRCULAR No. 420:

Heads of departments—For your information, the following cablegram received from our New York office:

> "Steamship *Ancon* sails April 20, in place of steamship *Advance*. Steamship *Advance* sails April 27, in place of *Panama*.
>
> "Following departures during May: Steamship *Allianca* 2nd, *Panama* 9th, *Advance* 16th, *Colon* 22nd, *Allianca* 28th. Will send print schedules on *Ancon*."

F. MEARS,
Superintendent and Chief Engineer.

Misdirected Letters.

ANCON, C. Z., April 13, 1914.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Acting Director of Posts and may be secured upon request of the addressees:

Blades, George
Brown, Benjamin
Bucker, Alfred
Burns, Charles
Campbell, Lee
Campbell, Leslie S.
Clarke, James M.
Conaway, B. F.
Cooper, Mr. and Mrs. G. K.
DeCosta, Walter M.
Devauz, Fenwick
Didier, Leon
Donnelly, William
Drew, William P.
Ermel, Peter
Ford, Edmund George
Geyer, John H.
Green, W. O.
Harrell, John H.
Hennessy, Walter J.
Hickson, A. B. (Mrs.)
Hinckson, Cecil
Houghton, Richard C
Howard, Mr.
Jack, Thomas H.
Leslie, Edward G.
McCoy, Mr. Griffith
McCutcheon, L. C. (Mrs.)
McLennan, Roderick
McMullin, Mrs. C. H.
Miller, John
Mott, Charles H.
Orewiler, Lewis H.
Ottley, Arthur
Sparnell, Mr. W. J.
Thomson, John
Tyrrell, Herbert A.
Wilbur, E. B. (Mrs.)
Williams, J. A.
Wisner, Ralf
Young, Edw. J.

Supplies for the Canal.

The following steamers, with supplies for The Panama Canal and Panama Railroad Company, arrived at the ports of Colon and Cristobal during the two weeks ending April 11:

Prinz Eitel Friedrich, March 30, from New York, with six barrels electrical material, for Lighthouse Division; 278 packages conduit and joints, one box electrical material, for Mechanical Division; 102 cases printing paper, for stock.

Metapan, April 1, from New York, with 61 packages chain fender material, 408 bundles reinforcing bars, for First Division; eight kegs bridge iron, for Division of Municipal Engineering; 60 bundles plain wire, 56 bundles steel bars, for permanent buildings; four reels copper wire, for Ancon commissary; 13 reels copper wire, for Mechanical Division; 227 boxes window glass, 90 bundles scoops, 500 kegs dry paint, 76 boxes toe calks, for stock.

Heredia, April 1, from New Orleans, with 130 barrels paving brick, for Panama Railroad Company; 800 sacks wall plaster, for permanent buildings; 150 boxes oil burning brick, 99,384 board feet yellow pine siding, 22,188 board feet yellow pine flooring, 1,132 bales rice straw, for stock.

Scythian, April 2, from Liverpool, with 13 buckets for ladder dredges, three nonrotating hoisting cables, for Dredging Division; 30 steel dipper teeth, for stock.

Cristobal, April 2, from New York, with 12 pieces shaft forgings, seven pieces dredge parts, for Dredging Division; 28 pieces pipe, 22 pieces pipe, 180 crates roofing tile, for Division of Municipal Engineering; 20 cases glass, 128 cases electrical material, 31 packages chain fender material, for First Division; 79 crates asbestos roofing, 41 packages armament material, 126 boxes empty projectiles, for fortifications; 500 bags cement, 75 barrels plaster, 299 crates roofing tile, for permanent buildings; 207 bundles pipe, 36 cases shop equipment, 1,299 packages furnace material, 122 boxes incandescent lamps, for Mechanical Division; 66 packages signal material, 303 pieces steel ties, for Panama Railroad Company; 40,160 bags cement, 125 bundles steel bars, 247 coils wire, 30 boxes paint, 12 cases paint, 68 packages structural steel, 400 boxes candles, 55 barrels asbestos cement, 60 bundles rakes, 169 pieces castings, 847 bales bay, 417 bundles shovels, for stock; and a miscellaneous cargo, the whole consisting of 43,929 pieces, weighing approximately 2,649 tons.

Atenas, April 2, from New Orleans, with 370 sacks feed, 700 cases kerosene, 500 cases Dutch scouring bar, 456 bales rye straw, for stock.

Pastores, April 4, from New York, with 12 packages laboratory material, for Division of Municipal Engineering; 40 packages lanterns, 13 cases plumbing material, 122 crates bath tubs, for stock.

Fort Morgan, April 3, from Mobile, with 200 cases gasoline, for stock.

Prinz August Wilhelm, April 6, from New York, with three cases electrical material, for Mechanical Division; 40 barrels coal tar, 200 cases Dutch scouring bar, 10 boxes lampblack, 241 bales oakum, for stock.

Storfond, April 6, from New York, with 116,240 bags cement, for stock.

Parismina, April 8, from New Orleans, with 23,920 board feet, yellow pine ceiling, 27,721 board feet, yellow pine flooring, 133 pieces untreated yellow pine piling, for stock.

Panama, April 8, from New York, with 3 bags poultry feed, for Sanitary Department; 297 crates roofing tile, 90 crates roofing tile, 23 crates windows, doors, etc., 19 cases electrical material, 50 bundles pencil rods, for permanent buildings; 180 crates roofing tile, 90 crates roofing tile, 21 boxes machinery, for Division of Municipal Engineering; 47 boxes incandescent lamps, 40 kegs manganese, 22 boxes electrical material, 39 cases electrical material, 41 cases electrical material, 16 wheels for cranes, 25 iron castings, for Mechanical Division; 90 crates roofing tile, 123 cases electrical material, 14 reels copper cable, for First Division; 15 steel bucket lips, 9 kegs arsenic, for Dredging Division; 350 pieces structural steel, for Second Division; 300 bales oakum, 1,201 bags oats, 29 barrels rock salt, 20 bales rubber hose, 18 cases paint, 50 barrels flour, 40 boxes zinc plates, 11 cases varnish, 114 kegs wire nails, 56 packages plumbing material, 84 boxes bronze wire cloth, 48 boxes valves, 150 bundles shovels, 125 drums lubricating oil, six barrels lubricating grease, 25 cases lubricating grease, for stock; and a miscellaneous cargo, the whole consisting of 4,219 packages, weighing approximtely 200 tons.

Zacapa, April 9, from New York, with 20 bundles structural steel, for Mechanical Division; 25 kegs nuts, 16 barrels iron pipe fittings, 57 pieces structural steel, for stock.

Turrialba, April 10, from New Orleans, with 9,016 board feet, white oak lumber, 26,940 board feet, yellow pine lumber, 120 bags feed, for stock.

Tenadores, April 10, from New York, with 10 pails putty, for permanent buildings; 77 crates structural steel, for First Division; 1,376 bales hay, 43 cases plumbing material, 21 cases life preservers, for stock.

Rainfall April 1, to April 11, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	1.54	2	1.85
Balboa	1.79	2	1.93
*Miraflores	1.98	2 & 4	4.06
Pedro Miguel	1.35	4	1.43
Rio Grande	.14	2	.21
Central Section—			
Culebra	.18	2	.24
*Camacho	.11	3	.15
Empire	.23	2	.23
Gamboa	1.11	2	1.18
*Juan Mina	.44	3	.48
Alhajuela	.01	3 & 4	.02
*El Vigia	.02	8	.03
Frijoles	1.46	3	1.68
*Monte Lirio	1.50	3	2.15
Atlantic Section—			
Gatun	.10	11	.32
*Brazos Brook	1.34	3	1.66
Colon	.90	2	1.23
†Porto Bello	.18	4	.18

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight. †To 5 p. m., April 10.

LOST—S. A. R. insignia and Phi Delta Theta fraternity pin in wooden mailing box. Finder please address communication to post-office box No. 59, Culebra, C. Z.

LOST—At Hotel Washington, during dance on April 11, a purse containing $56 in United States bills. Purse had one-cent Panamanian postage stamp pasted inside flap. Finder please return to Secretary of Y. M. C. A. at Gatun, and receive reward.

COMMISSARY DEPARTMENT.

The commissary stores are open during the following hours:

Cristobal, 8 a. m. to 12.30 p. m., and 2 to 7 p. m.
Balboa, 8 a. m. to 12.30 p. m., and 2.30 to 7 p. m.
Ancon, 8 a. m. to 1 p. m., and 3 to 6 p. m.
All others, 8 a. m. to 1 p. m., and 3 to 7 p. m.

Retail prices of cold storage provisions for the week beginning April 13, 1914:

FRESH MEATS.	*Price.*
Mutton—Stewing, per pound	7
Shoulder, neck trimmed off (4 pounds and over), per pound	9
Entire forequarter (not trimmed, 10 pounds and over), per pound	8
Legs (8 to 10 pounds), per pound	17
Cutlets, per pound	18
Short cut chops, per pound	20
Lamb—Stewing, per pound	8
Entire forequarter, neck trimmed off, per pound	10
Legs (5 to 8 pounds), per pound	20
Chops, per pound	24
Cutlets, per pound	24
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	17
Chops, per pound	26
Loin, for roasting, per pound	26
Cutlets, per pound	30
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	8
Plate, per pound	9
Corned, No. 1, per pound	14
Corned, No. 2, per pound	12
Chuck roast, (3 lbs., and over), per pound	12
Rib roast, second cut (not under 3½ pounds), per pound	16
Rib roast, first cut (not under 3 pounds), per pound	18
Pot roast, per pound	19
Rump roast, per pound	19
Porterhouse roast, per pound	20
Steak, chuck, per pound	12½
Round, per pound	13
Rib, per pound	18
Sirloin, per pound	19
Rump, per pound	19
Porterhouse (not less than 1½ pounds), per pound	20
Tenderloin (Western), per pound	30
Pork—Hams, fresh, per pound	§†22
Loin chops or roast, per pound	19
Shoulders, fresh, per pound	§†18
Spare ribs, per pound	†17
Backbones, per pound	15
Pigs' feet, each	7
Pigs' heads, whole	†80
Pigs' heads, ½-head	†40
Sausage, home made, per pound	†22

MISCELLANEOUS.	
Livers—Beef, per pound	†13
Calf, each	60
Half, each	30
Steak, Hamburger, package	13
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	12
Devonshire Farm, per pound	22
Sweetbread, beef, per pound	27
Eggs, fresh, per dozen	29
per ½-dozen	15
Bluefish, per pound	19
Halibut, fresh, per pound	*07
Salmon, per pound	09
Shad roes, per pair	40
Oysters, per quart	28

POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, large, each	1.40
Fancy roasting, milk fed, med., each	1.10
Fancy roasting, corn fed, about 5½ pounds, each	1.25
Fancy roasting, corn fed, about 4½ pounds, each	1.00
Fowls, each ††66, 77, 88, 99, and	1.10
Ducks, Western (about 4½ pounds), each	1.10
Capons, about 8½ pounds, each	3.00
Broilers, milk fed, each	75
Broilers, corn fed, each	60
Turkeys, per pound	28
Squabs, each	50
Ducks, Teal, each	40
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30

CURED AND PICKLED MEATS.	*Price.*
Ham—Real York and Cumberland, per pound	37
Genuine Westphalia, per pound	40
Sugar cured, per pound	20
Sliced, per pound	22
Half, (for boiling), per pound	21
Boiled, per pound	28
Hocks, per pound	18
Beef, salt, family, per pound	12
Bacon, breakfast, whole piece, per pound	25
Sliced, per pound	26
Ham, lunch, per pound	32
Pork, salt, family, per pound	14
Ox tongues, each	1.10
Pigs' feet, per pound	7
Tongues, per pound	18

DAIRY PRODUCTS.	
Butter—Creamery special, per pound	*34
Sheffield Farms, extra fancy, per pound	46
Cheese—Philadelphia cream, cake	10
Roquefort, per pound	35
Young America, per pound	†24
Swiss, per pound	27
Edam, each	75
Edam, tin	25
Parmesan, per pound	35
Gouda, per pound	30
Snappy, per cake	10
Milk (certified), per bottle	**20
Fer-mil-lac, per bottle	**20
Ice cream, quart	‡25
½-gallon	‡50
Cream (certified), per pint bottle	45

VEGETABLES AND FRUITS.	
Beets, per pound	3½
Celery, per head	9
Cabbage, per pound	3
Carrots, per pound	3½
Cauliflower, per pound	10
Green onions, per pound	8
Lettuce, per pound	10
Onions, per pound	*5
Potatoes, white, per pound	3
Potatoes, sweet, tropical, per pound	2
Yams, per pound	*2½
Parsley, per bunch	3
Parsnips, per pound	4
Squash, per pound	7
Turnips, per pound	2½
Tomatoes, per pound	10
Apples, per pound	†9
Grape fruit, American, each	†9
Tropical, each	4
Lemons, per dozen	15
Pineapples, Cuban, each	13
Oranges, Jamaican, per dozen	†16

*Indicates reduction from last list.

**Indicates five cents allowed for return of bottle.

†Indicates advance on last list.

††Fowls weigh each, about, as follows: 3, 3½, 4, 4½, and 5 pounds. Prices are based accordingly; when size ordered is not in stock, next lightest weight is supplied and refund note sent for difference.

‡Sold only from commissaries; no orders taken for delivery.

§Not less than half of a fresh ham or shoulder will be sold.

◆

Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun and Miraflores Lakes for the week ending midnight, Saturday April 11, 1914. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela	Gamboa.	Gatun Lake.	Miraflores Lake.
Sun., April 5	124.9	91.4	84.9	84.9	49.4
Mon., April 6	124.7	91.1	84.9	84.9	49.4
Tues., April 7	124.6	91.0	84.8	84.8	48.8
Wed., April 8	124.7	91.0	84.9	84.8	48.5
Thurs., April 9	124.8	91.2	84.9	84.8	47.8
Fri., April 10	124.6	91.0	84.8	84.8	46.9
Sat., April 11	124.6	91.0	84.8	84.8	46.8
Height of low water to nearest foot	125.0	91.0			

◆

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending April 25, 1914:

DATE.	High	Low	High	Low
	A.M.	A.M.	A.M.	P.M.
April 19	......	4.58	11.22	5.42
			P. M.	
April 20	12.02	6.09	12.34	6.50
April 21	1.12	7.10	1.31	7.46
April 22	2 06	8.01	2.16	8.29
April 23	2 47	8.44	2.53	9.07
April 24	3 22	9.21	3.26	9 42
April 25	3 53	9 56	3 57	10.16

75th meridian time.

◆

Movements of Vessels, Port of Balboa.

The following vessels arrived at, or departed from, the port of Balboa during the week ending April 11:

Arrivals—April 5, *Oberon*, from Port Harford, *Mantaro* from Callao; April 8, *Aysen*, from Valparaiso; April 9, *San José*, from San Francisco.

Departures—April 5, *Lyra*, to San Francisco; April 6, *Quito*, to intermediate ports, *Denver*, to Corinto, *Ucayali*, to Callao, *Peru* (P. S. N.), to Callao; April 7, *Oberon*, to Port Harford; April 11, *Rupanco*, to intermediate ports.

MOVEMENTS OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.		*Sails.*	*Arrives.*
*Colon	P. R. R.	April 14	April 20
*Ancon	P. R. R.	April 20	April 27
*Advance	P. R. R.	April 27	May 3
*Allianca	P. R. R.	May 2	May 8
*Panama	P. R. R.	May 9	May 15
*Advance	P. R. R.	May 16	May 23
*Colon	P. R. R.	May 22	May 28
CRISTOBAL TO NEW YORK.			
†Allianca	P. R. R.	April 20	April 26
†Colon	P. R. R.	April 26	May 2
†Advance	P. R. R.	May 2	May 9
†Panama	P. R. R.	May 9	May 15
NEW YORK TO COLON.			
*Almirante	U. F. C.	April 8	April 15
Prinz Joachim	H.-A.	April 11	April 20
*Calamares	U. F. C.	April 11	April 18
Magdalena	R. M.	April 11	April 20
*Santa Marta	U. F. C.	April 15	April 22
*Pastores	U. F. C.	April 18	April 25
Prinz Eitel Friedrich	H.-A.	April 18	April 28
*Metapan	U. F. C.	April 22	April 29
Prinz Aug. Wilhelm	H.-A.	April 25	May 4
*Tenadores	U. F. C.	April 25	May 2
Oruba	R. M.	April 25	May 3
*Zacapa	U. F. C.	April 29	May 6
Calamares	U. F. C.	May 2	May 9
Prinz Sigismund	H.-A.	May 2	May 11
*Almirante	U. F. C.	May 6	May 13
Trent	R. M.	May 9	May 17
Pastores	U. F. C.	May 9	May 16
Prinz Joachim	H.-A.	May 9	May 18
COLON TO NEW YORK.			
Zacapa	U. F. C.	April 16	April 23
Prinz Sigismund	H.-A.	April 20	April 29
Calamares	U. F. C.	April 22	April 29
Almirante	U. F. C.	April 23	April 30
Prinz Joachim	H.-A.	April 28	May 6
Trent	R. M.	April 28	May 6
Pastores	U. F. C.	April 29	May 6
Santa Marta	U. F. C.	April 30	May 7
Prinz Eitel Friedrich	H.-A.	May 4	May 13
Tenadores	U. F. C.	May 6	May 13
Metapan	U. F. C.	May 7	May 14
Prinz August Wilhelm	H.-A.	May 12	May 20
Orotava	R. M.	May 12	May 20
Calamares	U. F. C.	May 13	May 20
NEW ORLEANS TO COLON.			
Cartago	U. F. C.	April 8	April 15
*Abangarez	U. F. C.	April 11	April 16
Heredia	U. F. C.	April 15	April 22
*Atenas	U. F. C.	April 18	April 23
Parismina	U. F. C.	April 22	April 29
COLON TO NEW ORLEANS.			
‡Turrialba	U. F. C.	April 16	April 21
Cartago	U. F. C.	April 16	April 24
‡Abangarez	U. F. C.	April 23	April 28
Heredia	U. F. C.	April 23	May 1
‡Atenas	U. F. C.	April 30	May 5
BOSTON TO COLON.			
Carrillo	U. F. C.	April 9	April 17
Tivives	U. F. C.	April 16	April 24
Sixaola	U. F. C.	April 23	May 1
Carrillo	U. F. C.	April 30	May 8
COLON TO BOSTON.			
Carrillo	U. F. C.	April 19	April 27
Tivives	U. F. C.	April 26	May 4
Sixaola	U. F. C.	May 3	May 11

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Piers 8, 9, and 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 2 p. m.; for Southampton, on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays at 3 p. m., for New Orleans via Bocas del Toro and Havana, on Thursdays at 4 p.m.; ships for New York, via Kingston, on Thursdays, at 2 p. m.; for New York, via Limon and Havana, on Sundays at 5 p. m.; for Limon and Bocas del Toro on Saturdays at 4 p. m.; for Bocas del Toro direct, on Thursdays at 4 p. m.; and for Boston, via Port Antonio, on Sundays at 3 p. m.

The Hamburg-American steamers *Prinz Eitel Friedrich* and *Prinz Sigismund* sail for New York, via Kingston and Fortune Island, on Mondays at 10 a. m.; the *Prinz August Wilhelm* and *Prinz Joachim* sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays at 10 a. m.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, APRIL 22, 1914. No. 35.

The Canal Record

Official publication of The Panama Canal.

The Canal Record is published weekly free of charge, one copy each, to all employes of The Panama Canal and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Considering Bids on New Tugs.

Bids for two and for four tugs, for use in handling and docking vessels at the entrances to the Canal, were opened by the General Purchasing Officer, in Washington, on March 23. They were forwarded to the Isthmus for consideration by the local officials. A committee consisting of Capt. Hugh Rodman, Superintendent of Canal Transportation, chairman; Mr. W. G. Comber, resident engineer in charge of the Dredging Division, and Naval Constructor C. W. Fisher, superintendent of erection, has been appointed by the Governor to consider the bids and make recommendations. The committee held its first meeting at the office of its chairman in Ancon, on Thursday, April 16.

Ancon-Panama High Service Reservoir Completed.

Concrete work on the new high service reservoir for the water systems of Ancon and Panama, situated on Ancon Hill, was completed on Monday, April 20. One-third of the reservoir has been in service for about two months and the remainder will be used immediately. The completed reservoir has a capacity of 2,500,000 gallons, including the 1,000,000-gallon capacity of the former concrete reservoir, adjacent to the new construction. The entire reservoir has been covered with a 5-inch reinforced concrete slab roof to protect the water from the sun, the rays of which might otherwise cause the growth of objectionable algæ and bacteria in the filtered water.

Recent Changes in Automatic Signals.

Automatic signals between Caimito and Pedro Miguel, were placed in service on April 13.

The existing signals between old Tower "R" and Pedro Miguel have been rearranged on account of the removal of tracks at Tower "R" and Canal Siding, and the elimination of the interlocking plants at Tower "R" and Obispo. Three signals south of New Culebra were relocated on account of vitual interference from the track-span bridges. Twelve new signals were erected between Caimito and the south end of the Chagres River bridge. The entire territory between Caimito and Pedro Miguel now contains 29 automatic signals.

This addition gives continuous automatic signal protection from Colon to Pedro Miguel, a distance of 40.25 miles. There are now 106 power-operated arms in service, consisting of 12 power train order signals, 10 power-operated home signals, and 84 automatic block signals.

Work is now in progress to supersede the staff system at the Miraflores tunnel with automatic signal protection and later to fill in the gap between that point and Pedro Miguel. The automatic signals will then be extended to the north end of the new Balboa yard.

Completion of Municipal Work at Pedro Miguel.

The municipal work authorized to date for the proposed permanent town of Pedro Miguel is practically completed. The street work in the town proper, including the laying of water mains, and sanitary and storm sewers, and the construction of roadways, with curbs and gutters, has been finished. All of the houses in the village have been connected to the new water and sewer systems, and a number of lateral pipes have been laid in provision for future construction. The municipal grading, for drainage, will soon be finished. Grading of the areas devoted to playgrounds will be done separately, after the plots have been definitely located. The forces of the Division of Municipal Engineering are now building a road to the incinerator, which is outside the village limits beyond the hill on which the Canal clubhouse is situated, on the eastern limit of the village.

Curundú Culvert Completed.

The reinforced concrete culvert, 307½ feet long by 25 feet wide, for passing the waters of the Curundú River under the proposed main line of the Panama railroad, leading to Balboa, and numerous tracks of the terminal yards, was completed on April 11, and the river was turned from its temporary diversion channel through the culvert on April 14. The dumping of backfill and support for proposed tracks was begun at the same time, from a trestle directly south of the culvert. Tidal gates of 4-inch timber have been installed at the west, or sea, end of the culvert to prevent tidal inundation of swamps east of the tracks. The position and construction of the culvert were described in THE CANAL RECORD of March 4, 1914.

Fourth Division Steamshovel Operations in March.

During the month of March, the total amount of material excavated by the Fourth Division in Culebra Cut and in the Miraflores Spillway discharge channel was 147,998 cubic yards. All of this amount was primary excavation for the Canal; 45,130 cubic yards were classified as earth excavation, and 102,868 cubic yards as rock excavation. In addition thereto, the Fourth Division excavated at Cocoli Hill 19,520 cubic yards, at Diablo Hill 8,360 cubic yards, and at Pedro Miguel borrow pit 4,480 cubic yards, for backfilling and sanitary fills.

All of the yardage handled by this division was excavated by steamshovels.

Office at Filtration Plant Destroyed by Fire.

The field office of the Division of Municipal Engineering at the site of the filtration plant, under construction near Miraflores Spillway, was destroyed by fire between 4 and 5 o'clock in the morning of Wednesday, April 15. The building, made with corrugated iron walls and roof, was of no great value, and the blueprints for the work at the filtration plant and the pumping station east of the Panama railroad are being replaced by new prints made from the tracings which are stored in a fireproof vault in the head offices of the division, at Gatun; the most serious loss occurred in the destruction of transits, levels, rods, and drafting instruments, and books belonging to the engineers.

Canal Excavation in March.

The grand total of Canal excavation to April 1, 1914, was 219,618,104 cubic yards, leaving 12,734,986 cubic yards remaining to be excavated under the revised estimate of July 1, 1913.

The total excavation for the month of March was 1,226,644 cubic yards, as compared with 1,430,050 cubic yards for February. The wet excavation amounted to 964,055 cubic yards, and the dry excavation to 262,589 cubic yards.

In the Atlantic section, the total excavation for March was 284,634 cubic yards, all by dredges. Of this amount, 259,615 cubic yards were removed from the Atlantic entrance by the suction dredges *Caribbean* and *Culebra*, and 25,019 cubic yards were taken out at the coaling basin.

Of the 617,887 cubic yards excavated in the Central section, comprising Culebra Cut and the Chagres territory, all but 118,278 cubic yards consisted of material removed by the dredges or hydraulic monitors. The dry excavation consisted of material taken out by Fourth Division steamshovels on the west bank of Culebra Cut, south of Culebra village, in relieving the pressure as a preventive against slides. Work was resumed there on April 1, immediately after the closing down of the shovels on the opposite bank, north of Gold Hill. Of the wet excavation, 364,139 cubic yards were removed by dredges from Culebra Cut, including Cucaracha slide, and 135,470 cubic yards were sluiced from the sides of Gold Hill, and at Cucaracha slide.

In the territory of the old Pacific Division, operations by dredges resulted in the removal of 166,092 cubic yards from the inner harbor, and 13,720 cubic yards from the Pacific entrance. Dry excavation in this section amounted to 144,311 cubic yards, of which 114,591 cubic yards were excavated at the terminal site.

A total of 1,279 cubic yards of concrete was placed in the locks, in connection with the installation of machinery.

A detailed statement of excavation, and a summary of the work on the locks and dams, follow:

ATLANTIC SECTION.

LOCALITY.	"Work" Excavation.	"Plant" Excavation.	Total Excavation.
Dry Excavation—	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
Locks, dam and spillway	....	....	....
Mindi	....	....	....
Terminal	....	....	....
Total	....	....	....
Wet excavation—			
Atlantic entrance	259,615	....	259,615
Docks, Dam and Spillway	....	....	....
Terminal	25,019	....	25,019
Total	284.634	....	284,634
Total wet and dry excavation	284,634	....	284,634

CENTRAL SECTION.

Dry excavation—			
Culebra Section	118,278	....	118,278
Total dry	118,278	....	118,178
Wet excavation—			
Chagres Section, dredges	....	....	....
Culebra Cut, dredges	364,139	....	364,139
Culebra Cut, hydraulics	135,470	....	135,470
Total wet	499,609	....	499,609
Total wet and dry excavation	617,887	....	617,887

PACIFIC SECTION.

Dry excavation—			
Locks, dams and spillways	29,720	....	29,720
Terminal	113,497	1,094	114,591
Rio Grande Diversion	....	....	....
Total	143,217	1,094	144,311
Wet excavation—			
Pacific entrance	13,720	....	13,720
Miraflores Locks	....	....	....
Diversions	....	....	....
Terminal	166,092	....	166,092
Total	179,812	....	179,812
Total wet and dry excavation	323,029	1,094	324,123

TOTAL CANAL EXCAVATION.

Dry excavation	261,495	1,094	262,589
Wet excavation	964,055	....	964,055
Total	1,225,550	1,094	1,226,644

LOCKS AND DAMS.

MATERIAL.	Atlantic	Pacific	Total
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*
Concrete placed in locks	208	1,071	1,279
Concrete placed in dams and spillways	....	....	....
Fill placed in dams	31,365	....	31,365

Mean rainfall along Canal (nine stations), 0.26 inches.

By "Work" excavation is meant excavation actually made for one of the constituent parts of the Canal, such as prism, diversions, locks, etc.; that is, it represents material taken from the area to be occupied by the Canal and constitutes excavation useful for the completed Canal.

By "Plant" excavation is meant excavation outside any of the constituent parts of the Canal, such as prism, diversions, locks, etc. It includes material necessary to be excavated for construction purposes only, and is chargeable against the particular plant item for which it is performed, such as prism, diversions, locks, etc.

ESTATES BEING SETTLED.

Claims and Information Should be Directed to Administrator of Estates.

Estates of the following deceased or insane employes of The Panama Canal or Panama Railroad Company are now in process of settlement by the office of the Administrator of Estates. Any claims against these estates or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings or postal money order deposits, or any other moneys due them, should be presented at the office of John K. Baxter, Administrator of Estates, Ancon, C. Z., at once in order that the estate may be settled as soon as possible.

All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once, but notices of other estates in settlement in the future will be published in THE CANAL RECORD.

DECEASED EMPLOYES.

Name.	*M. C. No.*	*Native of*	*Isthmian Residence.*	*Employed by*	*Date of Death.*
Walton Alexander	142523	St. Vincent	Panama	Sixth Division	March 28.
Theodore Antonio	75441	Martinique	Empire	P. R. R.	January 5.
Bernardo Avila	....	Panama	Pedro Miguel	Fortifications	Dec. 18, 1913.
Jules Barrow	24674	Martinique	Paraiso	Fourth Division	April 8.
Augustus Barnham	....	Martinique	Colon	P. R. R.	Dec. 31, 1913.
Joseph Belgrave	112606	Barbados	Empire	Sanitary Dept.	April 8.
Simon Clark	216473	Jamaica	Corozal	Second Division	March 28.
Samuel Duncan	211448	Jamaica	Panama	Quartermaster's	March 16.
Thomas Forrest	177142	Jamaica	Panama	Not known	March 10.
Orani Gavino, alias Biangio	185453	Italy	Pedro Miguel	Second Division	March 18.
Joseph Graham	170724	Jamaica	Empire	Not known	March 29.
Harry Gray	141549	United States	Cristobal	Dredging	April 8.
Eustace Houslin	166733	Jamaica	Culebra	Quartermaster's	March 21.
William N. Hunt	60549	Barbados	San Miguel	Div. Mun. Eng.	Feb. 21.
Samuel Jubilee	170195	Montserrat	Culebra	Second Division	March 25.
George Keizar	185784	Barbados	Cristobal	Mechanical Div.	April 7.
Albert Laport, alias Leonard	86288	St. Lucia	Folks River	P. R. R.	March 27.
Als Leonard, alias Leonard Als	49603	Barbados	Empire	P. R. R.	Feb. 14.
Augustus Lewis	58451	Jamaica	Colon	P. R. R.	March 30.
Thomas Lewis	109167	Jamaica	Gatun	Atlantic Div.	Dec. 16, 1913.
Charles Malcolm	169631	Barbados	Pedro Miguel	Fourth Division	March 22.
Francisco Masa	112813	Panama	Panama	Sanitary Dept.	March 18.
Pastor Medal	14463	Nicaragua	Corozal	Fourth Division	March 20.
Conrad Moore	64173	Barbados	Empire	Quartermaster's	April 4.
Ed Morris	131942	Guadeloupe	Panama	First Division	March 16.
Anton Niemi (Neimi)	205266	Russia	Paraiso	Sixth Division	Jan. 22.
Joseph Niles	126557	Barbados	Panama	Second Division	March 26.
Arilo Noriega	209576	Colombia	Corozal	Fortifications	March 21.
Joseph Nichols	199964	Barbados	Paraiso	Not known	March 20.
A. Nozi	172064	Not known	Panama	Dredging Div.	April 4.
Francis Porte	148817	Barbados	Paraiso	Quartermaster's	March 13.
William Reid	199011	Jamaica	Panama	Fortifications	March 18.
James Richards	184884	Jamaica	Mount Hope	Div. Mun. Eng.	March 11.
James Roach	123995	Barbados	Empire	Fourth Division	March 4.
Aubrey St. Hill	57479	Barbados	Cristobal	P. R. R.	February 5.
Hubert St. Louis	140956	Grenada	Panama	Tivoli Hotel	March 10.
George Shepherd	51102	Barbados	Colon	P. R. R.	April 8.
Arthur (Theophilus) Small	117895	Panama	Colon	Quartermaster's	March 8.
Henry Smith	124011	Jamaica	Panama	Fourth Division	April 9.
Joseph Springer	200594	Barbados	Panama	Div. Mun. Eng.	March 1.
Erno Story	56185	United States	Pedro Miguel	Police Division	March 2.
James Taylor	184978	Jamaica	Gatun	First Division	April 8.
William Telfer	84895	United States	Colon	P. R. R.	Nov. 16, 1913.
Cyril Wright	98515	Jamaica	Colon	Quartermaster's	March 11.

INSANE EMPLOYES.

Name.	*M. C. No.*	*Native of*	*Isthmian Residence.*	*Employed by*	*Date of Commitment.*
Joseph Ames	....	Barbados	Cristobal	P. R. R.	Nov. 30, 1912.
Flavius Ansion	82472	Martinique	Empire	I. C. C.	April 18, 1912.
Manford Berger	145396	United States	Pedro Miguel	I. C. C.	Oct. 2, 1912.
William Broek (Brooks)	47157	Holland	Ancon	Police Division	April 4, 1912.
Joseph Butler	26804	France	Empire	Mechanical Div.	Feb. 28, 1914.
Edward D. Charles	90368	Grenada	Empire	Mechanical Div.	Oct. 8, 1912.
James Crawford	56801	St. Lucia	Gatun	Atlantic Div.	Oct. 26, 1911.
Edmund Critchlow (alias Arthur Novill	89168	Barbados	Unknown	P. R. R.	Oct. 16, 1913.
Lazarus Farquharson	652	Fortune Island	Unknown	P. R. R.	Feb. 3, 1914.
David Ferguson	58498	Fortune Island	Colon	P. R. R.	March 5, 1914.
Manuel Ferria	14994	Portugal	Empire	Central Division.	March 28, 1913.
Enrique Garcia	13096	Spain	Unknown	Unknown	Sept. 15, 1913.
Louis George	....	Martinique	Colon	P. R. R.	April 18, 1912.
Toison Hammachu	....	Japan	Miraflores	I. C. C.	April 18, 1912.
John F. Hern	37833	United States	Ancon	I. C. C.	April 13, 1914.
Simeon Hinds	130790	Barbados	Pedro Miguel	I. C. C.	Oct. 16, 1912.
Joseph Jordan	2835	Barbados	Gatun	P. R. R.	Nov. 27, 1912.
Samuel Lewis	31412	Barbados	Balboa	Quartermaster's	March 28, 1912.
G. Linsa	68747	Colombia	Juan Grande	I. C. C.	April 18, 1912.
Thos. O. Marshall	138126	Barbados	Balboa	I. C. C.	Oct. 14, 1912.
John Palmer	72243	Jamaica	Gorgona	P. R. R.	July 19, 1913.
Ernest Poyer	151717	Barbados	Paraiso	Subsistence	Feb. 11, 1913.
Augustus Reid	56655	Jamaica	Cristobal	P. R. R.	Dec. 31, 1913.
George Richards	55485	Jamaica	Cristobal	P. R. R	May 2, 1913.
Nathaniel Ruett	144349	Barbados	Gatun	Atlantic Div.	Jan. 21, 1914.
Joseph Wickham	164720	Barbados	Empire	Quartermaster's.	Feb. 27, 1914.

Assignments in Wrecking Service.

A committee consisting of Mr. H. H. Rousseau, chairman, Mr. D. C. Nutting, Lieut. F. Mears, and Mr. W. J. Holmes, appointed on April 1, by the Governor, to consider and report on the assignment of wrecking equipment so as best to serve the interests of the Government, has recommended that no changes be made, at this time, in the present assignments. Its report has been approved. One wrecking outfit, using the 100-ton crane No. 32, in charge of the Mechanical Division and stationed ordinarily at Paraiso in the day time, is capable of taking care of all the wrecking work. This crane ties up at night at Empire, principally because most of its crew is quartered there; later, it will probably tie up at Balboa shops. The Mechanical Division has also the 75-ton wrecking crane No. 64 in use at the Mount Hope dry dock shops; while available, it is practically never required for wrecking service.

WOMAN'S CLUB ACTIVITIES.

Seventh Annual Meeting of the Cristobal Woman's Club—General Notes.

The seventh annual meeting of the Cristobal Woman's Club was held in the clubhouse on Wednesday afternoon, April 15. At the close of this meeting, the club adjourned for the season, to reconvene on the first Wednesday in October, 1914. The present officers will hold over until the adjourned session, when new officers will be selected and plans for the year will be made. The meeting on Wednesday took the form of a farewell reception for the president, Mrs. Thomas Edwin Brown, Jr., who expects to leave the Isthmus in a short time. Mrs. Mears, the first vice-president, delivered an address of farewell on behalf of the club, and Mrs. Charles A. Hearne presented the president with a large bouquet of red roses and carnations, in the name of her associates and fellow clubwomen. Special refreshments were served by the social committee. Mrs. Brown has been actively associated with the Cristobal Woman's Club since November, 1908. She was chairman of the philanthropy department in 1908-1909, and president of the club in 1909-1910, and again president in 1913-1914. In 1909-1911, she was president of the Canal Zone Federation of Women's Clubs.

The year of the Cristobal club just closed has been one of the most pleasant and successful years of its activity. Realizing that the membership would be decreasing as the personnel of the Canal force changed, the executive board, at its first meeting, decided to do away with the departments in the club organization and have the meetings open to all the members. The program arranged for each month followed one general subject; at the first meeting, an address was delivered, and at the second meeting the club followed up the same subject, or related topics, with short papers and discussion. The subjects taken up have been, as follows: The newspaper of today, speaker, Mr. Richard Lee Metcalfe; higher education for women, speaker, Miss Mary E. Woolley, president of Mount Holyoke College; eugenics, speaker, Dr. M. E. Connor; popular military education, speaker, Maj. Charles Gerhardt; the Government of the United States, speaker, Justice Thomas E. Brown, Jr.; woman suffrage, socialism, and political parties, speakers, Miss J. M. Beattie and club members.

On April 1, the club gave an informal musical, the program of vocal solos, duets, and trios being rendered by the members of the Cecilian Trio, Mrs. Williamson, Mrs. Diers, and Mrs. Mears, with Mrs. Ullrich as pianist and director. Mrs. Hearne gave a recitation.

The club has expended $80 on philanthropic work during the year; a part of this money was given to the Salvation Army, a donation was made to the colored Sunday schools in Colon and Cristobal, the Christmas box to the leper asylum received a gift, and a sum of money was voted to the relief of a destitute family in Colon. At its last meeting, the club voted $15 to the endowment fund of the General Federation of Women's Clubs.

Obituary.

Helen Spamer, a neice of Mr. J. F. Kelly, living at Ancon, died at Ancon Hospital on Thursday, April 16. She was 13 years old, and had been on the Isthmus three and a half years.

Missing Man.

Any one having information regarding the present whereabouts of Mr. Bert H. Gier, who was formerly on the Isthmus and has not been heard from since September 21, 1913, is requested to communicate with his wife, Mrs. B. H. Gier, 1219 South Erie Street, Massillon, Ohio.

Ancon Study Club.

Meetings of the Ancon Study Club will be held at the Hotel Tivoli on the second and fourth Thursday afternoons in each month, until further notice. The hour of meeting has been changed to 3 o'clock.

Cristobal Club Dance.

The Cristobal Dance Club will hold its "May dance" on Saturday, April 25. It will be a shirt waist dance.

W. H. Marsh, *Secretary.*

Changes at Cristobal Retail Commissary.

The following changes are being made at the Cristobal retail commissary stores, and in future this commissary will be operated on practically the same basis as all line commissaries:

Effective April 21, there will be one delivery of groceries and cold storage daily, the cold storage delivery starting at 6.30 a. m., and the grocery delivery at 9.30 a. m. Beginning April 20, solicitors will call at all Panama Canal married quarters in Colon and Cristobal and take orders for groceries and cold storage to be delivered the next morning.

Solicitors will collect coupons at time of taking orders, provided that until April 30 they will also accept orders to apply on deposits in the commissary cashier's office. The commissary cashier will accept no Cristobal-Colon deposits after April 25, and will close out all Cristobal-Colon deposit accounts on April 30.

No standing bread orders from residents of Cristobal-Colon will be accepted by the commissary cashier after April 30. All such present standing orders will be cancelled on that date, and beginning May 1, bread will be ordered daily with groceries.

Ice notices will be sent to all Cristobal-Colon customers. Payments may be made to solicitors, at the retail stores, or to the commissary cashier.

The women's department and the retail boot and shoe department will remain open during the same hours as rest of the retail stores, effective April 20.

Order of Telegraphers.

There will be a regular meeting of Panama Railroad Division, No. 158, Order of Railroad Telegraphers, in the circuit court room at Cristobal, at 8 p. m., Saturday, April 25.

J. F. Stahl,
Secretary-Treasurer.

Masonic Records will be distributed, as follows:

Cristobal, Sunday, April 26, at the Y. M. C. A., from 9.45 a. m. to 10.30 a. m.; Gatun Sunday, April 26, at the Y. M. C. A., from 1 p. m., to 4.30 p. m.; Pedro Miguel, Monday, April 27, at the Y. M. C. A., from 8 p. m. to 10.30 p. m.; Corozal, Tuesday, April 28, at the Y. M. C. A., from 8 p. m., to 10.30 p. m.; Ancon, Saturday, May 2, at lodge hall (council), 8.15 p. m., to 10 p. m.; Balboa, every working day, at Y. M. C. A., from 11.30 a. m., to 12.30 p. m.; Culebra, Wednesday, April 29, at Y. M. C. A., from 7.45 p. m., to 10 p. m.

J. L. Caldwell,
Secretary-Treasurer.

TO REBUILD ANCON HOSPITAL.

Committee Appointed to Consider Best Way of Placing Hospital on Permanent Basis.

A committee consisting of Capt. R. E. Wood, Chief Quartermaster, chairman, Dr. A. B. Herrick, acting superintendent of Ancon Hospital, and Mr. Samuel Hitt, Canal architect, has been appointed to submit recommendations regarding the most practicable plan for reconstructing Ancon Hospital on a permanent basis.

In appointing the committee, the Governor submitted for its consideration a letter from the Chief Health Officer, in which the latter set forth that many of the buildings in present use are in bad condition, needing constant and expensive repairs, and offered the following suggestions: That a general plan should be drawn up for constructing the entire hospital in concrete buildings, with tile roofs and floors; that the pavilion system, on which the present hospital was laid out, is desirable, but for purposes of economy in construction and administration, the ward buildings should be of two stories; that an effort should be made to concentrate all the administrative features of the hospital in one building, and to place the commissary, and medical and quartermaster's storerooms together; that the Tivoli dispensary should be consolidated with the outpatient department of the hospital; that the two existing steam plants in the hospital should be consolidated, if practicable; and that space for 800 beds should be provided, exclusive of those for the insane, with a minimum allowance of 100 square feet of floor space for each bed.

Reduced Rate to New York Direct.

The General Agent of the United Fruit Company advises that Panama Canal and Panama Railroad Company employes will be charged a reduced rate of $48.75 from Colon to New York, on steamers sailing direct every Wednesday. This rate does not include meals. The agent states that it costs passengers on an average of $2 to $3 per day for their meals under the *á la carte* system.

Public School Athletic League.

A meeting was held at the Pedro Miguel clubhouse on Saturday, April 18, which was attended by those in charge of the physical work of the various clubhouses and a representative of the Division of Schools. It was decided that the schools and the Y. M. C. A. would cooperate in forming a public school athletic league of the Canal Zone, this league to be governed by a board of directors which would consist of the principal or representative teacher from each school, the superintendent and assistant superintendent of schools, physical directors of the Y. M. C. A's, and the superintendent of clubhouses. There will be a local association in each town which will be directly concerned with the organization of the work in that town. The object of the association will be to advance and direct clean athletics among the pupils of the public schools. There will be an executive committee and a committee on games. It is planned to hold an athletic meet to be participated in by the members of this league in the latter part of the month of June.

Personal.

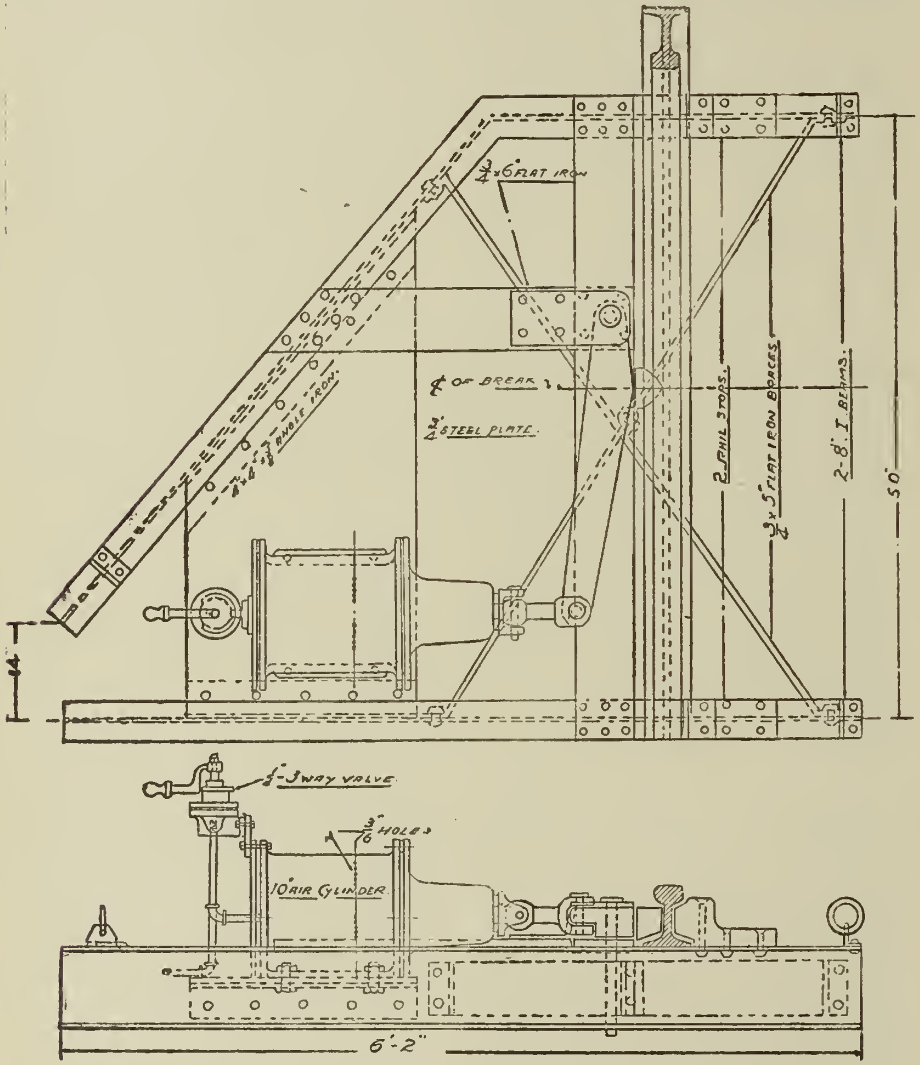
Lieut. F. Mears sails for the United States on his annual leave, on the *Calamares*, sailing for New York on Wednesday, April 22.

BENDING RAILS AND RODS.

Devices in Use in Preparing Reinforcements for Concrete at Balboa.

A device for the quick and economical bending or breaking of railway rails has been designed and assembled at the Balboa terminals. It is in use at Balboa in the preparation of old rails for reinforcement in the concrete construction of the proposed dry dock No. 1.

The plan and end elevation of the apparatus are shown in the accompanying sketches. It consists of a base or table of trapezoidal shape, with a depth of five feet and with its greatest base six feet four inches long, on which is mounted the mechanism for bending or breaking the rail. The base is of ¾-inch steel plate, set on 8-inch I-beams and braced beneath by plates of steel, ¾-inch thick by five inches wide. Heavy studs, or rail stops, are set at each end of the base to hold the rail in place, while the pressure is applied.



PLAN AND ELEVATION OF RAIL-BENDING DEVICE.

The pressure is supplied by a 10-inch air cylinder, with a 10-inch stroke, mounted in one corner of the table. The piston of the cylinder is jointed to a heavy iron bar, two feet four inches long, the other end of which is set in a stationary pivot alongside the rail. Near this fulcrum is attached to the bar a wedge-shaped block of steel which fits between flanges of the rail. The forward stroke of the cylinder thrusts the wedge-shaped block against the web of the rail, midway between the rail stops on the sides of the table. It thus attains the maximum leverage for bending.

The strain thus set up is sufficient to bend the rail to a considerable curvature. In addition, when the rail is under the strain of pressure, it may be broken by a sharp blow from a sledgehammer, applied opposite the point of the wedge-shaped block.

The cylinder is supplied with compressed air, at the regular working pressure. Its operations are controlled by a ½-inch 3-way valve. In order to afford relief of pressure and avoid blowing the cylinder head off if the operator should neglect the proper manipulation of the controlling valve, a row of 3/16-inch holes has been drilled in the cylinder at a point about two-thirds of the distance of the forward stroke.

The outfit weighs about 650 pounds, and is portable. It may be used in railroad construction, for the bending of rails, by connecting the cylinder to the air brake system of a locomotive or train. The cut made when a rail is broken, however, is not clean enough to allow pieces to be joined up properly, in laying track, without finishing them off with a cold chisel.

The system has been very satisfactory in operation at Balboa. A gang using it can bend rails much faster than by any other simple field process, and can break rails a great deal more rapidly than by using the familiar "cold cut" method, of striking repeated sledge-hammer blows on a chisel or pointed hammer held against the side of the rail.

A substitute for the forge and anvil for the bending of steel rods to be used as reinforcement for concrete, also has been placed in use at Balboa, in connection with the construction of the quay wall and pier of the permanent terminals.

It is similar in principle and general form to the apparatus for bending rails. The rods are bent by the thrust of the piston rod of an engine cylinder, while they are held on place on a table in front of the cylinder. The table is a steel plate, bored with number of holes in which movable steel pegs, or studs, are set according to the point and degree of bending desired.

Two such equipments are in use. One uses a single cylinder, 10 inches in diameter, which was recovered from an old French locomotive. This outfit places a single crimp in the ¾-inch rods which are used in the lengthwise beams of the construction, and the cylinder has sufficient power to bend three or four of the rods at the same time. The second equipment employs two 14-inch cylinders, taken from the dumping mechanism of a 2-cubic yard concrete mixer, which are mounted on opposite sides of the table. These make, at one placing on the table, opposite bends in the larger rods which are used in the main girders. They bend, without difficulty, rods as large as 1¼ inches in diameter. All the cylinders are operated by compressed air, under pressure of about 80 pounds to the square inch.

By the use of these equipments, five men are able to bend in an hour as many rods as they could bend in an 8-hour day by the former process of heating them in forges and bending over anvils. As the quay wall and pier require a total of approximately 4,000,000 pounds of bent rods in their reinforcement, the saving in time and money by the use of these equipments is considerable. The cold-bending process, instead of lessening the strength of the steel, is believed to conserve it.

◆

Attendance at Canal Zone Schools.

The Canal Zone public schools were reopened after the Easter holidays of one week on Monday, April 13, with a total attendance of the first day, for both white and colored schools, of 1,360; this number includes the 54 pupils in the high schools at Ancon and Gatun. There were 35 teachers in the white grade schools and seven in the high schools. The number of grade schools for white children is 10; the total attendance on the opening day of school was 863. The largest of these schools is at Ancon, where there were 191 pupils in attendance; the next largest is at Cristobal, where 189 pupils reported, and the third is at Empire, with an attendance of 154. The smallest school is at Porto Bello, where eight children were present on the first day.

The total attendance for the day in the eight colored schools was 497. The largest of these schools is at Cristobal, where there were present 161 pupils on the opening day of school.

The average daily attendance in the white schools for March was 710.7. The average daily attendance in both white and colored schools for March was 1,667.

RECORD OF CANAL WORK SINCE AMERICAN OCCUPATION.

TOTALS BY CUBIC YARDS OF EXCAVATION AND LOCK AND DAM CONSTRUCTION.

[All figures are of work useful for the completed Canal.]

DRY EXCAVATION.

CENTRAL SECTION.

M'THS.	CULEBRA SECTION.*								CHAGRES SECTION.**					
	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1909.	1910.	1911.	1912.	1913.	1914.
Jan	566,750	1,227,022	1,150,249	1,323,693	1,356,394	1,416,035	1,135,580	777,322	389,399	175,802	255,385	28,357	.....	71,710
Feb ..	639,112	1,248,265	1,194,454	1,259,173	1,409,338	1,349,569	996,800	681,580	450,182	286,309	219,550	66,145	......	113,437
March	815,270	1,290,885	1,434,597	1,509,728	1,728,748	1,539,618	1,183,900	617,887	619,491	484,846	297,339	172,607	......	......
April ..	879,527	1,242,574	1,272,746	1,288,845	1,414,336	1,455,216	1,178,000	....	510,020	428,777	102,103	171,731	......	......
May....	690,365	960,840	1,126,963	1,099,279	1,299,100	1,405,760	921,000	....	386,170	248,974	29,783	12,524	......	......
June ...	624,586	1,134,032	1,242,134	1,305,141	1,401,016	1,348,780	865,283	....	275,900	164,389	32,288	8,424	......	......
July ...	770,570	1,121,325	1,200,828	1,153,810	1,337,833	1,335,590	1,037,700	....	233,897	166,106	22,284	776	......	......
August	786,866	1,171,927	1,173,370	1,377,714	1,442,402	1,094,132	893,300	....	231,543	234,404	21,892	....	......	......
Sept. ..	753,468	1,122,860	1,235,978	1,339,948	1,340,173	922,712	448,200	....	235,818	234,290	21,272	....	......	......
Oct	834,499	1,160,101	1,302,901	1,320,314	1,306,971	1,113,420	382,270	....	221,409	271,409	12,216	....	132,703	......
Nov....	790,632	1,022,576	1,070,792	1,209,554	1,209,498	973,071	441,494	....	93,619	260,882	12,248	....	119,092	......
Dec....	1,025,485	1,210,046	1,152,022	1,211,400	1,351,082	1,074,510	736,202	....	105,044	197,481	10,809	....	124,227	......
Totals .	9,177,130	13,912,453	14,557,034	15,398,599	16,596,891	15,028,413	10,219,729	2,076,789	3,752,492	3,153,669	1,037,169	460,564	376,022	185,147

ATLANTIC SECTION.†

PACIFIC SECTION.¶

Mos.	GATUN LOCKS, DAM AND SPILLWAY.††					PEDRO MIGUEL LOCKS AND DAMS.‡					MIRAFLORES LOCKS, DAMS AND SPILLWAY.‡‡					BALBOA T'M'N'LS.§
	1910.	1911.	1912.	1913.	1914.	1910.	1911.	1912.	1913.	1914.	1910.	1911.	1912.	1913.	1914.	1914.
Jan ..	125,011	65,889	1,330	46,773	4,626	17,320	15,690	24,969	1,147	....	31,479	48,744	95,609	26,483	44,830	161,818
Feb..	123,738	50,511	1,228	11,241	....	9,486	6,809	18,480	448	....	15,300	12,936	47,426	12,532	36,801	104,488
Mar..	132,007	51,431	254	35,705	....	6,784	674	1,777	800	....	18,184	72,739	28,352	28,700	29,720	113,497
Apl ..	103,243	12,548	27,134	29,649	....	9,129	255	13,269	620	....	12,148	79,751	29,094	23,255	....	....
May..	82,958	17,677	24,280	1,829	....	10,405	5,905	26,018	127	....	20,250	57,975	13,096	3,778	....	....
June.	88,088	4,840	19,605	388	....	8,420	7,454	7,794	936	....	21,994	38,023	7,906	....	....	....
July..	95,503	6,897	1,974	17,756	....	4,410	6,273	4,412	....	....	11,990	97,884	4,532	....	....	....
Aug ..	99,737	22,558	....	2,161	....	12,789	220	4,866	....	....	17,548	102,249	7,120	....	....	....
Sept..	103,040	3,489	1,025	1,091	....	10,405	3,472	1,613	....	....	8,590	96,112	5,192	....	....	....
Oct ..	118,327	112	1,700	1,383	....	7,433	5,365	1,257	....	....	9,850	107,790	14,107	6,980	....	....
Nov..	94,552	....	2,203	1,210	....	10,636	12,962	2,408	....	....	9,400	84,894	27,728	6,970	....	....
Dec..	72,030	....	16,677	2,168	....	11,195	17,320	3,176	....	....	17,906	79,480	30,319	30,420	....	....
Tot'ls	1,238,234	235,952	97,410	151,354	4,626	128,412	82,399	110,039	4,078	....	194,639	878,577	310,481	139,118	111,351	379,803

*Total to Apr. 1, 1914, 100,827,755 c. yds. Excavated 1904—1906 inclusive, 3,860,717 c. yds; by sluicing, 1,165,594 c. yds,; by dredging, 1,924,263 c, yds.

**Total to Apr. 1, 1914, 12,945,824 cu. yds.; 1907, 192,769 cu, yds.; 1908, 3,787,992 c. yds.; by sluicing, 188,239 c. yds,; by dredging, 561,169 c.yds,

†Dry excavation Mindi Hills 1907-1912, 2,196,198 cubic yards.

¶Excavated various points in prism to Apr. 1, 1914, 4,819,797 cu. yds.; Balboa Locks and Dams, 1907, 78,233 cu, yds.; Outside Prism 1908, 172 cu. yds.

††Total to Apr. 1, 1914, 6,662,779 cubic yards, including 26,628 c. y., 1906; 1,340,179 c, y., 1907; 2,774,561 c. y., 1908; 793,835 c. y., 1909.

‡Total to Apr. 1, 1914, 1,321,063 cubic yards, including 256,780 cu, yds. in 1908, and 739,355 cu. yds, in 1909.

‡‡Total to Apr. 1, 1914, 2,993,019 cubic yards, including 846,920 cu. yds. in 1908, and 511,933 cu. yds. in 1909.

§Total to Apr. 1, 1914, 1,650,957 cubic yards, including 318,731 cu. yds. in 1912, and 952,423 c. y. in 1913.

WET EXCAVATION.

ATLANTIC SECTION.†

PACIFIC SECTION.††

Mos.	ATLANTIC ENTRANCE.§						A'L'TIC TERM.*	PACIFIC ENTRANCE.§§						BALBOA TERMINALS**	
	1909.	1910.	1911.	1912.	1913.	1914	1914.	1909.	1910.	1911.	1912.	1913.	1914.	1913.	1914.
Jan.....	521,050	510,055	520,181	520,228	508,338	102,057	53,734	469,529	518,936	379,810	334,735	215,025	86,585	216,540	205,656
Feb.....	444,910	493,448	455,318	581,399	303,949	289,396	5,727	671,477	285,791	386,866	432,796	239,032	9,275	175,225	135,150
Mar.....	461,208	412,325	391,736	103,373	380,243	259,615	25,019	865,696	462,588	639,761	404,939	379,845	13,720	166,800	166,092
Apl.......	470,635	190,574	492,579	134,261	436,605	....	....	731,767	534,322	439,622	383,995	356,942	....	182,125	....
May.....	315,370	447,578	514,178	229,626	685,163	....	....	720,753	484,509	548,047	388,310	369,703	....	194,510	....
June.....	182,575	458,021	452,098	343,804	814,592	....	....	844,685	475,486	576,100	338,006	604,080	....	31,179	......
July.....	348,451	423,092	425,195	495,398	921,948	....	....	733,181	515,782	520,692	392,511	756,930	....	231,105	....
Aug......	422,846	508,829	367,456	429,415	512,089	....	....	623,263	506,969	630,241	441,644	726,256	....	286,127	....
Sept......	410,574	451,873	420,434	372,302	478,689	....	....	662,976	473,585	534,667	455,059	581,958	....	178,579	....
Oct......	314,778	549,788	470,400	572,783	288,760	....	....	720,920	467,873	329,224	435,726	433,098	....	110,660	....
Nov......	457,889	600,708	742,242	670,247	206,327	....	....	627,791	425,870	346,089	534,273	341,585	....	....	....
Dec	489,121	482,370	533,409	814,373	221,474	....	....	727,460	387,034	141,189	349,747	182,277	....	94,591	....
Totals...	4,839,407	5,523,661	5,785,276	5,267,209	5,756,177	651,068	34,480	8,399,498	5,538,745	5,472,308	4,891,741	5,186,731	109,580	1,867,441	5 6,898

†Dredging, Gatun Dam, 1907, 38,425 cu. yds.; Gatun Locks, 1908-13, 1,776,791 cubic yards.

††Miraflores Locks and Dam, 1909-12, 652,246 cu. yds.; total to Jan. 1, 1914, 652,246 cu. yds.

§Total to Apr. 1, 1914, 38,622,123 cu. yds., including 10,792,375 cu. yds. in 1905-08.

§§Total to Apr. 1, 1914, 41,474,803 cu. yds., including 11,876,200 cu. yds. in 1905-08.

**Total to Apr. 1, 1914, 3,185,709 cu. yds., including 264,556 cu. yds. in 1911, and 546,814 cu. yds. in 1912.

*Total to Apr. 1, 1914, 372,120 cu. yds., including 237,640 cu. yds. in 1913.

CONCRETE IN LOCKS AND DAMS.*

MONTHS.	GATUN LOCKS.†			PEDRO MIGUEL LOCK††			MIRAFLORES LOCKS.‡		
	1912.	1913.	1914.	1912.	1913.	1914.	1912.	1913.	1914.
Jan	34,983	28,085	176	15,003	4,652	3,692	48,416	50,456	3,680
Feb............	26,664	30,780	159	12,639	4,294	813	63,893	34,979	2,358
March	27,532	48,180	208	9,331	13,412	169	83,706	21,030	902
April...........	11,600	22,732	....	9,460	2,145	....	97,735	13,266	....
May............	7,746	13,046	....	10,736	1,144	....	92,095	6,956	....
June	6,095	5,509	....	10,061	773	....	68,398	3,836	....
July	8,093	3,431	....	11,480	1,829	....	66,026	3,811	....
Aug............	6,855	6,258	....	5,995	1,884	....	75,388	3,643	....
Sept............	3,162	442	....	3,039	1,144	....	46,122	1,907	....
Oct.............	3,252	174	....	6,587	412	....	54,790	1,152	....
Nov............	6,029	280	....	7,972	630	....	39,874	2,007	....
Dec............	5,697	120	....	6,958	1,162	....	46,746	1,859	....
Total......	147,708	159,037	543	109,261	33,481	4,674	783,189	144,907	6,940

*Concrete in dams to Apr 1, 1914—Gatun spillway, 232,256 cu, yds.; Miraflores dam and spillway, 79,004 cu. yds.; Pedro Miguel dam, 1,289 cu. yds.

†1,761,344 cu. yds, in 1909, 1910, and 1911. ††780,696 cu. yds. in 1909, 1910, and 1911. ‡572,435 cu. yds. in 1909, 1910, and 1911.

FILL PLACED IN DAMS—1906-1914.

YEAR.	GATUN.		PEDRO MIGUEL	MIRAFLORES.	
	Wet	Dry	Dry	Wet	Dry
	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.
To January 1, 1911..............	5,833,076	6,128,105	260,852	294,712	609,863
1911..............................	3,493,388	2,613,066	57,669	366,336	460,514
1912..............................	1,402,501	2,499,092	352,159	....	418,042
1913..............................	....	910,741	25,258	....	246,640
1914..............................	....	37,689	....	....	23,364
Totals..........................	10,728,965	12,195,017	695,938	661,048	1,758,423

CANAL EXCAVATION TO DATE.

By French Companies..		78,146,960
French excavation useful to present Canal..............................		29,908,000
By Americans—		
Dry excavation..	129,657,626	
Dredges	89,961,482	
Total..		219,619,108
May 4 to December 31, 1904	243,472	
January 1 to December 31, 1905	1,799,227	
January 1 to December 31, 1906	4,948,497	
January 1 to December 31, 1907..............................	15,765,290	
January 1 to December 31, 1908..............................	37,116,735	
January 1 to December 31, 1909..............................	35,096,166	
January 1 to December 31, 1910	31,437,677	
January 1 to December 31, 1911..............................	31,603,899	
January 1 to December 31, 1912	30,269,349	
January 1 to December 31, 1913	27,177,960	
January 1 to March 31, 1914..............................	4,160,836	

TOTALS BY SECTIONS AND AMOUNTS TO BE EXCAVATED.

SECTIONS.	Amount excavated.		Remaining to be excavated.	
Atlantic—				
Dry excavation..........................	8,858,977	49,668,436	*3,977	3,498,564
Wet	40,809,459		3,502,541	
Central—				
Culebra Cut..........................	100,811,360	113,773,579	4,200,640	3,923,421
All other points..........................	12,962,219		*277,219	
Pacific—				
Dry excavation..........................	10,863,241	56,175,999	*75,241	5,313,001
Wet	45,312,758		5,388,242	
Grand total..........................		219,618,014		12,734,986

*Estimate exceeded by this amount.

CANAL MEDAL LIST.

Below are lists of employes of the Isthmian Canal Commission who are entitled to received a Canal medal or a service bar. The date shown opposite each name is that from which medal or bar service is computed.

There are four lists. Those who have served continuously from 1911 to 1913 are entitled to medals. Those who have completed two periods of two years each of continuous service are entitled to a first bar. Those who have completed three periods of two years each of continuous service are entitled to a second bar. Those who have completed four periods of two years each of continuous service are entitled to a third bar.

There are also four lists for employes of the Panama Railroad Company, arranged in the manner above indicated.

The lists are now published in order that they may be carefully checked by those interested. Any omissions, errors in spelling of names, or in the dates from which service is reckoned should be promptly reported to the office of the Executive Secretary, Culebra.

Heads of divisions are requested to check carefully their lists of American silver employes and report any omissions on the medal or bar lists.

As soon as the lists are revised, consecutive numbers will be assigned, according to dates of service, employes who entered the service on the same date having their names arranged according to alphabetical order of surnames.

The lists will then be forwarded to the Washington Office of The Panama Canal, where arrangements will be made for the proper engraving.

Distribution of the medals and bars will be made about October of this year, and ex-employes will receive their medals or bars from the Washington Office.

Name.	*Date.*
1911–1913	
Allen, William J	Jan. 3
Best, Virginia	Jan. 3
Booz, Wm. A	Jan. 3
Baldensperger, J. G	Jan. 4
Hamlin, Henry G	Jan. 4
Crawford, James E	Jan. 5
Fisher, E. B	Jan. 5
Greenwald, Max	Jan. 5
Lockwood, Jack	Jan. 5
McKee, James O	Jan. 5
Ridge, Aloysius P	Jan. 5
Young, Charles F	Jan. 5
Conneller, Martin	Jan. 6
Murray, Homer H	Jan. 6
Snyder, H. Van B	Jan. 6
Feild, Eaton J	Jan. 10
Welch, Edward F	Jan. 10
Welch, Joseph L	Jan. 10
Lewis, Robert	Jan. 11
Upp, Clarence R	Jan. 11
MacDonald, D. F	Jan. 12
Parker, William	Jan. 13
Adams, George R	Jan. 16
Darling, Wm. W	Jan. 16
Kindall, Edwin L	Jan. 16
Riley, Lewis E	Jan. 16
Stratton, Harry E	Jan. 16
Meyers, Ernest H. W	Jan. 17
Spriegel, J. G	Jan. 17
Vason, David A	Jan. 17
Benton, Henry L	Jan. 19
Brummett, John A	Jan. 19
Shahen, Albert C	Jan. 19
Smith, Sidney S	Jan. 19
Woods, Louis E	Jan. 20
Irwin, Ralph B	Jan. 22
Sterner, Edward J	Jan. 22
Wilson, Sam B	Jan. 22
Fairbanks, C. M	Jan. 23
Sugrue, John P	Jan. 23
O'Connell, M. E	Jan. 25
O'Shea, Valentine A	Jan. 25
Ottman, Harry M	Jan. 25
Gilbert, G. A	Jan. 27
Mitchell, Lee	Jan. 27
Abdaile, Wm. R	Jan. 28
Hedther, Emil	Jan. 28
Wright, Wm. J	Jan. 30
Curran, Frank T	Feb. 1
Welch, Edward L	Feb. 1
Leverett, Hugh L	Feb. 2
Concklin, Arthur	Feb. 3
Dorroh, David T	Feb. 3
Fitzpatrick, J. J	Feb. 3
Ryckeley, Robt. W	Feb. 3
Tracy, Norman H	Feb. 3
Radinger, Louis	Feb. 4
Buchanan, Frank V	Feb. 6
Kelly, George A	Feb. 6
Perry, Alexander	Feb. 6
Rukgaber, Harry	Feb. 8
Murphy, Thomas F	Feb. 8
Williamson, R. A	Feb. 8
Light, David W	Feb. 9
Banks, Wm. F	Feb. 10
Barcroft, Glenn A	Feb. 10
Campbell, George W	Feb. 10
Bucklin, Roger G	Feb. 14
Gill, Herbert D	Feb. 14
Wolverton, Emmett	Feb. 14
Calhoun, C. C	Feb. 16
Grandahl, C. J	Feb. 16
Miller, William	Feb. 16
Nason, Helen C	Feb. 16
Pearce, Harry A	Feb. 16
Harmon, Frederic A	Feb. 18
Frederick, Wm. H	Feb. 20
Beyer, Walter F	Feb. 23
Hider, George T	Feb. 23
Oxford, Sam R	Feb. 23
Davis, Wm. S	Feb. 24
Christensen, C. P	Feb. 28
Ford, John W	Feb. 28
Davis, Will	Mar. 1
Edmundson, C. R	Mar. 1
King, B. B., Jr	Mar. 1
Melene, Charles	Mar. 2
Parker, W. Edgar	Mar. 2
Crowe, Charles E	Mar. 3
Smith, James H	Mar. 5
Strangford, J. A	Mar. 6
Thompson, Peter	Mar. 6
Albright, G. F	Mar. 7
Baker, Edward F	Mar. 7
Lovell, Ernest	Mar. 7
Furlong, James P	Mar. 8
Nyholm, Martin	Mar. 9
Ritter, Edgar E	Mar. 11
Selzer, Isreal M	Mar. 13
Lewis, Charley M	Mar. 14
Bolz, William	Mar. 15
Baxter, W. M., Jr	Mar. 16
Brewer, E. G	Mar. 16
Caldwell, John	Mar. 17
Harris, J. A., Jr	Mar. 17
Cason, John F	Mar. 20
Guynn, Geo. F	Mar. 20
Hull, Wm. H	Mar. 20
Stapler, John R	Mar. 22
Classen, Josef	Mar. 23
Rosenthal, Sam	Mar. 24
Colgan, J. F., Jr	Mar. 29
Summerson, H	Mar. 29
King, Henry S	Mar. 30
Emerson, Wm	Apr. 1
Honer, Fred H	Apr. 4
Tanner, Hedrick G	Apr. 5
Bettes, R. S	Apr. 6
Cousineau, W. C	Apr. 10
Harvey, Wm	Apr. 10
Green, Charles	Apr. 11
Hazen, Carl D	Apr. 13
Sausman, George	Apr. 13
Vander Voort, S. M	Apr. 17
Forsyth, J. A	Apr. 24
Jones, J. W	Apr. 25
Jackson, Wm. H	Apr. 26
Johnson, Harry C	Apr. 26
Kimler, Eugene C	Apr. 26
Coleman, John M	Apr. 27
Gallagher, J. R	Apr. 27
Gray, Ellsworth	Apr. 27
Noble, Frank M	Apr. 28
Wieshofer, John	Apr. 28
Brown, C. H	Apr. 30
Haglund, G. E	Apr. 30
Harvey, A. H	Apr. 30
Heltemes, W. M	May 4
Grow, Harry T	May 5
Hart, E. J	May 5
Lowande, A. C	May 5
Spencer, H. E	May 9
Butters, G. W	May 12
Cunningham, G. W	May 12
Lederle, John	May 12
Lytle, George	May 12
Terrell, H. G	May 13
Moyer, Robt. E	May 15
Waterbury, Lee	May 17
Collier, G. P	May 18
Mcroney, W. H	May 18
Smith, Homer A. A	May 18
Gibson, James, Jr	May 19
Kaiser, Fred	May 19
Rudd, R. C	May 19
Wright, R. H	May 19
Nowacki, J. W	May 22
Hough, Wm	May 23
Miller, John F	May 23
Peyton, H. A	May 24
Pierce, C. L	May 24
Dailey, E	May 25
Easter, Frank M	May 25
Fraser, C. J	May 26
Collins, A. Bert	May 27
Campbell, Clyde	May 30
Colgin, L. B	May 30
Quinn, W. P	May 30
Compton, Harry	June 1
Cross, Fred S	June 1
Engelke, H. W	June 1
Wright, J. M	June 1
Keenan, W. H	June 2
Kennett, S	June 2
McCullan, Ethel H	June 3
Knutson, Lea	June 6
Garrison, Jane M	June 10
Bonds, Milton S	June 12
Steelman, L. B., Sr	June 12
Hulcher, L. F	June 15
Butcher, Adrian M	June 16
Zemer, Wm. F	June 17
Green, Louise M	June 18
Sjoblom, Axel T	June 18
Davis, Wm. H	June 21
Christ, L. E	June 22
Conger, Floyd J	June 22
Edgerton, L	June 22
Langston, J. A	June 22
Morris, Raymond S	June 22
Ackles, M. A	June 22
Baldwin, E. W	June 23
Bessey, Roy F	June 23
Doyle, Wm. J	June 23
Ford, A. P	June 23
Prior, B. F	June 23
Worsley, R. C	June 23
Brown, W. B	June 28
Brugge, Ruth M	June 28
Dunn, Lawrence H	June 30
Klock, Maud A	June 30
McCullough, E. B	June 30
Maley, John W	June 30
Scott, A. N	June 30
Thompson, R. B	June 30
Will, James C	June 30
Jennings, W. P	July 5
Paul, A. H	July 5
Dill, Robt. L	July 7
Gallivan, J. D	July 7
Kelley, E. B	July 7
Langkop, C	July 7
Peters, F. C	July 7
Louden, Edgar W	July 10
Rosenquist, A. R	July 11
Caldwell, John L	July 13
Hall, Fred P	July 13
Kleene, W. P	July 13
Stillwell, E. D	July 13
Wilson, Albert	July 13
Weil, Arthur	July 14
Jones, A. H	July 15
Jenkins, J. E	July 18
Baker, Jesse A	July 19
Hall, Wm. T	July 19
Loeb, A. M	July 19
Warner, Brinton L	July 19
Waters, E. E	July 20
Paul, Seymour	July 21
Kalar, John D	July 25
Russell, Julius C	July 25
Woodsum, C. K	July 25
Brady, Fred J	July 27
Fuentez, T. T	July 28
Thompson, H. A	July 28
Brasile, B. F	July 29
Schrickel, Carl	July 31
Green, Switzer J	Aug. 1
Hoffman, W. E	Aug. 1
Mitchell, W. F	Aug. 4
Mathues, W. F	Aug. 6
White, G. B	Aug. 6
Quigg, F. A	Aug. 7
Brown, Colin C	Aug. 8
Richards, J. D	Aug. 9
Ivanhoe, L. F	Aug. 10
Becksted, L	Aug. 11
Andrus, A. G	Aug. 14
Watkins, T. J	Aug. 16
Cason, J. B	Aug. 17
McCracken, R. W	Aug. 17
Davy, E. D	Aug. 18
Dunfey, M. J	Aug. 18
Fawks, Wm. A	Aug. 18
Nickerson, Fred M	Aug. 18
Sprau, E	Aug. 18
Burns, L. T	Aug. 22
Conner, F. F	Aug. 22
Ising, H	Aug. 22
Behlen, E	Aug. 25
Burns, J	Aug. 25
Huckleberry, N	Aug. 25
Lester, C	Aug. 25
Smith, J. P	Aug. 25
Webber, B. C	Aug. 25
Rathgeber, J. E	Aug. 26
Sims, E	Aug. 28
Wescott, A. F	Aug. 30
Bonelli, R. P	Aug. 31
Hill, A. R	Aug. 31
McKinley, D., Jr	Aug. 31
McLoone, J. J	Aug. 31
Murphy, D. A	Aug. 31
Hauss, L. F	Sept. 1
McGraw, J. M	Sept. 1
Schwartzenholzer, C	Sept. 1
Taylor, A. R	Sept. 1
Engelke, G. N	Sept. 5
Brewerton, R	Sept. 6
Heuman, L	Sept. 6
House, G. W	Sept. 6
Watson, J. B	Sept. 7
Schackelton, S. D	Sept. 8
Fitzpatrick, F. J	Sept. 9
Davenport, W. P	Sept. 10
Kunkel, E. F	Sept. 11
Langenfeldt, J	Sept. 11
Lemee, L. A	Sept. 11
Malloy, J. E	Sept. 11
Taber, P	Sept. 11
Schwartzenholzer, L. F	Sept. 12
Stephos, C	Sept. 13
Luke, James	Sept. 14
Titus, H. A	Sept. 14
Roth, E	Sept. 15
Christian, J. A	Sept. 16
Cole, Paul	Sept. 16
Ward, S. B	Sept. 16
Baker, A. E	Sept. 18
Cummings, G. F	Sept. 18
Galadzinski, J	Sept. 18
Hoopes, L	Sept. 18
Landwehr, P. J	Sept. 18
Marshall, J	Sept. 18
Otis, A. N	Sept. 18
Sinn, Louis	Sept. 20
Cook, Otis P	Sept. 21
Haymond, O. R	Sept. 21
Brunson, J. H	Sept. 22
Von Balsan, D. C	Sept. 22
Carney, W. F	Sept. 24
Grauten, S. H	Sept. 24
McNaught, Roy J	Sept. 24
Menninger, C. H	Sept. 24
Mills, E. F	Sept. 24
Pray, Wm. L	Sept. 24
Sullcr, J. J	Sept. 24
Partlow, P. L	Sept. 26
Cummings, W. C	Sept. 27
Fry, Harry F	Sept. 28
Grimes, C. A	Sept. 28
Griset, L. E	Sept. 28
Nado, Peter	Sept. 28
Sprecken, F. D	Sept. 28
Sweeney, J. R	Sept. 28
Willey, Norman B	Sept. 28
Cline, Wm. J	Sept. 29
Shuff, Asa H	Sept. 29
Joiner, Wm. P	Sept. 30
Dunn, Shellie M	Oct. 1
Hine, F. L	Oct. 1
Prather, D. L	Oct. 1
Purvis, J. E	Oct. 1
Sessions, Cora E	Oct. 1
Barnard, Wm. A	Oct. 2
Bermudes, P	Oct. 2
Preston, R. T	Oct. 2
Montgomery, R. A	Oct. 4
Bowen, W. S	Oct. 5
Hansen, N. Chris	Oct. 5
Kountz, Wm. R	Oct. 5
Stratton, Wm. J	Oct. 5
Strom, C. A	Oct. 5
Woodland, T. W	Oct. 5
Bishop, A. N	Oct. 9
Ganter, Wm. J	Oct. 9
Hemphill, T. F	Oct. 9
Cornett, N. J	Oct. 11
Dwelle, R. L	Oct. 12
Fels, J. G	Oct. 12
Kane, C., Jr	Oct. 12
Kunz, H. A	Oct. 12
Lamont, W. S	Oct. 12
McNamara, J. W	Oct. 12
Meyer, J. W	Oct. 12
Miner, A. L	Oct. 12
Read, A. O	Oct. 12
Smithies, C. T	Oct. 12
Taylor, S. S	Oct. 12
Thiele, R. E. A	Oct. 12
Zetek, James	Oct. 12
Haggerty, F. E	Oct. 13
Gramlich, G	Oct. 14
Johnson, Axel	Oct. 16
Nelson, J. F	Oct. 16
Roos, H. A	Oct. 16
Aanstoos, T. A	Oct. 18
King, Eugene R	Oct. 18
Winters, W. H	Oct. 18
Campbell, W. H	Oct. 23
McDonald, H. B	Oct. 25
Shipos, J. L	Oct. 25
Gardner, E. F	Oct. 26
Crooks, T. H	Oct. 30
Curyea, L. L	Oct. 30
Dorsey, S. C	Oct. 30
Robinson, B. J	Oct. 30
Shearer, T	Oct. 30
Steitz, O	Oct. 30
Monahan, B	Oct. 31
Greening, J. P	Nov. 1
Peay, T	Nov. 2
Ridge, S. M	Nov. 4
Hagan, J. C	Nov. 6
Hendricks, M. E	Nov. 6
Madison, Pauline J	Nov. 6
Walsh, F. L	Nov. 6
Hoecker, A. L	Nov. 9
Swallow, G. E	Nov. 9
Warner, J. G	Nov. 9
Ferguson, C. M	Nov. 12
Mallory, B. H	Nov. 12
Ware, J. V	Nov. 14
Benson, C. M	Nov. 15
Eckardt, A. R	Nov. 15
Leitch, J. B	Nov. 16
Pickens, H. R	Nov. 16
Conner, Anna	Nov. 17
Greenwood, H. E	Nov. 17
Wright, Lawrence C	Nov. 17
Patrick, J. B	Nov. 18
Wallace, W. H	Nov. 19
Bates, J. E	Nov. 20
McNamara, B. L	Nov. 20
Bruner, M. M	Nov. 22
Pollard, W. H	Nov. 22
Landers, C. E	Nov. 23
Williams, Wm. H	Nov. 23
Eldredge, B. C	Nov. 24
Grossberg, A. S	Nov. 24
Roussin, A	Nov. 24
Storing, J. F., Jr	Nov. 24
Thorpe, E. R., Jr	Nov. 24
Tilton, E. L	Nov. 24
Valdes, Pelayo	Nov. 24
Wentsler, H. E	Nov. 24
Lopez, E. A	Nov. 27
Mitchell, A. R	Nov. 27
Stetler, Elmer	Nov. 28
Edlund, Henning	Dec. 1
Garrison, J. D., Jr	Dec. 1
Cullen, Charles P	Dec. 7
Patterson, R. A	Dec. 7
Silver, J. T	Dec. 7
Taylor, Ryland G	Dec. 7
Zion, Samuel	Dec. 7
Maxwell, J. E	Dec. 8
Schultz, Mabel M	Dec. 9
Williams, F. E	Dec. 9

1911.

Name.	*Date.*
Wentsler, N. E	Dec. 11
Burgoon, Marie P	Dec. 13
Andrew, Park T	Dec. 14
Chadbourne, P. H	Dec. 14
Judge, L. F	Dec. 14
Sensenbach, W. F. R	Dec. 14
Wilson, Ada A	Dec. 18
Doran, R. P	Dec. 20
Fatland, Carl O	Dec. 20
Lombard, R. H	Dec. 22
Mitchell, McDuffy	Dec. 23
Bush, George H	Dec. 27
McEwan, James	Dec. 27
Godbold, W. W	Dec. 28
McIntyre, B. W	Dec. 28
Mountain, John F	Dec. 30
Simno, Jules	Dec. 30

FIRST SERVICE BARS.

1909-1913.

Name.	*Date.*
Burn, Wm. J	Jan. 2
Dow, George C	Jan. 2
Woodford, E. T	Jan. 2
Bartlett, Wm. J	Jan. 4
Walton, Edwin	Jan. 4
Webster, A. J	Jan. 4
Wilson, John W	Jan. 4
Aitken, S. C	Jan. 5
Erickson, C	Jan. 5
Ivani, Leo	Jan. 5
Murphy, E. I	Jan. 5
O'Brien, John	Jan. 6
Wilson, A. S	Jan. 6
Fletcher, F. E	Jan. 7
Elliott, C. H	Jan. 8
Kosier, F. R	Jan. 8
Sloan, Samuel	Jan. 8
Harrison, Robt. W	Jan. 9
Snyder, Henry	Jan. 11
Ray, C. R	Jan. 12
Green, G. W	Jan. 13
Black, James D	Jan. 14
Brugge, William	Jan. 14
Shea, Mary M	Jan. 14
Bashner, J. F	Jan. 15
Kent, Wm. E	Jan. 18
Spearman, Edward	Jan. 19
Barber, C. W	Jan. 20
Fisher, E. M	Jan. 20
Riley, Geo. B	Jan. 20
Snyder, Robt. M	Jan. 20
Howard, Charles A	Jan. 21
Mitchell, F. J	Jan. 21
Elder, R. M	Jan. 22
Treiber, J. G. B	Jan. 22
Williams, Leroy G	Jan. 22
Johnson, James E	Jan. 23
Wall, John J	Jan. 23
Charnley, T. H	Jan. 25
Hamill, Michael, Jr	Jan. 25
McIntyre, P. J	Jan. 25
Dullahan, B. F	Jan. 26
Fitch, Fred R	Jan. 26
Howard, Geo. E. L	Jan. 26
Larsen, Christian	Jan. 26
Hoff, George S	Jan. 27
Keyes, Harry C	Jan. 27
Wright, A. W	Jan. 29
Lindell, John	Feb. 1
Molloy, John	Feb. 1
Wardlaw, J. L	Feb. 1
Barnes, T. W	Feb. 2
Bluhm, H. W	Feb. 2
Byrne, J. L	Feb. 2
Johnson, Olof W	Feb. 2
Jones, Hartwell B	Feb. 2
Woodward, Maxwell E	Feb. 2
Brown, John M	Feb. 3
Billington, H. S	Feb. 7
Jackson, C. M	Feb. 7
Wieben, J. J. D	Feb. 9
Betterton, Edw. L	Feb. 10
Mattimore, J. A	Feb. 11
Neal, C. H	Feb. 11
Carkeet, G. E	Feb. 12
Morrow, J. E	Feb. 12
Warrick, J. M	Feb. 12
Stuert, S. B	Feb. 13
Duvall, F. A	Feb. 14
Livingston, A. T	Feb. 14
Olson, Olef	Feb. 14
Parker, N. E	Feb. 14
Baird, John W	Feb. 16
Severn, John T	Feb. 16
Hollands, Wm. M	Feb. 18
Alexander, Alice	Feb. 20
McNevin, J	Feb. 23
Buell, Wm. P	Feb. 25
Jasen, J. H	Feb. 25
Nichols, Otho W	Feb. 25
Fabian, Lionel J	Mar. 1
Ridpath, W. M	Mar. 1
Wolf, C. A., Jr	Mar. 1
Clinton, Geo. P	Mar. 3
Ferris, Geo. C	Mar. 3
Jones, C. O	Mar. 3
Van Fleet	Mar. 3
Jacobs, J. E	Mar. 5
Woods, L. F	Mar. 5
Geddes, Thomas	Mar. 8
Smith, J. W	Mar. 8
Hinton, Robt. C	Mar. 10
Norcross, D. B	Mar. 10
Quinn, E. P	Mar. 10
Stumpf, Geo. W	Mar. 10
Albright, Myron	Mar. 11
Matthews, John P	Mar. 11
Smith, C. F	Mar. 11
Miller, J. E	Mar. 13
Ogorek, J	Mar. 14
Hanson, B. L	Mar. 15
Naecker, S. F	Mar. 16
Bearup, A. H	Mar. 17
Lundin, Al	Mar. 18
Drake, Edwin E	Mar. 19
Keeling, A. M	Mar. 19
Allexan, J	Mar. 20
Tarlton, W. H	Mar. 20
Bixel, C. W	Mar. 21
Lewis, F. H	Mar. 21
Logan, C. R	Mar. 21
McBeth, R. W	Mar. 21
McCray, C. L	Mar. 21
McDonald, J. A	Mar. 21
Millrick, H. S	Mar. 21
Plankenhorn, G. N	Mar. 21
Lucey, Wm. J	Mar. 22
Heald, F. L	Mar. 24
Bryson, G	Mar. 25
Allgeier, M	Mar. 26
Morgan, C. W	Mar. 26
Balderacch, A. L	Mar. 27
Mettike, E. G	Mar. 28
Cage, Elsie	Apr. 1
Newbold, A. G	Apr. 1
Osterhout, P	Apr. 1
Sanders, J. T	Apr. 1
Wilson, Delaplane	Apr. 1
Chase, H. D	Apr. 2
Frost, R	Apr. 3
Jackson, W. K., Jr	Apr. 3
MacNeil, H. T	Apr. 3
Pickard, R. J	Apr. 3
Rossiter, L. J	Apr. 3
Elliott, Ira L	Apr. 4
Anderson, Carl	Apr. 5
Eppley, R. W	Apr. 7
Carr, C. C	Apr. 8
Fetterman, D. A	Apr. 8
McDonald, N. A	Apr. 8
Miller, F. G	Apr. 8
Runyan, R. W	Apr. 8
Morris, T. J	Apr. 9
Driver, H. J	Apr. 10
Houchin, J. W	Apr. 10
Eason, J. D	Apr. 12
Lenham, M. N	Apr. 12
Beark, W. A	Apr. 14
Cobb, C. I	Apr. 14
Dain, H. J	Apr. 14
Hartman, H. W	Apr. 14
Hemby, C	Apr. 14
Loeck, F	Apr. 14
Mezger, F. C., Jr	Apr. 14
Newton, F	Apr. 14
Post, B. H	Apr. 14
Gibson, A. M	Apr. 15
Larzelere, C. B	Apr. 20
Lomman, C. F	Apr. 20
Ross, John	Apr. 20
Fortie, John	Apr. 21
Johnson, C. A	Apr. 21
Holt, J. M	Apr. 23
Ashley, K. M	Apr. 24
Cross, L. A	Apr. 27
Friedman, Sigmund	Apr. 27
Jones, A. N	Apr. 27
Sweek, F. J	Apr. 27
Walter, A. S	Apr. 27
Weber, Edwin L	Apr. 27
Decker, E. H	Apr. 28
Harrington, C. A	Apr. 28
Poltrino, L. A	Apr. 28
Hanbury, G. H	May 1
Langvardt, Niels	May 1
Davis, Calvin C	May 2
Hanson, Bernice D	May 2
Smith, H. K	May 2
Klause, Wm	May 3
Greene, W	May 5
Kemper, W. E	May 5
Nink, G. W	May 5
Reese, Pee Wee	May 5
Renaud, E. L	May 5
Whelan, Ambrose L	May 5
Whelan, Fenton	May 5
Glawson, R. L	May 6
Snyder, W. T	May 8
Mason, Chas. F	May 9
Shick, H. W	May 9
Peterson, M	May 11
Ranje, H. H	May 11
Ward, L. E	May 13
Benny, Wm. E	May 14
Dumville, B. B., Jr	May 14
Langel, Louis	May 14
McLean, Frank	May 14
Ruckert, H. E	May 14
Williams, J. R	May 14
Cody, James	May 17
Percy, John W	May 17
Griffin, A. T	May 20
Litt, Ben M	May 20
McClosky, J. W	May 20
Roberts, P. L	May 20
Sherry, L. E	May 20
Swain, John	May 20
Gildea, J. P	May 21
Clutter, C. W., Jr	May 22
Lumby, T. L	May 22
Graham, J. H	May 24
Green, F. E	May 26
Harrison, Wm. T., Jr	May 26
McCormick, J. J	May 26
Misal, Charles	May 26
Murwin, Wm. H	May 26
Ross, W. G	May 26
Van Maren, Fred	May 26
Whartenby, A. W	May 26
Shute, C. M	May 27
Feige, Chas. H	May 28
Fullinwider, Ed. R	May 29
Meacham, F. C	May 31
Fellows, F. E	June 1
Hill, E. W	June 1
Markham, Wm	June 1
Newhard, Sam W	June 1
Dunn, Wm. H	June 3
Larsson, Axel B	June 3
Parsons, F. E	June 4
Cassanova, Victor	June 5
Vaughan, J. H	June 5
Watts, H. C	June 5
Fleming, R. C	June 5
Barr, Marion	June 8
DeBard, H. D	June 8
Hugh, H. F	June 8
Reeves, J. M	June 8
Schellhaus, Wm. G	June 8
Scull, Lewis M	June 8
Watson, Fred C	June 8
Zeller, A. D	June 8
Seaborn, R. G	June 9
Blackburn, Wm. H	June 10
Brown, George W	June 14
Drennan, L. M	June 14
Liemandt, Max	June 14
Sundberg, P. J	June 14
Weitzel, H. E	June 14
Beyer, M. E	June 15
Lawrence, T. M	June 15
Lewis, L. H	June 15
Morris, A. F	June 15
Jackson, H. H	June 16
Russell, Wm	June 16
Fowler, J. W	June 17
Jones, Wm. A	June 17
Hilman, John	June 18
Hirsh, F. H	June 18
Mitchell, F. A	June 18
Reeve, A. L	June 18
Parker, F. E	June 21
Whitsel, F. H	June 22
Geddes, J	June 23
Miller, G. E	June 23
Conneely, J. E	June 24
Eriksen, C. E	June 24
Hunsecker, F. S	June 24
Johnson, J. C	June 24
Lauritzen, W. C	June 24
Smith, W. D	June 24
Williams, L. E	June 24
Conway, Edward Z	June 26
Kunce, A. L	June 28
Sessions, W. W	June 28
Calhoun, C. H	June 30
Whiston, G	June 30
Boyd, A. P	July 1
McClain, F. R	July 1
Nelson, Geo. F	July 1
Eppley, Russell S	July 2
Hall, Peter A	July 2
Fessler, A. L	July 3
Barbas, M. E	July 6
Gray, Wm. A	July 6
Engelke, H. N	July 7
Gill, Matt	July 7
DePoorter, Louis	July 8
Johnson, Robt. B	July 8
Brown, J. H	July 9
Bryson, Edw	July 9
Donnelly, J. W	July 9
Gambrill, Wm. S	July 9
James, Sam. H	July 10
Arnold, John H	July 12
Huber, J. Fred	July 12
Swinter, V. S	July 12
Blackburn, R. L	July 13
Bratt, E. O	July 13
Catlin, Wm. R	July 13
Cramer, C. W	July 13
Kramer, G. D., Jr	July 13
Nygren, Victor W	July 13
White, Jonas E	July 13
Cronk, Henry E	July 14
O'Shea, Patrick	July 17
Burns, T. F. A	July 18
Quinn, Peter	July 18
Ruggles, M. V	July 18
Jones, Wm. L	July 19
Perrott, G. T	July 19
Woodman, Ed. N	July 19
Dierkes, J. E	July 20
Ellington, C. B	July 20
Frederick, O. F	July 22
Napier, A. M	July 22
Surgant, A. F	July 24
Malone, Chas. D	July 25
Spencer, A. L	July 25
Conkling, W. D	July 26
Pierce, W. B	July 29
Walsh, M. F	July 29
Willis, W. G	July 29
Bailey, H. L	July 31
Bodley, H. W	July 13
Bowic, W. R	July 31
Cotter, C	July 31
Fonda, G. H	July 31
Miller, B	July 31
Millett, R. E	July 31
Riley, O	July 31
Russell, John D	July 31
Smith, J. F	July 31
Tinsley, R. B	July 31
Prather, A. L	Aug. 1
Zidbeck, G	Aug. 2
Snyder, H	Aug. 3
Eason, J. T., Jr	Aug. 4
Beall, M. E	Aug. 5
Cogan, R. F. J	Aug. 5
Everett, J. F	Aug. 5
Myers, Ola	Aug. 5
Knowles, T. W	Aug. 9
Conley, D. F	Aug. 10
Christ, Mary F	Aug. 11
Eder, L. M	Aug. 11
Morris, R. R	Aug. 11
Norman, V. A. E	Aug. 11
Baker, G. D	Aug. 12
Hughes, G. L	Aug. 12
McDonald, R. M	Aug. 13
Barnabey, W	Aug. 17
Faulkner, H. B	Aug. 17
McDonald, M	Aug. 17
Shropshire, J. B	Aug. 17
DeCora, J. G	Aug. 20
Kingman, N. P	Aug. 21
Fahr, A. W	Aug. 23
Taylor, G	Aug. 23
Tricker, W. L	Aug. 23
Fahey, M. J	Aug. 24
Stone, W. H	Aug. 24
McEwen, J	Aug. 26
Stone, J. C	Aug. 26
Udry, J. W	Aug. 26
Gause, F. A	Aug. 29
Gramlich, J. P	Aug. 29
Illwitzer, P. G	Aug. 29
Landon, R. W	Aug. 29
Tudor, W. P	Aug. 29
Freeland, J. R	Aug. 30
Herrington, F. E	Aug. 30
Yeck, J. H	Sept. 1
Cage, D. S	Sept. 2
Case, E. P	Sept. 2
Goree, F. E	Sept. 2
Hatfield, J	Sept. 2
Swan, Allen	Sept. 2
Symms, A. F	Sept. 2
Weber, C. B	Sept. 2
Coppin, C. C	Sept. 3
Ford, S. R	Sept. 3
Huff, W. E	Sept. 3
Peak, A. F	Sept. 3
Poole, J. H	Sept. 3
Rogers, G. L	Sept. 3
Stagg, Z. T., Jr	Sept. 3
Wago, Martin	Sept. 3
Webb, A. D	Sept. 3
Weidner, F. N	Sept. 3
Nolan, E. T	Sept. 4
Appleton, R	Sept. 7
Brown, H. L	Sept. 7
Purcell, Fred	Sept. 8
Sackett, C	Sept. 8
Calligan, Wm. R	Sept. 9
Carpenter, Jerome E	Sept. 9
Cutler, H. B	Sept. 9
Forsstrom, A. B	Sept. 9
Hoover, M. P	Sept. 9
McCullough, G. C	Sept. 9
Motz, Leon	Sept. 9
Peay, Wm. S	Sept. 9
Porter, H. W	Sept. 9
Putcheck, G. U	Sept. 9
Van Voy, T. B	Sept. 9
Zimmer, Jacob	Sept. 9
Arbuckle, O. L	Sept. 10
Washabaugh, F	Sept. 11
Wolf, F. H	Sept. 11
Hard, Henry	Sept. 12
Bowes, O. T	Sept. 15
Cressey, F	Sept. 17
Fraser, C. F	Sept. 17
Hale, E. H	Sept. 17
Kelley, L. W	Sept. 17
Smith, F. G	Sept. 17
Austin, D. A	Sept. 18
Carmack, P. H	Sept. 18
Harrington, Wm. H	Sept. 18
Johnson, Jul	Sept. 18
Baetz, W. G. F	Sept. 22
Bordt, C. B	Sept. 22
Calvit, C. G	Sept. 22
Fisher, D. F	Sept. 22
Morris, T. C	Sept. 22
Reynolds, R. M	Sept. 22
Reynolds, Wm. C	Sept. 22
Taber, L. A	Sept. 22
Wagg, Frank P	Sept. 22
Wheeler, C. D	Sept. 23
Cameron, F. F	Sept. 24
Perkins, Fred C	Sept. 24
Naylor, T. E	Sept. 25
Huber, C.C	Sept. 27
Coyle, Eileen R	Sept. 28
Godfrey, Mary J	Sept. 30
Brumby, R. H	Oct. 1
Monroe, Georgia T	Oct. 1
Stone, Annie E	Oct. 1
Hagenmacher, A	Oct. 4
Kelly, Wm. A	Oct. 4
Mack, L. W	Oct. 4
Monroe, F. F	Oct. 4
Stearns, S. W	Oct. 4
Varenkamp, M. C	Oct. 4
Hickey, J. M	Oct. 5
Scheltzer, W. F	Oct. 5
Wilcox, G. R	Oct. 9
Edwards, H. F	Oct. 10
Denst, L. R	Oct. 11
Graham, A	Oct. 12
Palm, J. D	Oct. 12
Thomas, B. S	Oct. 12
Bentley, Hugh S	Oct. 13
Clapp, Warner H	Oct. 13
Cousins, J. W	Oct. 13
Graham, James	Oct. 13
Haggerty, S. A	Oct. 13
Kersey, H. A	Oct. 13
Lawton, C. W	Oct. 13
Pennington, J. H	Oct. 13
Stickney, C. M	Oct. 13
Weigold, L. F	Oct. 13
Whittles, W. A	Oct. 13
Bellinger, E. M	Oct. 14
Hite, H. B	Oct. 14
Jamieson, D. H	Oct. 14
Kenney, W. A	Oct. 14
Olsen, G. C	Oct. 14
Parker, G	Oct. 14
Round, A. B	Oct. 14
Seyse, R. P	Oct. 14
Thompson, M. E	Oct. 15
Adams, John H	Oct. 16
Severy, F. J	Oct. 16
Collins, John J	Oct. 18
Horner, Uriah H	Oct. 18
Wellfare, A.A	Oct. 18
Robertson, Elpha H	Oct. 19
Uderitz, G. W	Oct. 19
Gabriel, E. E	Oct. 20
Gardiner, T. B	Oct. 20
McQuirk, Ed. C	Oct. 20
Marshall, W. J	Oct. 20
Ridge, J. E	Oct. 20
Zimmerman, W. G	Oct. 21
Vaughan, C. V	Oct. 23
Morgan, D. S	Oct. 24
Valcke, W. J	Oct. 25
Perry, A. H	Oct. 26
Fransen, Hans P	Oct. 27
Kopke, R	Oct. 27
Frost, Florita D	Oct. 28
Duoreske, John J	Oct. 30
Martin, J. R	Oct. 30
Corning, F. W	Oct. 31
Koch, Jacob	Oct. 31
Shackelton, Wm. H	Oct. 31
Buker, Theo. A	Nov. 1
Dalton, Wm. L	Nov. 1
McCloskey, Ray K	Nov. 1
Coughlin, J. T	Nov. 2
Herring, Chas. O	Nov. 2
Kelley, Phillip	Nov. 2
Porter, Joseph I	Nov. 2
Cauthers, R. A	Nov. 3
Gallaher, Wm. F	Nov. 3
Mitchell, J. P	Nov. 3
Shafer, O. G	Nov. 3
Tucker, Fred D	Nov. 3
Noble, R. H	Nov. 4
Kingsbury, Ernest	Nov. 5
Fleming, Wm	Nov. 6
Kimble, C. P	Nov. 6
Chester, Chas. S	Nov. 8
Whiston, A	Nov. 9
Stoddard, C. B	Nov. 10
Zilles, Leon	Nov. 10
McCandless, Chas	Nov. 13
Aitken, D. R	Nov. 15
Couisneau, Chas	Nov. 16
Lewis, J. E	Nov. 16
Mengel, C. E	Nov. 16
Oliver, Lando	Nov. 16
Angell, C. R	Nov. 17
Stripling, S	Nov. 18
Anderson, Vitalis	Nov. 21
Rice, Okey J	Nov. 21
Lewis, Paul F	Nov. 24
Vanechanakos, A	Nov. 24
Dayton, Arthur V	Nov. 26
Hoff, F. W	Nov. 26
Twitchell, C. R	Nov. 27
Von Pflugk, H. A. V	Nov. 30
James, M. J	Dec. 1
McLeod, M. E	Dec. 3
Merrill, A. S	Dec. 3
Wheat, Lee	Dec. 3
Jones, J. F	Dec. 6
Wood, Chas. E	Dec. 6
Mergendoller, J	Dec. 7
Clark, H. C	Dec. 9
Murtagh, J	Dec. 9
Murtagh, W. E	Dec. 9
Jackson, A	Dec. 14
Heng, C	Dec. 15
Larsen, C	Dec. 15
Peterson, C. G	Dec. 15
Reese, Geo	Dec. 15
Sherry, Hugh	Dec. 15
Wigmore, R. G	Dec. 16
Beard, A	Dec. 17
Olsen, J. F	Dec. 18
Townsley, L	Dec. 18
Clendenin, E. E	Dec. 20
Powell, S. H	Dec. 20

Name.	*Date.*
Wilkins, Hal E	Dec. 20
Smith, Charles	Dec. 22
Kenyon, A., Jr	Dec. 23
Burmester, R	Dec. 24
Magnuson, C	Dee. 24
Wenzel, E. R	Dec. 27
Hiscock, Wm. P	Dec. 29
Koperski, J. I	Dee. 29
Mudgett, E. E	Dec. 30

SECOND SERVICE BARS.

1907–1913.

Name.	*Date.*
Weston, A. F	Jan. 1
Bloss, H. I	Jan. 3
Johnson, Pearl A	Jan. 3
Corrigan, J. P	Jan. 8
Donahoe, Tim J	Jan. 8
Textor, H. N	Jan. 8
Clardy, A. B	Jan. 10
Krause, W. F	Jan. 12
Buterbaugh, F	Jan. 14
Abernathy, S. C	Jan. 15
Duncan, R. H	Jan. 15
Jennings, C. E	Jan. 15
Lohman, C. H	Jan. 15
Evans, Wm. A	Jan. 18
Pring, C. E	Jan. 19
Harry, S. B	Jan. 21
Thorpe, L. D	Jan. 21
Baker, F. M	Jan. 28
Heeb, E	Jan. 28
Hoffman, J. L	Jan. 28
MacPherson, G. W	Jan. 28
Sheehy, D	Jan. 28
Stanley, H. W	Jan. 28
Terwilliger, E. B	Jan. 28
Hines, Wm. P	Jan. 29
Loulan, J. T	Jan. 30
Stanley, L. P	Jan. 30
Hoyt, C	Feb. 1
Clark, O. M	Feb. 3
Corrigan, P. F	Feb. 3
Maney, F. L	Feb. 3
Wood, J. C	Feb. 3
Starks, J	Feb. 4
Gabler, A	Feb. 8
Keltz, E. J	Feb. 8
Long, J. H	Feb. 8
Stewart, A. B	Feb. 8
Heckman, J. H	Feb. 11
Conlan, C. P	Feb. 12
McCulloch, J. A	Feb. 12
Roberts, R	Feb. 12
Claus, Wm	Feb. 15
Collins, H. A	Feb. 18
McLoughlin, P. A	Feb. 18
Morrison, J. H	Feb. 18
Mudgett, B. F	Feb. 18
Shaeffer, L. E	Feb. 18
Anderson, F. A	Feb. 22
Moeller, L. A	Feb. 23
Jack, G. H	Feb. 25
Mers, J. B	Feb. 25
Bryan, C. L	Feb. 26
Butler, T. J	Feb. 26
Davies, J. L	Feb. 26
Humphrey, J. H. K	Feb. 26
Draughon, R. L	Feb. 27
Giavelli, L. W	Feb. 28
McKelvey, J. F	Feb. 28
Moran, J. J	Mar. 1
Powell, C. W	Mar. 1
Wertz, F. L	Mar. 2
Blaisdell, J	Mar. 4
Hutton, S	Mar. 4
Ives, J. R	Mar. 4
Evans, P	Mar. 7
Terry, G. E	Mar. 8
Dew, M	Mar. 11
McGraw, D	Mar. 11
Reese, J. L	Mar. 11
Schoellhorn, H	Mar. 11
Spinks, J	Mar. 11
Vacher, L. N	Mar. 11
Burrell, H. L	Mar. 12
Burrell, J. A	Mar. 12
Gaillard, D. DuB	Mar. 12
Goethals, G. W	Mar. 12
Calloway, L. C	Mar. 14
Grier, B. R	Mar. 14
Watson, R. R	Mar. 14
Garvin, J. M	Mar. 18
Hennen, L. W	Mar. 18
Hoadley, E. D	Mar. 18
Kilmurray, W. J	Mar. 18
McCusty, W. H	Mar. 18
Phillips, J. F	Mar. 18
Raiford, A. L	Mar. 18
Sibert, W. L	Mar. 18
Snyder, A. F	Mar. 18
Tolar, J. L	Mar. 18
Clairain, L. J	Mar. 19
Claybourn, V. M	Mar. 21
Jefferis, P. M	Mar. 21
Reeves, A., Jr	Mar. 21
Rousseau, H. H	Mar. 21
Shaw, J. E	Mar. 21
Smallwood, T. H	Mar. 21
Smith, S. L	Mar. 21
Waldron, A. W	Mar. 21
Montague, C. H	Mar. 23
Wertz, C. A	Mar. 23
Adams, J. H	Mar. 25
Housel, W. H	Mar. 27
Howard, G. A	Mar. 27
King, C. R	Mar. 27
Lord, E. E	Mar. 27
Piper, Lon W	Mar. 27
Robison, W. L	Mar. 27
Brown, J. R	Apr. 1
Bridges, J. J	Apr. 2
Capwell, J. H	Apr. 2
Crouch, W. E	Apr. 2
Jordan, W. B	Apr. 2
LaRowe, J. H	Apr. 2
McCord, J. E	Apr. 2
Nupp, Warren	Apr. 2
Repp, E. A	Apr. 2
Soder, F. J	Apr. 2
Ernstdorf, A. R	Apr. 4
Holden, Vernon A	Apr. 4
Bowers, H. C	Apr. 6
Boyer, C. S	Apr. 6
Calvert, F. G	Apr. 6
Decker, C. W	Apr. 6
Phoenix, J. H	Apr. 6
Thom, W. M	Apr. 6
Brown, E. F	Apr. 8
Richardson, S. F	Apr. 8
Farmer, L. H	Apr. 9
Lowe, E. J	Apr. 9
Barrett, J. W	Apr. 10
Bernson, J	Apr. 10
Brown, T. E., Jr	Apr. 10
Hostetter, M. B	Apr. 10
McPherson, C. N	Apr. 10
Poore, W. C	Apr. 10
Potts, G. H	Apr. 10
Souder, S. R	Apr. 10
Spangler, G. D	Apr. 10
Walters, O. G	Apr. 10
Wilber, D. H	Apr. 10
Hobby, Wm. R	Apr. 12
Harwood, Robt	Apr. 13
Bargerstock, Ord	Apr. 14
Bolen, Wm. H	Apr. 14
Flaherty, M	Apr. 14
Levy, Nathan L	Apr. 14
Marshall, C. B	Apr. 14
Ewing, H. L	Apr. 18
Bevinton, H. W	Apr. 20
Bullard, C. M	Apr. 20
Decker, E	Apr. 20
Garver, J. A	Apr. 20
Greenman, N. E	Apr. 20
Hahn, J. G	Apr. 20
MacDonald, D. J	Apr. 20
Smith, W. E	Apr. 20
Stratton, H. S	Apr. 20
Hayes, F. C	Apr. 23
Mansberger, J. E	Apr. 23
Vannah, W. I	Apr. 26
Muhlherr, H	Apr. 27
Brown, W. T	Apr. 30
Edwards, G. S	Apr. 30
Reisinger, C. L	Apr. 30
Van Deventer, M	Apr. 30
Lawler, J. M	May 1
Melgord, J. J	May 3
Ebdon, T. J	May 4
Connor, R. C	May 6
Fetters, Wm	May 6
Freeland, Wm. K	May 6
Jarboe, J. M	May 6
Seewald, R. S	May 6
Cushman, C. T	May 8
Grover, E. L	May 8
McCullough, A. L	May 8
Reilly, C. J	May 8
Bromley, J. Z	May 13
Byrnes, L. A	May 13
Drake, T. M	May 13
Hudson, H. H	May 13
Jones, G. A	May 13
Naylor, A. N	May 13
Clause, F. W	May 17
Davis, G. H	May 17
DeMoll, T. G	May 17
Duckworth, Geo. E	May 17
Durfee, O. S	May 17
Gowan, W. R	May 17
Hayes, E. E	May 17
Moriarty, J. H	May 17
Perry, L. E	May 17
Snedeker, C. C	May 17
Womack, B. F	May 17
Wuelper, A. F. C	May 17
Holcomb, W. H	May 18
Cook, R. W	May 19
Sasse, D	May 20
Houston, R. S	May 21
Maher, J	May 23
Schaff, A	May 25
Jordan, J. P	May 29
Daleen, C. J	May 30
Engbersen, Leo B	May 30
Hamlin, F. T	May 30
Howell, Robt	May 30
McIntyre, W. M	May 30
Medinger, F. O	May 30
O'Day, Wm	May 30
Pearman, F. E	May 30
Smith, M. D	May 30
Stanton, J. M	May 30
Williams, H	May 30
Boutty, J. J	June 1
Petrikin, M. C	June 2
Boone, E. L	June 3
Ellenwood, W. E	June 3
Eppley, C. D	June 3
Holzapfel, A. F	June 3
Kozak, O	June 3
Quinn, P. J	June 3
Smith, N. B	June 3
Varenkamp, R	June 3
Yocum, B. T	June 3
Evans, J. A	June 4
Von der Lieth, T. R	June 4
Flint, F. B	June 6
Benson, M	June 8
Daniels, W. L	June 8
Finch, E. L	June 8
Goolsby, E. M	June 8
Johnson, G. A	June 8
Martin, G. W	June 8
Yeiser, C	June 8
Foster, C. M	June 11
Campey, G. M	June 12
Cornish, L. D	June 13
Gwartney, D. C	June 13
Hayes, O. E	June 13
Helms, J. L	June 13
Morris, C. L	June 13
Pike, E. R	June 13
Whitaker, R. W	June 13
Perrin, J. H. E	June 14
Daley, J	June 17
Thompson, W. G	June 17
Conlin, C	June 18
Davis, J. I	June 19
Davis, Hugh W	June 20
Greening, P	June 20
Pearson, H	June 20
Rudy, C. K	June 20
Downes, Wm	June 25
Dubois, Wm	June 25
Nelson, J. F	June 25
Mitchell, M	June 27
Davis, J. M	June 29
Hall, Q. A	June 29
Kittell, J. C	June 29
McGillicuddy, C. J	June 29
Marek, J. J	June 29
Parkis, S. W	June 29
Ruch, O. J	June 29
Simmons, J. A	June 29
Tuttle, G. M	June 29
Hepler, J. M	June 30
Clements, W. T	July 1
Sneed, C. D	July 1
Goeman, C. I	July 3
Cook, J. R	July 5
Copeland, W. P	July 5
Davis, E	July 5
Gibbs, B	July 5
Grobe, W. J	July 5
Eden, H. L	July 8
Chambers, J. L	July 9
Cutler, R	July 9
Eidnier, B. F	July 9
Fitzpatrick, C. C	July 9
Gustavson, G. E	July 9
Haldeman, Ezra	July 9
Helmer, J. H	July 9
Hoffman, C. P	July 9
Minor, E. B	July 9
Newbold, G. W. K	July 9
Stevens, W. H	July 9
Stewart, W. B	July 9
King, R. A	July 12
Richardson, A. M	July 13
Williner, M	July 13
Colegrove, A. M	July 16
Doyle, J	July 16
Fullman, Wm	July 16
Hicks, J	July 16
Hinman, H. D	July 16
Jenkins, G. L	July 16
Ohlson, E. F	July 16
Quinn, Edd	July 16
Stevenson, Wm. A	July 16
Jones, Sam	July 22
Olson, B. F	July 22
Birnie, J	July 23
May, Wm. H	July 23
Brennan, T. H	July 24
Gaskill, B. E	July 24
Holt, X. D	July 24
McAleer, E	July 24
Rebbeke, E. A	July 24
Ballew, T	July 26
Duffy, A. H	July 26
Young, J. R	July 26
Meister, F	July 29
Pronger, N. W	July 29
Bethea, J. K	July 30
Hall, R	July 31
Foster, J	Aug. 1
Namur, B	Aug. 1
Pittman, W. P	Aug. 1
Alexander, A. E	Aug. 2
Andersen, A	Aug. 2
Gamble, R. M	Aug. 2
Ganser, J. C	Aug. 2
Hallen, E	Aug. 2
Helliksen, L. A	Aug. 2
Lang, Edw	Aug. 2
Smith, A. E	Aug. 5
Bishop, J. B	Aug. 7
Brown, Geo. A	Aug. 7
Cate, C. I	Aug. 7
Mason, A. O	Aug. 7
Morgan, D. M	Aug. 7
Nilsen, Nils	Aug. 7
Shepard, F. K	Aug. 7
Sill, F. DeV	Aug. 7
Swain, Joe M	Aug. 8
Doyle, F. A	Aug. 12
Dyer, E. J	Aug. 14
Hill, Dinald B	Aug. 14
Elder, T	Aug. 15
McGuire, Wm	Aug. 16
Siler, J. E	Aug. 18
White, R. M	Aug. 18
McFarlane, T. W	Aug. 19
Wempe, H. J	Aug. 23
James, R. E	Aug. 24
Barber, J. G	Aug. 25
Cash, J. H	Aug. 25
Rogers, Wm. D	Aug. 26
Horn, W. S	Aug. 27
Fortney, C. P	Aug. 28
Greene, W. L	Aug. 28
Grundy, C. P	Aug. 28
Kennedy, E. J	Aug. 28
Moore, W. J	Aug. 28
Bennyhoff, W. F	Sept. 2
Reisinger, F. C	Sept. 2
Schildhauer, Edw	Sept. 2
Fahrbach, F	Sept. 3
Grant, W. H	Sept. 3
Clark, F. T	Sept. 4
Lucas, G. C	Sept. 4
Williams, C. R	Sept. 4
Harding, J. L	Sept. 5
Edwards, D. T., Jr	Sept. 7
Kent, T. L	Sept. 7
Nixon, F. M	Sept. 7
Pougher, G. W	Sept. 7
Vanderslice, G. J	Sept. 7
Murray, J. H	Sept. 9
Conner, L. J	Sept. 13
Davenport, R. H	Sept. 13
Erwin, W. G	Sept. 13
Hall, D. E	Sept. 13
Hamilton, Alanson	Sept. 13
Holland, W. D	Sept. 13
Shay, Frank J	Sept. 13
Rowley, A. I	Sept. 17
Parker, W. E	Sept. 18
Benson, Aaron	Sept. 19
Kratli, J. O	Sept. 19
Beach, F. A	Sept. 20
Cahill, John	Sept. 20
Helm, Peter	Sept. 20
Hile, G. H	Sept. 20
Hopkins, R. E	Sept. 20
Lewis, F. E	Sept. 20
Sullivan, E. G	Sept. 20
Vreeland, E. H	Sept. 20
Mitchiell, C. D	Sept. 21
Plante, Ida	Sept. 22
Evans, L. P	Sept. 24
Littlefield, W. T	Sept. 24
Ross, J. W., Jr	Sept. 24
Collier, G. W., Jr	Sept. 26
Griesinger, C	Sept. 26
Jarrell, C. D	Sept. 27
Patterson, L. A	Sept. 27
Anderson, F. H	Sept. 30
Bohnhorst, W. H	Sept. 30
Calkins, C. E	Sept. 30
Curtis, A. S	Sept. 30
Farlee, W. A	Sept. 30
Gates, I. N	Sept. 30
Hanff, W. B	Sept. 30
Lipsey, T. E. L	Sept. 30
McInerney, M	Sept. 30
Morgali, R	Sept. 30
Norton, R. A	Sept. 30
Parker, E. F	Sept. 30
Stanton, Fred C	Sept. 30
White, A	Sept. 30
Manion, J	Oct. 1
Gilmartin, C. A	Oct. 6
Anderson, C. J	Oct. 7
Conell, T	Oct. 7
Aubrey, J. F	Oct. 10
Henshaw, W. P	Oct. 12
Fors, D	Oct. 13
Kosier, R. S	Oct. 13
Payne, E. W	Oct. 13
Tribolet, C. T	Oct. 13
Barrat, J. G	Oct. 14
Byrne, M. J	Oct. 14
Crooks, G. C	Oct. 14
Egan, John F	Oct. 14
Greene, J. W	Oct. 14
Mason, C. J	Oct. 14
Miller, H. E	Oct. 14
Schwartz, A. F	Oct. 14
Beattie, J. Macklin	Oct. 15
Clarke, E. E	Oct. 16
Schroeder, H	Oct. 18
Bishop, W. J	Oct. 20
Haggerty, J	Oct. 21
Hess, C. R	Oct. 23
Thayer, A.A	Oct. 23
Tedford, W. A	Oct. 24
Wood, J. E	Oct. 24
Archer, C. F	Oct. 25
Jernegan, W. G	Oct. 25
Lowe, G. C	Oct. 25
McNiel, J. R	Oct. 25
Perry, C. S	Oct. 25
Blenkinsop, L	Oct. 27
Brady, Edw	Oct. 27
Carr, M. H	Oct. 27
Donnelly, D. R	Oct. 27
Eggleston, O. W	Oct. 27
Lampson, O. R	Oct. 27
Payne, W. H	Oct. 27
Pehler, Ida R	Oct. 27
Wilkins, J. M., Jr	Oct. 27
Deems, E. A	Oct. 30
Fenstermacher, Edw	Oct. 30
McCormack, A	Oct. 31
Benninger, M. P	Nov. 1
Bielep, C	Nov. 1
Craddock, J. C	Nov. 1
Falkner, J. R	Nov. 1
Herrick, A	Nov. 1
Packard, C. R	Nov. 1
Robertson, T. J	Nov. 1
Simonson, C. O	Nov. 1
Spriegel, F. W	Nov. 1
Ericson, John A	Nov. 2
Mayhew, H. L	Nov. 7
Thomson, W. S	Nov. 7
Higgins, J. H	Nov. 8
Reber, R	Nov. 8
Whiting, T. J	Nov. 10
Evans, L. C	Nov. 12
Hill, C. W	Nov. 12
Wallace, A	Nov. 12
Shaffer, G	Nov. 13
Cooper, W. L	Nov. 14
Whaler, F. G	Nov. 14
Abston, J. M	Nov. 15
Austin, E. M	Nov. 15
Cheney, J. W	Nov. 15
Mealer, W. O	Nov. 15
Blackburn, S. E	Nov. 17
Burns, R. P	Nov. 17
Carlson, R. S	Nov. 17
Meacham, J	Nov. 17
Smith, H. G	Nov. 17
Jackson, H	Nov. 18
Urwiler, C. J	Nov. 20
Granger, R	Nov. 22
Hill, F. M	Nov. 22
Snapp, B. M	Nov. 22
Rosenquist, F. H	Nov. 24
Showers, I. M	Nov. 24
Stevens, H. F	Nov. 24
Werner, G	Nov. 24
Bartlett, E. C	Nov. 26
Jordan, T. M	Nov. 26
Drennan, J. A	Nov. 29
Oberle, J	Nov. 29
Sehr, M. P	Nov. 29
Cunningham, H. C	Dec. 1
McLaughlin, W. J	Dec. 1
Bryan, S. H	Dec. 2
Hagan, J. M	Dec. 2
Jansen, C. J	Dec. 2
Monk, H. V	Dec. 2
Clark, L. A	Dec. 3
Genac, D. J	Dec. 3
Keene, C. B	Dec. 3
Maloney, P. H	Dec. 3
Stone, H. J	Dec. 4
Barlow, H. H	Dec. 5
Proctor, C. L	Dec. 5
Steele, W. S	Dec. 5
Doyle, J. B	Dec. 7
Grier, C. T	Dec. 7
Fluharty, E. E	Dec. 9
Lee, E. E	Dee. 9
Hoffman, C. H	Dec. 11
McCourt, J. S	Dec. 13
Bucklin, E. W	Dec. 15
Clark, J. A	Dec. 15
James, C. H	Dec. 15
McCally, H. W	Dee. 15
Hooker, G. H	Dec. 16
Whitney, F. H	Dec. 17
Donnelly, E. A	Dec. 18
Platow, Wm	Dec. 18
Grimison, T. I	Dec. 19
Davis, J. W	Dec. 21
Fink, J	Dec. 23
Matter, E. P	Dec. 30
Cassidy, J. O'C	Dec. 31

THIRD SERVICE BARS.

1905–1913.

Name.	*Date.*
Frarow, Peter	Jan. 2
Loulan, Frank	Jan. 4
McIlvaine, Cloyd A	Jan. 4
Mackereth, Adelaide P	Jan. 11
Warren, Rudolph G	Jan. 11
Reid, Howard M	Jan. 16
Corrigan, Joseph A	Jan. 17
Russell, Genevieve	Jan. 17
Kyte, John P	Jan. 25
Atterbury, Thomas C	Feb. 2
Hathaway, Milton S	Feb. 2
Shady, Raymond C	Feb. 2
Smith, John H., Jr	Feb. 2
Ash, Eugene H	Feb. 7
Beck, Edgar P	Feb. 7
Duey, Charles W	Feb. 7
Greene, Frank E	Feb. 7
Guderian, Frederick	Feb. 7
Lucchesi, Arthur P	Feb. 9
Burke, John	Feb. 13
Van Zant, C. L	Feb. 15
White, Samuel M	Feb. 23
Gudger, Hezekiah A	Feb. 24
Willson, Lewis F	Feb. 27
Crafts, Charles P	Feb. 28
Darling, Samuel T	Feb. 28
Eason, John J	Feb. 28
Palmer, George W. A	Feb. 28
Mulverhill, John F	Mar. 1

Name.	Date.
McLean, John H	Mar. 7
Stevens, Fletcher	Mar. 7
Borg, Hemke	Mar. 14
Bovay, Harry E	Mar. 15
Willson, Fred D	Mar. 21
Benninger, Sherman A	Mar. 22
Edholm, Karl	Mar. 22
Lyons, Mary V	Mar. 22
Moreny, Vincent	Mar. 24
Cornish, Frank L	Mar. 28
Kirk, George E	Mar. 28
Ninas, George A	Mar. 28
Geddes, Albert H	Apr. 1
Mattimore, Harry B	Apr. 3
Avery, James A	Apr. 7
Haywood, Harry A	Apr. 7
Keller, John C	Apr. 10
Miller, Albert F	Apr. 10
Swinehart, Charles M	Apr. 10
Hostetter, Harlan O	Apr. 12
MacCormack, Daniel W	Apr. 12
Campbell, Charles R	Apr. 17
Day, Frank E	Apr. 17
Maxon, William E	Apr. 17
Shipley, William F	Apr. 17
St. Clair, Dan	Apr. 17
Tucker, James E	Apr. 17
Warner, Anselm M	Apr. 17
Wood, Robert E	Apr. 17
Kingsbury, Augustus H	Apr. 19
Cohen, Jacob	Apr. 24
Daly, Owen M	Apr. 24
Rogers, Alfred E	Apr. 24
Stanton, Wilbur D	Apr. 24
Warren, Horace P	Apr. 24
Ashton, William F	Apr. 25
Ensey, Charles R	Apr. 25
Fitzpatrick, Frank	Apr. 25
Harrod, Ernest E	Apr. 25
Cornwell, Albert E	Apr. 29
Halloran, George B	Apr. 29
Huntoon, Robert J	Apr. 29
Booth, Rufus K	May 5
Griley, Michael A	May 5
Webster, J. Leon	May 5
Bradberry, Randell T	May 10
Leydecker, F. W	May 10
Harrison, William	May 11
Start, Arthur E	May 11
Ferebee, Frank B	May 15
Johnson, Peter	May 15
Metzger, Fred O	May 15
Sessions, Arthur C	May 15
Evans, Arthur K	May 23
Smith, Jay M	May 23
Leason, Harry	May 29
Leassenhop, Herbert S	May 31
Thompson, William L	May 31
Robinson, Arthur L	June 4
O'Brien, Thomas	June 9
Malsbury, Omer E	June 13
Tipton, George W	June 13
Middleton, Nicholas B	June 16
Goodfellow, Robert C	June 17
Unckles, Roderick W	June 19
White, Walter J	June 21
Simpson, Stephen S	June 22
Wilson, Paul S	June 22
Leonard, Edward	June 28
Sawtelle, Harrie W	June 28
Larson, Leander	July 1
O'Neal, Lucius A	July 5
Van Hardeveld, John A	July 5
Kendall, Charles E	July 7
Swanson, Frederick G	July 7
Mealer, Charles L	July 8
Atkins, John	July 11
Clement, Charles C	July 11
Faure, Ad	July 11
Fowler, Jay F	July 11
Fairbanks, Helen G	July 12
Grove, Blanche	July 12
Potter, Russell B	July 12
Potts, Isaac R	July 12
White, Mark	July 12
de Lavandeyra, José	July 16
Fleming, Harry V	July 16
Jenkins, Ben	July 17
Morris, Robert K	July 17
Whitaker, Charles L	July 19
Cotton, Arthur E	July 22
Gilkey, Lloyd L	July 24
Jackson, John J	July 26
Strong, George W	July 26
Phillips, John L	July 27
Austin, Charles B	July 29
Carpenter, Marcy H	Aug. 1
Floyd, Frank	Aug. 6
Keeling, Edward A	Aug. 9
Lupfer, Cambridge M	Aug. 9
Mullin, John W	Aug. 9
Tragsdorf, William E	Aug. 9
Whyte, Walter J	Aug. 9
Banks, Charles H	Aug. 14
Comber, W. G	Aug. 14
Douglas, Gavin	Aug. 14
Garrison, Edgar S	Aug. 14
Goldsmith, Edwin	Aug. 14
Greeley, Horace L	Aug. 14
Murphy, Robert E	Aug. 14
Owens, Charles T	Aug. 14
Smith, Drew E	Aug. 14
Stewart, Frederick F	Aug. 14
Whitney, George A	Aug. 15
Grissom, James T	Aug. 19
Lawrence, Wilbur S	Aug. 19
Palmer, Eugene W	Aug. 19
Evans, Forrest M	Aug. 25
Farmer, Alfred G	Aug. 25
Leathley, Thomas A	Aug. 25
Price, Elmer E	Aug. 25
Rosenbaum, Alex. L	Aug. 25
Roudabush, Robert M	Aug. 25
Holden, George	Aug. 26
McGown, Arthur	Aug. 30
Farish, H. S	Sept. 1
Wynne, Joseph	Sept. 1
Garcon, Edward J	Sept. 4
Dillon, Vesper C	Sept. 5
Sine, Elwood P	Sept. 5
Wirtz, William	Sept. 5
Stevenson, Jesse H	Sept. 9
Cappers, William F	Sept. 12
Owens, John	Sept. 12
Stanton, Charles J	Sept. 12
Stephens, Walter E	Sept. 12
Gilmore, Clarence E	Sept. 16
Selby, F. Payne	Sept. 20
Simmons, Clinton O	Sept. 21
Robertson, William T	Sept. 22
Hackenberg, Austin L	Sept. 23
Butz, Leonard	Sept. 25
Otis, Harry W	Sept. 30
Pender, Walter I	Sept. 30
Sisson, Benjamin F	Sept. 30
Sonneman, Otto F	Sept. 30
Frost, Julia M	Oct. 1
Sims, Eli	Oct. 3
Close, Joseph A	Oct. 10
Ferber, Louise A	Oct. 10
Green, William H	Oct. 10
Sims, William E	Oct. 10
Storm, William H	Oct. 10
Weems, Mandeville A	Oct. 11
Bedell, Walter H	Oct. 14
Berger, Albert	Oct. 14
Caldwell, B. W	Oct. 14
Curtis, Karl P	Oct. 14
Eno, Harry	Oct. 15
Wise, James L	Oct. 16
Custy, Thomas	Oct. 17
Holliday, Mary	Oct. 21
Beam, Walter I	Oct. 23
Carroll, Lon N	Oct. 31
Bates, John P	Nov. 3
Crabtree, George H	Nov. 7
Quimby, E. Frederick	Nov. 7
Spalding, Walter J	Nov. 7
Smith, Thomas H	Nov. 8
Becker, Emil	Nov. 13
Hearne, Charles A	Nov. 13
Herman, Albert O	Nov. 13
Carlson, Clarence O	Nov. 21
Davis, Frank F	Nov. 21
McMahon, John C	Nov. 21
Scheets, Lambert G	Nov. 21
DeGrummond, R	Nov. 25
Christiansen, John	Nov. 26
Conover, Howard H	Nov. 26
Cooper, John B	Nov. 26
Lumby, Robert C	Nov. 26
McGimsey, James V	Nov. 26
Lavery, Mathew	Nov. 27
Foster, Elmo M	Dec. 2
Laird, James	Dec. 2
Stephens, Fred H	Dec. 2
Stipp, Henry	Dec. 2
Weidman, Charles E	Dec. 2
French, Archie W	Dec. 9
Herrington, Walter W	Dec. 9
Keyser, Elgie M	Dec. 9
Rall, Emil J	Dec. 9
Turner, Edward G	Dec. 14
Bliss, Gerald DeLeo	Dec. 16
Browning, Walter S	Dec. 16
Wentworth, Everett A	Dec. 16
Woodsum, Walter C	Dec. 16
Martin, James	Dec. 28
Hill, Urban L	Dec. 29
Keeling, James R	Dec. 29

P. R. R. SERVICE MEDALS.

1911–1913.

	1911.
Wheeler, W. D	Jan. 1
Foster, C. B	Jan. 16
Smith, W. M	Jan. 30
Peterson, M. H	Feb. 1
Davenport, B. H	Feb. 2
Brophy, A. J	Feb. 10
Dean, E. J	Feb. 20
Settle, E	Feb. 20
Raymond, F. V	Feb. 23
Wickersham, J. L	Mar. 1
Clark, W. W	Mar. 3
Kennedy, C. E	Mar. 6
Hoar, H. L	Mar. 16
Gaylord, J. B	Mar. 16
Partlow, R. E	Mar. 19
Simmons, M. E	Apr. 10
Kneasey, P	Apr. 24
Belden, C. W	June 6
Fay, G. H	June 8
Pullig, J. S	June 15
Plummer, J. M	June 17
Mendoza, J. A	June 18
Partello, A. E	June 23
Richard, E	June 23
Jones, M, F	June 27
Bovey, W	July 1
Stirrat, W	July 7
Gibson, A. K	July 10
Hayden, J. E	July 19
Berry, C. W	July 20
Irwin, G. T	July 25
Losea, A. V	Aug. 2
Collins, E. G	Aug. 4
Spears, B. H	Aug. 6
Murphy, C	Aug. 12
Lore, W. E	Aug. 25
Dresbach, G. W	Sept. 1
Fenley, W. H	Sept. 10
Jewell, L. H	Sept. 15
Miller, J. C	Sept. 21
Smith, J. W	Sept. 24
Garwood, J. G	Oct. 5
McSparran, E. S	Oct. 11
Richards, R. A	Oct. 18
Sandel, A. J	Oct. 19
Jaap, J. F	Oct. 26
Westbrook, S. J	Oct. 27
Brown, J. J	Oct. 30
Melgord, V	Nov. 1
Whiston, M	Nov. 16
Chapman, J. W	Nov. 19
Warren, W. W	Nov. 24
Plummer, A. E	Nov. 27

FIRST SERVICE BARS.

1909–1913.

	1911.
Stilson, J. H., Jr	Jan. 1
Pedersen, H. C	Jan. 14
Watson, C. T	Jan. 22
Glick, H. S	Feb. 6
Bauer, R	Feb. 6
Partello, W. H	Feb. 7
Harlan, O. K	Feb. 7
Van Reed, J. H. C	Mar. 1
Knapp, E. E	Feb. 24
Bell, R	Mar. 16
Beverley, J. C	Mar. 22
Farrell, F. V	Mar. 26
Madison, T. C	Apr. 23
Mock, T. P	Apr. 29
Dion, H. C	May 7
Freehan, P. A	May 14
Steele, M. J	May 14
Wood, A. C	May 18
Luker, R. B	June 1
Neal, T. E	June 1
Joyce, J. W	June 26
Nickels, F. C	June 30
Moritz, O. L	July 1
Thompson, J. B	July 3
Duff, M. L	July 5
Bruk, F	July 9
Orr, E	July 10
Farr, B. J	July 26
Exline, J. A	Aug. 12
Rhoden, N	Aug. 12
Brooks, J. C., Jr	Sept. 6
Telfer, W	Sept. 8
O'Donnell, J. S	Sept. 13
White, F. A	Sept 20
Wood, E. B	Oct. 13
Merrill, R	Oct. 26
Cotton, C	Nov. 12
Mohr, A. H	Nov. 26
Stewart, V. A	Dec. 2
Simcock, E. B	Dec. 3

SECOND SERVICE BARS.

1907–1913.

	1911.
Blakeman, Will C	Jan. 15
Kennedy, A	Jan. 15
McGovern, J. F	Jan. 15
Wall, Percy J	Feb. 4
Williamson, J. D	Feb. 4
Arbuckle, E. R	Feb. 18
Essex, W. S	Mar. 6
Breneman, W. O	Mar. 11
Kerr, A. L	Mar. 11
Fogle, Ralph	Mar. 14
Southerland, C. H	Mar. 18
Culbertson, W	Mar. 21
Carswell, L. C	Mar. 25
Waid, E. S	Apr. 10
Eberenz, A	Apr. 20
Malmo, R. H	May 27
Witty, Alvis E	May 30
Lindsay, C. T	June 3
Mead, J. P	June 8
Nolte, G. M	June 13
Horton, A	June 24
Sartor, Ralph H	June 29
Storey, H. E	July 22
Mock, Robt. L	Aug. 16
Masterson, R. W	Aug. 18
Pratt, J	Aug. 25
Bonalli, Peter	Aug. 30
Toll, Lawrence	Sept. 1
Walker, Bertha A	Sept. 1
Hackett, Burton J	Sept. 17
Beverley, Robt	Sept 19
Paterson, O. W	Sept. 30
Weaver, J. M	Sept. 30
Kromer, W. H	Oct. 1
Mohr, Geo. E	Oct. 1
Clifton, D. W	Oct. 7
Becker, Newton A	Oct. 28
Bedell, A. G	Nov. 15
Burrows, C. A	Nov. 17
Haag, Hugo A	Nov. 18
Hirsch, Floyd S	Nov. 18
McSparran, Wm J	Dec. 4
Cummings, M. J	Dec. 9
Potts, Sam C	Dec. 16
Whitehead, Jos	Dec. 21

THIRD SERVICE BARS.

1905–1913.

	1911.
Armiger, Geo	Feb. 23
Duckworth, J. T	Feb. 23
Simkins, A. B	Mar. 12
Constantine, J	Mar. 29
Harvey, R. J	Apr. 17
Price, Harvey	Apr. 25
Thompson, Frank Y	May 8
Woods, J. T	May 11
Englander, M	May 15
Farrell, Wm. H	May 15
Larcom, B. L	May 15
Gannon, Harry F	May 15
Mitchell, E. C	May 16
Mendes, A. S	May 16
Bettebenner, H	May 23
Stone, Archibald K	May 24
Beckel, W. O	May 29
Nelson, C. A	June 5
Patterson, A. C	June 5
Dawson, A. J	July 5
Perry, Wilbur S	July 6
Cleary, John W	July 12
Weitz, Wm. H	July 17
Bushnell, H. H	July 24
Martin, Wm. A	Aug. 14
Williams, H. J	Aug. 18
Donovan, Sam	Sept. 16
Barte, Geo. A	Sept. 19
Hamilton, C. J	Oct. 3
Tysinger, J. D	Oct. 20
McCann, Walter E	Oct. 31
Conners, Niel	Nov. 13
Dovell, J. P	Nov. 13
Campion, R. G	Nov. 25
Culbertson, X. W	Nov. 26

OFFICIAL CIRCULARS.

Hospital Farm at Corozal.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 625:

CONDITIONS OF EMPLOYMENT.

1. The rates of pay for hourly men will be 3, 5, 7, and 10 cents gold per hour, and for monthly men (foremen, clerks, etc.) $15, $20, and $25 gold per month.

2. Eight hours will constitute a day's labor.

3. The 3, 5, and 7-cent rates only will be paid to colored laborers and the 5, 7, and 10-cent rates to European laborers.

4. Employes will be furnished bachelor quarters, subsistence similar to that now furnished at kitchens and messes of the Supply Department, necessary laundry work, and plain work clothes.

5. All laborers must work at least two weeks at the lowest rate—3-cent and 5-cent for colored and European laborers, respectively—and until they show that they can earn a higher rate, before receiving higher pay.

6. Men having families dependent upon them and living with them at the farm will be allowed commutation of subsistence at the rate of 27 cents a day for colored men and 40 cents a day for white men for each day they are on duty or sick with a doctor's certificate covering, and shall be allowed the same commutation for Sundays and holidays, provided they shall have worked the day preceding and the day following such Sundays and holidays, or provided absence on those days was due to their illness.

7. Employes of the farm may purchase products of the farm for use of themselves and families at wholesale market prices.

8. Married quarters, when available, will be furnished in cases found to be most deserving after investigation by the farm advisory board.

9. Leave of absence without pay for any length of time may be granted by the superintendent of the farm, upon approval by the Governor.

10. Employes will be free to come and go as they please outside of regular working hours.

11. Employes will be subject to the orders of the superintendent. They must perform the tasks allotted to them, and on failure to do so, will be subject to discipline. When, in the opinion of the advisory board, such action becomes necessary, employes will be deported to their native countries, and will thereafter not be entitled to further assistance by the Government in any form.

12. Only men permanently disabled in line of duty with the Isthmian Canal Commission, Panama Railroad Company, Panama Canal, or in service connected with the construction of the Canal will be employed, except such supervisory force as may be necessary.

13. To receive employment, application must be made to the Governor of The Panama Canal on form provided for that purpose. When the application is approved, the applicant will be given employment.

DUTIES OF THE SUPERINTENDENT.

14. He will plan the work and general layout of the farm, subject to the approval of the Chief Health Officer and the Governor.

15. He will superintend the execution of all farm projects and the sale of products.

16. The government and assignment of duty of all employes, under such rules as may be approved by the Governor, will be in his hands.

17. The physician in charge of the insane will look after the health of the farm employes and will cooperate with the superintendent in the administration of the farm, should any question of jurisdiction arise.

18. The superintendent will grade and classify the laborers according to their various classes of employment and earning power.

FARM ADVISORY BOARD.

19. There shall be an advisory board, appointed by the Governor, to consist of three members, one from the Health Department, one from the Accounting Department, and one from the Governor's office.

GEO. W. GOETHALS,
Governor.

Santo Tomas Hospital.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 623:

1. Santo Tomas Hospital in the city of Panama is maintained for the purpose of treating persons in the

Republic of Panama who are not entitled to treatment in the hospitals of The Panama Canal. Persons in the city of Colon sent to Santo Tomas Hospital will be carried in the hospital car, upon presentation of proper authority, and the nurse in charge of the hospital car is instructed to accept such cases and to notify Santo Tomas Hospital that they are coming, prior to leaving Colon.

2. The alcalde of the city of Colon, the superintendent of Colon Hospital, and district physicians in The Panama Canal service, are proper officials to sign requests for treatment of patients in Santo Tomas Hospital.

3. Patients discharged from Santo Tomas Hospital, who must use the railroad in order to reach their destinations, will be provided with transportation by the superintendent of Santo Tomas Hospital, in order that they may be carried in the hospital car.

4. The part of the personnel of Santo Tomas Hospital which The Panama Canal will furnish is, as follows:

	Per annum
One superintendent	$3,600
Two physicians....each..	1,800
One chief nurse	1,500
Two nurses....each..	720

Geo. W. Goethals,
Governor.

Reports of Absences.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 602-1:

1. Effective immediately, all absences from work of employes for whatever reason must be covered either by:
(*a*) An excuse card (Form No. PC 464), or,
(*b*) Report of absence (Form No. PC 465).

2. Excuse cards will be issued to employes prior to absence to cover a leave of not less than one-half day or more than five days, either with or without pay, and upon return to duty must be handed to the timekeeper immediately. The timekeeper will forward the same to the time office with the time book.

3. In case of absence without permission, or on account of illness, or suspension, or return from leave authorized on regular leave order, a report of absence (Form No. PC 465) must be made out, "OK'd" by the proper official, and handed to the timekeeper immediately upon employe's return to work. In case of illness or injury, the doctor's certificate must be attached to this report.

4. These two forms constitute the basis for the leave records of employes and the authority to pay for leave, and failure to comply with this order will not be countenanced. Timekeepers must require an "excuse card" or a "report of absence" to cover every absence from work.

5. A dozen books of each form are sent to the head of each department and division herewith. Additional books may be requisitioned from Mount Hope.

Geo. W. Goethals,
Governor.

Commutation of Accrued Leave.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 9, 1914.

Circular No. 602-3:

1. Employes granted leave without pay to be spent in the tropics will not be paid the amounts due them for accrued leave earned prior to April 1, 1914, until the general payment of commutation of accrued leave is made, on or about July 1.

Geo. W. Goethals,
Governor.

Freight or Express Shipments to Employes.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 612:

PANAMA RAILROAD LINE.

1. An employe of The Panama Canal on the Isthmus, who desires to have goods or merchandise intended for his personal use forwarded to him by the Panama steamship and railroad lines at the special reduced freight rate allowed employes, must send his request for such forwarding, in sextuplicate, on the form provided for that purpose, through the head of the bureau or division in which he is employed, to the office of the Executive Secretary. Further instructions are found on the form provided for such requests.

OTHER LINES.

2. Approved requests for entry free of duty, of employes' shipments coming to the Isthmus via other than the Panama Railroad Steamship Line, or by express, will be returned to the employes submitting the requests, who must present the approved request to the agent of the steamship line or express company. If the shipment is destined for any station on the Panama railroad beyond the port of entry, the consignee must arrange for its forwarding. Employes may obtain the reduced freight rate over the Panama railroad by application to the office of the Executive Secretary.

3. Shipments for which formal requests for free admission have not been made, may be left in the hands of the transportation company until a request is approved by the Panama Government; but if the duty is paid, either by the employe or the transportation company, the Panama Government will not be asked to make a refund, unless it can be clearly shown that the payment of the duty was made without the authority of the employe, and that failure to forward request prior to arrival of shipment was due to circumstances beyond his control.

Geo. W. Goethals,
Governor.

Parcels Post Packages.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 613:

1. Parcels post packages containing articles for the exclusive use of an employe of The Panama Canal or of a contractor for The Panama Canal, or the family of such an employe, will be admitted free of duty.

2. Duty will not be remitted on articles imported for sale, or on tobacco in any form, spirituous liquors, or playing cards.

3. When the declared value of the contents of a package does not exceed three dollars United States currency, the package will be released by postmasters without the submission of a special form request.

4. To procure release from duty of packages whose declared value is greater than three dollars, the employe must submit a request in duplicate to the head of his department on the form provided for that purpose. The head of the department will certify the forms and send them to the office of the Executive Secretary for approval. The approved original will be sent to the employe making the request, who will present it to the postmaster.

5. Sealed packages on which a customs declaration has not been made by the sender will not be exempted under the provisions of paragraph 3. In such cases, the form must be submitted, and postmasters may require the addressee to open sealed packages before delivery to see that the declaration made on the form is a correct description of the contents.

Geo. W. Goethals,
Governor.

Official Records.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 615:

1. All official records must be carefully preserved and no records shall be disposed of without authority of the Governor.

REMOVAL OR DESTRUCTION.

2. Sections 5403 and 5408 of the Revised Statutes prescribe penalties for the fraudulent or wrongful destruction, withdrawal, or removal from any public office, of any public record, paper, or document therein deposited.

3. When records become obsolete or useless, and have no permanent or historical value, they shall be listed on a form provided therefor and submitted to the Governor, who will authorize disposition thereof upon receipt of a recommendation from the committee on the destruction of records, appointed in accordance with Section 5 of the Sundry Civil Act, approved August 24, 1912.

GIVING OUT INFORMATION.

4. Information obtained by employes in the course of office routine must not be discussed outside of the office, and employes will not handle or peruse official records which have not been referred to them in the course of business. Section 5498 of the Revised Statutes prescribes penalties for employes who aid or assist in the support of claims against the United States, other than in the discharge of official duties.

Geo. W. Goethals,
Governor.

Special Train Service.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 609:

1. With the approval of the Governor, special train service on the Panama railroad will be furnished employes at reduced rates, which will be quoted on application to the Superintendent of the railroad.

2. No special trains of Panama Canal equipment will be operated on the main line of the Panama railroad.

3. Requests for special train service should be made direct to the Governor, giving full details regarding the nature of the trip, number of passengers, points between which it is desired to travel, and starting and returning time. Only employes and their families will be allowed to ride on special trains authorized at employes' rates, and no transportation will be collected on such trains.

Geo. W. Goethals,
Governor.

Sick Leave for Periods of Less than Half a Day.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 8, 1914.

Circular No. 602-2:

1. In case of disability on account of injury or illness covering only part of a half-day working period, no charge shall be made against annual leave, but the time shall be allowed as gratuity time and charged into the work upon which the employe is engaged.

2. In these cases, request for medical treatment shall be made on the usual form and a notation will be made on the reverse of the request form by the physician, showing time under treatment. The employe will turn this form in when he returns to work. The employe will be allowed the time necessary for treatment, as determined by the physician, and time necessary to go to and return from the dispensary.

Geo. W. Goethals,
Governor.

Leprosy.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 621:

1. All cases of leprosy occurring in the cities of Colon and Panama, and the Canal Zone, in which the bacteriological examination is positive for bacillus lepræ, shall be sent to the leper asylum for detention.

2. Cases of leprosy from the cities of Colon and Panama and other parts of the Republic of Panama shall be admitted to the leper asylum upon the written request of the alcalde of the city, or the governor of the province, that such cases be admitted and maintained at the expense of the Republic of Panama. The charge for such maintenance shall be 75 cents per day.

Geo. W. Goethals,
Governor.

Binders for Circulars.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 17, 1914.

Heads of Departments and Divisions:

The official circulars now being issued are largely a codification of decisions reached under the Isthmian Canal Commission's administration. They are to form the basis of rules for the guidance of administrative officers and employes, and as occasion arises additions will be made to them by the issue of supplementary circulars.

In order that they may be available at all times and in convenient places, it is proposed to furnish loose-leaf binders in which they may be kept, and a printed index with blank spaces for such additions as may be necessary as new circulars are issued. The number of these binders will be limited. Heads of departments and divisions are requested to notify this office at once as to the number they will require to supply their main and field offices.

Geo. W. Goethals,
Governor.

Accountable Officials.

The Panama Canal,
Office of the Auditor,
Empire, C. Z., April 7, 1914.

Circular No. 56:

Effective April 1, 1914, the following are designated as the accountable officials of The Panama Canal:

Mr. D. C. Nutting, Jr., Superintendent, Mechanical Division.
Capt. W. H. Rose, Electrical Engineer, Electrical Division.
Lieut. Geo. R. Goethals, Assistant Engineer, Fortifications Division.
Mr. W. G. Comber, Resident Engineer, Dredging Division.
Mr. W. F. Beyer, Assistant Engineer, Division of Lighthouse Construction.
Capt. F. O. Whitlock, Assistant Chief Quartermaster, Supply Department.
Lieut.-Col. Chas. F. Mason, Chief Health Officer.
Mr. C. A. McIlvaine, Executive Secretary.
Lieut. F. Mears, Superintendent and Chief Engineer, Panama Railroad Company.
Mr. George M. Wells, Resident Engineer, Division of Municipal Engineering.
Mr. E. E. Lee, Superintendent of Erection.

Mr. Frank Holmes, Resident Engineer, Supply Department.
Mr. J. A. Walker, Superintendent, Balboa Terminals, Division of Terminal Construction.
Mr. W. J. Holmes, Superintendent of Transportation, Division of Terminal Construction.
Mr. Geo. A. Greenslade, General Superintendent.
Mr. C. H. Mann, Depot Quartermaster, Supply Department.
Mr. R. K. Morris, Assistant to the Chief Quartermaster, Supply Department.
Mr. B. C. Poole, District Quartermaster.
Mr. J. T. Smith, District Quartermaster.
Mr. H. F. Sedwick, District Quartermaster.
Mr. J. H. Humphrey, District Quartermaster.
Mr. Harry Dundas, District Quartermaster.
Mr. J. J. Fitzpatrick, District Quartermaster.
Mr. R. R. Watson, District Quartermaster.

H. A. A. Smith,
Auditor of The Panama Canal.

Approved:
Geo. W. Goethals,
Governor.

Acting Freight and Passenger Agent, P. R. R.

Panama Railroad Company,
Office of Superintendent and Chief Engineer,
Colon, R. P., April 15, 1914.

Circular No. 423:

All concerned—During the absence of Mr. J. C. Angel, freight and passenger agent, on leave, Mr. J. M. Beale is appointed acting freight and passenger agent, effective Tuedsay, April 14, 1914.

F. Mears,
Superintendent and Chief Engineer.

Approved:
Geo. W. Goethals,
President.

Organization for Supply Department.

The Panama Canal,
Office of the Chief Quartermaster,
Culebra, C. Z., April 7, 1914.

All concerned—The following organization is outlined for the Supply Department, effective April 13, 1914:

Capt. F. O. Whitlock, Assistant Chief Quartermaster, headquarters at Cristobal, will act as purchasing commissary.

The depot commissary at Cristobal, the local commissary buyer at Panama, and the inspector of hotels and messes will report direct to the Assistant Chief Quartermaster.

Mr. Benj. L. Jacobson is appointed depot commissary. The superintendents of manufacturing units, and storekeepeers in charge of wholesale departments will report direct to him. He will control the maintenance of stock for the retail commissaries, hotels, and messes. All requisitions for commissary supplies will be made on the depot commissary.

Retail storekeepers and stewards of hotels and messes will report to the district quartermaster of the district in which they are located. This will not apply to retail storekeepers at Balboa, La Boca, Cristobal, and Camp Bierd, who will report direct to the Chief Quartermaster, and to the managers of Hotels Washington, Tivoli, and Aspinwall, who will report direct to the Assistant Chief Quartermaster.

Mr. D. W. MacCormack will act as inspector of retail commissaries, with headquarters in the office of the Chief Quartermaster at Culebra. All complaints and matters of a general nature, pertaining to the business of the retail commissaries, will be forwarded to the Chief Quartermaster.

The property and personnel divisions of the former Commissary-Subsistence office will be transferred to the office of the Chief Quartermaster, at Culebra.

District Quartermasters will submit, on or before April 10, a statement showing the present forces within their districts segregated under the headings of quartermaster, subsistence, and commissary, and the proposed consolidated force for this work. The proposed consolidation will be the basis of the allotment to be in force until June 30, 1914.

The depot commissary, the retail storekeepers at Balboa, La Boca, Cristobal, and Camp Bierd, and the managers of the Hotels Washington, Tivoli, and Aspinwall will prepare similar statements.

R. E. Wood,
Chief Quartermaster.

Will of William Telfer.

First Judicial Court,
Ancon, C. Z., April 20, 1914.

Notice is hereby given that the will of William Telfer, who died in this circuit on the 16th day of November, 1913, has been presented by the Administrator of Estates for probate in the Circuit Court of the Circuit aforesald, and the Court has appointed the 9th day of May, 1914, at 9 o'clock a. m., in the court house at Ancon for all to appear and contest the allowance of said will.

E. M. Goolsby,
Clerk of said Court.

CANAL CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The moving picture schedule for the week of April 27 to May 2 is, as follows: Monday, Cristobal; Tuesday, Empire; Wednesday, Gatun; Thursday, Porto Bello and Corozal; Friday, Culebra; Saturday, Pedro Miguel.

Miss Gay Zenola MacLaren will sail from the United States about April 17, for her fourth tour of the Canal Zone clubhouses. She will give imitative recitals of well known plays. On her last trip to the Isthmus, in December, 1912, and January, 1913, she appeared 29 times. Among the plays she will present this season will be "The auctioneer," "Peg o' my heart" and "The misleading lady."

The standing of the teams in the all-Isthmian duckpin tournament on April 19 was, as follows:

	Won	*Lost*	P. C.
Cristobal	17	10	.630
Empire	15	12	.555
Corozal	14	13	.518
Culebra	15	15	.500
Pedro Miguel	13	14	.481
Gatun	7	17	.292

BALBOA.

A special fire stairway has been ordered for the hall on the second floor, and moving picture exhibitions will be cancelled, pending the construction of same. It is expected that this stairway will be completed during the next few days.

J. W. Sandrock will be on duty in the barber shop on Tuesdays, Thursdays, and Saturdays until such time as arrangements can be made for him to spend all of his time at Balboa.

A new talking machine has been installed for the benefit of the members.

A minstrel show is being organized by some of the young people of Balboa. All those who are interested are requested to see the secretary.

COROZAL.

The tournament to decide the championship of the Corozal chess club has been won by Mr. F. V. Fields, who lost only two out of 16 games played. The results of the match played recently with Pedro Miguel are, as follows:

Corozal	*Won*	*Pedro Miguel*	*Won*
Wilson	1	Capwell	1
Moorehead	2	Schutt	0
Nagele	2	Schropshire	0
Mills	2	Cassell	0
Fields	1	Wilson	0
Totals	8		1

The high scores in bowling for the week ending April 18 were, as follows: *Tenpins*—Thirsk, 200, 234; Parkis, 213, 215; Deust, 211. *Duckpins*—McDonald, 107; King, C. Sims, Garrett, Ruggles, and Kiley, 101 each. *Baltimore duckpins*—Sims, 156.

Four teams of indoor baseball were organized the past week in the local league. Each team will play the others two games, two games being played each week in the league. The regular team will play Cristobal on Saturday, April 25.

PEDRO MIGUEL.

At a meeting of the local executive council of the Y. M. C. A., Dr. Gibson was elected chairman of the council. The other members are Messrs. Dougherty and Bartholomew of Pedro Miguel and Messrs. MacFarland and Pickett of Paraiso. The purpose of the council is to advise in matters relative to conducting the work of the clubhouse. All suggestions as to the betterment of conditions may be brought before this council for consideration.

A smoker will be held for the men on Tuesday evening, April 28. The program will consist of solos, gymnastic stunts, magic tricks, etc., with a good feed during the intermission. All the men in Paraiso and Pedro Miguel are invited to attend. This will be the first "smoker" given in the Pedro Miguel clubhouse.

A May party will be given for the amusement of the children on May 1. The party will last from 5 to 7 p.m. There will be a number of games for the children to play, and a lunch served to them at the close of the entertainment. All children from Paraiso and Pedro Miguel are invited to attend and have a good time together.

Some of the gymnasium equipment from Empire has been transferred to Pedro Miguel, thus making our equipment more complete. If any of the men are interested in gymnastics or gymnastic games, they may have a special night each week for such work by arranging with the secretary for a class.

The boys have started a ragtime duckpin tournament with 15 boys entered.

The last of the five lectures on first aid to the injured by Dr. Gibson, was given on Friday evening. These lectures dealt with anatomy, physiology, artificial respiration, and the nervous system, sprains, fractures, and dislocations and their treatment, infections and poisoning, etc.

CULEBRA.

High scores in duckpins during the past week were, as follows:

R. Koperski, 102, 104, 110; Bliss, 103; Seeley, 100, 105.

The smoker on Wednesday night, was attended by 135 men. The following program was given: Solo, with guitar accompaniment, and whistling solo, with piano accompaniment, by W. W. DeLaMater; bass solo, by Louis Cantor; moving picture reel, "Romance in the clouds;" "Wise and otherwise," by Messrs. Brittin and Cantor; juggling, by T. L. Brennan; slight of hand and magic, by Herr Olms and Fraulein Nelly; moving picture reel, "Queen of the sea nymphs." Music was furnished during the evening by Davis' orchestra, with C. C. Pearsall at the piano. Refreshments of homemade cake, ice cream, and cold *aqua pura* were served during the program; also cigars.

At the song service on Sunday night, April 19, a lecture was given on "The social world in Christ's time," illustrated by colored and sepia slides, showing the manner of living in ancient times. Song slides were also thrown on the screen, from which the audience joined in singing. This is the first in a series of three illustrated lectures. Next to be given is entitled "The political world in Christ's time," and followed by "The religious world in Christ's time." The slides are copies of photographs taken on the ground.

GATUN.

Motion pictures illustrating the "Life of our Saviour" were shown on Tuesday evening, April 21. Appropriate piano music was played by Mr. S. C. Fagard. There was an unusally large number of children present.

Photographs of Colonel Sibert's banquet are on sale at the clubhouse, at 50 cents each.

A number of members of the Y. M. C. A. who are taking lessons on musical instruments were challenged to a game of basketball by a group of the younger members. The two teams are known as the "Musical Five" and the "Sports." The game was a tie, 7 to 7, at the end of the first half. The second half was hotly contested, and resulted in a victory for the musicians, by a score of 14 to 12. The teams were as, follows:

"Musical Five"—Walker, F. G. Smith, Wright, Loulan, Conkerton. "Sports"—Griffith, Gray, Godwin, McEwen, Garrison.

The boys' first aid class has started a new course. The physicial director is in charge. Any junior member of the Y. M. C. A. may join. As soon as five men sign up, a class for the seniors will be begun.

Suggestions for new books for the library will be gladly received.

A special effort is being made to increase the membership of the local association. Members of other clubhouses, now living in Gatun, are urged to transfer their tickets.

CRISTOBAL

Mr. W. H. Fenley gave an interesting talk on "Railroad signals and interlocking," before the Discussion Club on Thursday evening, April 16.

A combination class will be held in the gymnasium every week, providing schedule of moving pictures and other affairs will permit. This wlll give both the young men's and men's class two evenings a week of supervised calisthenics and games.

The Corozal indoor baseball team will play the young men's team at Cristobal on Saturday evening, May 2.

All gymnasium classes are rehearsing for the circus which will take place some time in May. There will be about 25 acts.

PORTO BELLO.

Inasmuch as it has not yet been definitely decided when Porto Bello will close down, announcement as to the future of the Porto Bello clubhouse will be deferred until the next issue of The Canal Record.

Easter Sunday was celebrated in Porto Bello by exercises conducted by the Sunday school. The following program was rendered:

Song, Merry bells of Easter; Bible reading, Mrs. Woolworth; prayer, Mrs. Sebey; recitation, Pauline Smith; recitation, Anna Colberg; recitation, Edward Keene; recitation, John Bruck; song, Bearing fruit for Jesus; recitation, Lillian Colberg; recitation, Gladys Smith; recitation, Hazel Bruck; song, Pauline Smith and Doris Geyer; recitation, Dorothy Bruck; recitation, Mabel Colberg; recitation, Gladys Geyer; song, Mrs. Wilkes; recitation, Doris Geyer; recitation, Claud Smith; recitation, Rachael Allen; recitation, Helen Keene; song, "Sweet is the message."

About 60 stereopticon slides illustrating Bunyon's "Pilgrim's progress" and the "Birth and childhood of Jesus" were shown. The lecture accompanying the views was given by Mr. Woolworth, secretary of the clubhouse.

A "Wind-up" social was held in the clubhouse on Saturday night, April 18, in which all the residents of Porto Bello joined. Four excellent reels were shown and Mr. S. C. Fagard of Niagara Falls, played the piano during the moving picture reels. Coffee, sandwiches, cake, and ice cream were served by the ladies. Mrs. Allen played a piano solo, and Mrs. Wilkes sang.

COMMISSARY DEPARTMENT.

Changes in Cold Storage List.

The following changes have been made, effective April 21, in the prices of cold storage provisions in the commissary stores, as published in last week's issue of THE CANAL RECORD: Eggs have been reduced to 26 cents per dozen; cauliflower has been advanced to 18 cents per pound, lettuce has been reduced to 8 cents per pound; artichokes, asparagus, horseradish, and rhubarb have been placed on sale.

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Family Quarters.

Applications for married quarters on file on March 31, were, as follows:

DISTRICT.	List No. 1.	List. No. 2
Balboa	33 (29)	203 (101)
Ancon	45 (37)	222 (130)
Ancon Hospital	1 (1)	7
Corozal	22 (21)	255 (142)
Paraiso	....	138 (39)
Culebra	2 (2)	1 (1)
Empire	....	6
Gatun	....	99 (8)
Cristobal	....	134 (30)
Porto Bello	....	2 (1)
Total	103 (90)	1,067 (452)

NOTE—The figures in parentheses show the number of applicants already occupying regular or nonhousekeeping family quarters at stations other than those at which applications are filed.

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Misdirected Letters.

ANCON, C. Z., April 20, 1914.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Acting Director of Posts and may he secured upon request of the addressees:

Anthony, Miss M. B.
Bodden, Capt. John V.
Chaddock, Mrs. W. B.
Hazen, Mrs. C. D.
Heisey, Edward
Henry, John
Herbert, James
Keaney, T. J.
Lenow, C. B.
Marckland, George
Miles, John
Phillips, Thos. C.
Roark, Mrs. George M.
Tripp, Burton A.
Jones, Alonzo B.

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Post-office Established at Frijoles.

ANCON, C. Z., April 16, 1914.

To all postmasters—You are advised that effective this date, a post-office has been established at Frijoles, Canal Zone, and the Panama railroad agent at that point has been designated as the postmaster.

This office has been established for the receipt and dispatch of ordinary and registered mail. No money order or postal savings business will he transacted by it.

J. J. GILBERT,
Acting Director of Posts.

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Supplies for the Canal.

The following steamers with supplies for The Panama Canal and Panama Railroad Company arrived at the ports of Colon and Cristobal during the week ending April 18:

Sixaola, April 12, from Boston, with one case electrical goods, for Mechanical Division.

Dallington, April 12, from Baltimore, with 232 boxes window glass, for permanent buildings; 1,211 packages structural steel, for Second Division; 684 pieces steel rails, for Panama railroad; 183 packages chain fender material, for First Division; 250 bundles brooms, for stock.

Prinz Sigismund, April 13, from New York, with 60 harrels coal tar, for stock.

Allianca, April 14, from New York with 140 boxes glassware, 67 cases bottles, for Sanitary Department; 30 kegs staples, 210 crates roofing tile, 136 harrels cement, 696 bundles steel bars, 347 bundles steel channels, for permanent buildings; 94 crates roofing tile, for administration huilding; 23 packages fittings, 56 barrels leadite, for Municipal Engineering; 75 packages chain fender material, 8 cases chain fender material, 113 packages electrical material, for First Division; 16 cases steel shutters, 4 boxes welding apparatus, 505 packages fibre conduit, for Mechanical Division; 10 cases dredging sleeves, for Dredging Division; 100 bundles shovels, 45 cases files, 20 cases paper, 100 drums carbide calcium, 45 cases paint, 1,378 bags oats, 10 cases lamps, 426 barrels coal tar pitch, 65 packages lead pipe and bends, 267 boxes soap, 59 bales oakum, for stock; and a miscellaneous cargo, the whole consisting of 5,761 packages, weighing 465 tons.

Tricolor, April 13, from Portland, with 3,203,518 board feet Douglas fir lumber, for stock; 8 pieces Douglas fir spud timbers, for Dredging Division; 198 pieces untreated Douglas fir piling, for Fourth Division.

Cartago, April 15, from New Orleans, with 423 pieces treated switch ties, for Panama Railroad Company; 125 pieces untreated yellow pine piling, 23 bundles rosin, 24,161 board feet siding, for stock.

Almirante, April 15, from New York, with three boxes electrical material, for permanent buildings; 70 cases chain fender material, for First Division; 32 boxes toe calks, for stock.

Abangarez, April 16, from New Orleans, with 542 pieces cast iron pipe, for Division of Municipal Engineering; 191 packages grader equipment, for Dredging Division; 11,304 board feet, yellow pine flooring, for stock.

Calamares, April 17, from New York, with 242 bundles reinforcing steel, for Pacific terminals; six crates structural steel, for Fortifications Division; 48 packages chain fender material, for First Division; 309 cases lubricating oils, 99 cases cup grease, 75 valves, 26 reels barbed wire, for stock.

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Rainfall, April 1 to April 18, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	1.54	2	1.85
Balboa	1.79	2	1.93
*Miraflores	1.98	2 & 4	4.08
Pedro Miguel	1.35	4	1.43
Rio Grande	.14	2	.21
Central Section—			
Culebra	.18	2	.24
*Camacho	.11	3	.20
Empire	.23	2	.23
Gamboa	1.11	2	1.27
*Juan Mina	.44	3	.48
Alhajuela	.01	3 & 4	.02
*El Vigia	.02	8	.03
Frijoles	1.46	3	1.83
*Monte Lirio	1.50	3	2.33
Atlantic Section—			
Gatun	.10	11	.50
*Brazos Brook	1.34	3	1.85
Colon	.90	2	1.32
†Porto Bello	.18	4	.42

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight.

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Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes for the week ending midnight, Saturday, April 18, 1914. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela	Gamboa.	Gatun Lake.	Miraflores Lake.
Sun., April 12	124.6	91.1	84.8	84.8	45.0
Mon., April 13	124.6	91.0	84.8	84.8	45.0
Tues., April 14	124.6	91.0	84.8	84.8	42.8
Wed., April 15	124.6	90.9	84.8	84.8	43.0
Thurs., April 16	124.6	91.9	84.8	84.8	43.8
Fri., April 17	124.6	90.9	84.8	84.8	44.0
Sat., April 18	124.6	91.0	84.8	84.8	45.5
Height of low water to nearest foot	125.0	91.0			

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Tide Table.

The following table shows the time of high and low tides at Panama for the week ending May 2, 1914:

DATE.	Low	High	Low	High	Low
	A.M.	A.M.	A.M.	P.M.	P.M.
April 26	......	4.22	10.29	4.27	10.48
April 27	.....	4.52	11.02	4.58	11.21
April 28	.....	5 21	11 36	5.30	11.56
			P.M.		
April 29	...	6 56	12.11	6.04	......
April 30	12 34	6 32	12.50	6.42	......
May 1	1 14	7 14	1.34	7.27	......
May 2	2 03	8.01	2.29	8.21	......

75th meridian time.

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Movement of Vessels, Port of Balboa.

The following vessels arrived at, or departed from, the port of Balboa during the week ending April 18, 1914:

Arrivals—April 13, *Ecuador*, from Guayaquil, *Victoria*, from Valparaiso, *Tricolor*, from Puget Sound, *Huallaga*, from Callao; April 16, *Newport*, from San Francisco.

Departures—April 13, *Mantara*, to Callao, *Aysen*, to Valparaiso; April 17, *San José*, to San Francisco; April 18, *Ecuador*, to Guayaquil, *Luckenbach*, to San Francisco.

MOVEMENTS OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.

		Sails.	Arrives.
*Ancon	P. R. R.	April 20	April 27
*Advance	P. R. R.	April 27	May 3
*Allianca	P. R. R.	May 2	May 8
*Panama	P. R. R.	May 9	May 15
*Advance	P. R. R.	May 16	May 23
*Colon	P. R. R.	May 22	May 28
CRISTOBAL TO NEW YORK.			
†Colon	P. R. R.	April 26	May 2
†Ancon	P. R. R.	May 2	May 9
†Panama	P. R. R.	May 9	May 15
NEW YORK TO COLON.			
*Santa Marta	U. F. C.	April 15	April 22
*Pastores	U. F. C.	April 18	April 25
Prinz Eitel Friedrich	H.-A.	April 18	April 28
*Metapan	U. F. C.	April 22	April 29
Prinz Aug. Wilhelm	H.-A.	April 25	May 4
*Tenadores	U. F. C.	April 25	May 2
Oruba	R. M.	April 25	May 3
*Zacapa	U. F. C.	April 29	May 6
Calamares	U. F. C.	May 2	May 9
Prinz Sigismund	H.-A.	May 2	May 12
*Almirante	U. F. C.	May 6	May 13
Trent	R. M.	May 9	May 17
Pastores	U. F. C.	May 9	May 16
Prinz Joachim	H.-A.	May 9	May 18
*Santa Marta	U. F. C.	May 13	May 20
Tenadores	U. F. C.	May 16	May 23
Prinz Eitel Friedrich	H.-A.	May 16	May 26
*Metapan	U. F. C.	May 20	May 27
*Calamares	U. F. C.	May 23	May 30
Prinz August Wilhelm	H.-A.	May 23	June 1
Orotava	R. M.	May 23	June 1
COLON TO NEW YORK.			
Calamares	U. F. C.	April 22	April 29
Almirante	U. F. C.	April 23	April 30
Prinz Joachim	H.-A.	April 28	May 6
Trent	R. M.	April 28	May 6
Pastores	U. F. C.	April 29	May 6
Santa Marta	U. F. C.	April 30	May 7
Prinz Eitel Friedrich	H.-A.	May 4	May 13
Tenadores	U. F. C.	May 6	May 13
Metapan	U. F. C.	May 7	May 15
Prinz August Wilhelm	H.-A.	May 12	May 20
Orotava	R. M.	May 12	May 20
Calamares	U. F. C.	May 13	May 20
Zacapa	U. F. C.	May 14	May 22
Prinz Sigismund	H.-A.	May 18	May 27
Pastores	U. F. C.	May 20	May 27
Almirante	U. F. C.	May 21	May 29
Prinz Joachim	H.-A.	May 26	June 3
Danube	R. M.	May 26	June 3
NEW ORLEANS TO COLON.			
Heredia	U. F. C.	April 15	April 22
*Atenas	U. F. C.	April 18	April 23
Parismina	U. F. C.	April 22	April 29
*Turrialba	U. F. C.	April 25	April 30
COLON TO NEW ORLEANS.			
‡Abangarez	U. F. C.	April 23	April 28
Heredia	U. F. C.	April 23	May 1
‡Atenas	U. F. C.	April 30	May 5
Parismina	U. F. C.	April 30	May 8
BOSTON TO COLON.			
Tivives	U. F. C.	April 16	April 24
Sixaola	U. F. C.	April 23	May 1
Carrillo	U. F. C.	April 30	May 8
COLON TO BOSTON.			
Tivives	U. F. C.	April 26	May 4
Sixaola	U. F. C.	May 3	May 11
Carrillo	U. F. C.	May 10	May 18

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Piers 8, 9, and 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 2 p. m.; for Southampton, on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays at 3 p.m., for New Orleans, via Bocas del Toro and Havana, on Thursdays at 4 p.m.; ships for New York, via Kingston, on Thursdays, at 2 p. m.; for New York direct, on Wednesdays at 2 p. m.; for Limon and Bocas del Toro on Saturdays at 4 p. m.; for Bocas del Toro direct, on Thursdays at 4 p. m.; and for Boston, via Port Antonio, on Sundays at 3 p. m.

The Hamburg-American steamers *Prinz Eitel Friedrich* and *Prinz Sigismund* sail for New York, via Kingston and Fortune Island, on Mondays at 10 a. m.; the *Prinz August Wilhelm* and *Prinz Joachim* sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays at 10 a. m.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, APRIL 29, 1914. No. 36.

The Canal Record

Official publication of The Panama Canal.

The Canal Record is published weekly free of charge, one copy each, to all employes of The Panama Canal and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company or five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Protecting the Canal.

Pursuant to instructions from the Secretary of War, cabled on April 24, to exercise increased vigilance in the protection of the Canal, Governor Goethals requested the commanding officer of the Tenth Infantry to take over the guarding of the locks, and for this purpose the latter despatched, by special train leaving Las Cascadas at 6 p. m., April 24, two companies of the regiment to Gatun, one company to Pedro Miguel, and one to Miraflores, to protect the locks and spillways.

Pilot Boat for Pacific Entrance.

Requisition was made by cable, on April 24, on the Washington office of The Panama Canal for the purchase, in open market, of a gasoline launch to be used as a pilot boat in the Pacific entrance. The launch is to be similar to the pilot boat *Dixie*, now in use in Colon harbor, and to the Colon quarantine launch *Psyche*, and the *Santa Rita*, in use by the forces constructing the east breakwater in Limon Bay. The specifications on which these launches were built will govern the construction of the new vessel, and delivery is to be made by July 1. This type of launch is 35 feet six inches long, with 8-foot beam, and capable of a speed of about 10 knots.

To Report a Plan for the Operation of Canal Terminal Docks.

A commission consisting of Mr. Carroll S. Smith, of New York City, and Mr. J. M. Barrett, of Buffalo, N. Y., appointed by Mr. E. A. Drake, First Vice-President of the Panama Railroad Company, arrived on the Isthmus on the *Panama* on April 8, accompanied by a statistician, to make a study and report on the most practicable and effective plan for handling cargo to and from vessels at the Canal terminals. They are considering the berthing of vessels, and the rapid handling of cargo, both to other vessels and to the trains of the Panama railroad, and the reloading of cargo. They are to recommend a scale of charges for wharfage, cranage, switching, and the transfer of cargo across and between docks and slips. They have been instructed to make these charges appropriate, and possibly remunerative, allowing for cost of amortization, interest on the capital invested, and depreciation of plant. It is not, however, the expectation of the management of the railroad that a scale of charges can be instituted that will make the terminals self-supporting at first. On the contrary, it is part of the policy to go to some expense to attract traffic to the Canal, and the commission is instructed to set a scale which shall be equitable and, in its judgment, most likely best to conserve the interests of all concerned.

Vessels Diverted from Tehuantepec Route.

The steamship *Columbian* of the American-Hawaiian Steamship Company, arrived in Panama Bay on Tuesday, April 28, and was berthed at Balboa the following morning, to discharge its cargo of 8,000 tons of sugar for transshipment. This vessel has been diverted from Salina Cruz, the Pacific terminus of the Tehuantepec railway, on account of the recent interruption of traffic over that road. The *Dakotan*, of the American-Hawaiian service, is due to arrive at Cristobal on May 3, to receive the *Columbian's* cargo. The *Nevadan*, of the same line, is expected at Balboa in the afternoon of Wednesday, April 29, with 3,900 tons of general cargo.

Air Compressors Transferred to Paraiso Shops.

Two of the four 550-cubic foot air compressors formerly used at Miraflores Locks by the McClintic-Marshall Construction Company, in the construction of the lock gates, have been transferred to Paraiso shops. They were placed in operation there in the morning of Monday, April 20, to furnish a local supply of compressed air for use in the shops. The other two are being used at Miraflores Locks by the Division of Erection, in its operations in connection with the installation of machinery. One of these may later be transferred to Paraiso shops, or both, with two similarly purchased at Gatun Locks, may be transferred to the dry dock shops at Mount Hope, depending on the development of requirements.

Resumption of Sand Reclamation Service.

Inasmuch as the new docks and sand wharf at Balboa will not be ready for use in connection with the sand service from Punta Chamé within six months, the present and prospective rates of sand consumption threaten to exhaust the storage pile on the east side of Miraflores Locks before that time. At the time the sand service was discontinued, on February 7, there were 75,000 cubic yards in storage.

A committee appointed by the Governor and consisting of representatives of the Dredging Division and of the Supply Department, and Mr. George A. Greenslade, general superintendent, who has charge of the sand in storage and its distribution to the points of consumption, met at the office of Mr. Comber on Thursday, April 9, to consider the situation and recommend a course of action. The committee recommended that the sand service be resumed at once, the output to be handled at the lower east wing wall at Miraflores Locks, until the sand cranes at Balboa can be placed in service again. The sand will be handled by berm and locomotive cranes.

In conformance with this program, the first 1,000 cubic yards of sand were delivered at Miraflores Locks on the morning of Saturday, April 25.

Duct Line from Hotel Tivoli to New Administration Building.

Forces of the Electrical Division are engaged in laying an 8-way duct line to connect the Hotel Tivoli with the new administration building, on the southwest side of Ancon Hill. This is a part of the proposed permanent system for carrying the wires of the electric light and power, and telephone systems underground.

A transformer substation will be built at Balboa, as part of the transmission system from the Gatun hydroelectric station. Current will be carried to the administration building, and thence to the Hotel Tivoli, on underground lines at a potential of 2,200 volts, distribution to the various consuming circuits being made through local transformers at 110-220 volts.

The duct line now being installed follows the highways, from the hotel to the entrance to Ancon Hospital, and from there through the hospital grounds to the administration building. It will be about 5,500 feet long. It consists of eight separate 5-inch fibre conduits, held parallel in concrete spacers set at intervals of about three feet, and imbedded in rough concrete for protection. The line is being laid from two to seven feet below the surface of the ground, depending on the presence of obstacles to be passed, such as water and sewer pipes. Up to Tuesday, April 28, it has been laid as far as a point above Ward 15, in Ancon Hospital.

Supplying Circulating Water to Condensers at Miraflores Power Plant.

On account of the recent lowering of Miraflores Lake, which brought the surface of the water below the intakes of the pipes which have been installed along the east side of the spillway discharge channel to supply cooling water to the condenser system of the Miraflores steam electric plant, the spillway gate nearest Miraflores Locks has been kept open. A part of the water thus made to flow through the discharge channel has been diverted into the circulating water intake tunnel, passing under the power station, just as part of the Rio Grande used to be diverted, before the stream was cut off by the building of the spillway dam.

The pipe line system consists of two 20-inch cast iron pipes, leading from intakes, at elevation 45 feet above sealevel, in the lake near the east end of the spillway, to the north end of the circulating tunnel, a distance of about 700 feet. For most of their length, the pipes are imbedded in the concrete of the wall lining the east side of the spillway discharge channel. The circulating tunnel is square in section, four feet on the side, and it is not necessary to use either of the two pipes at full capacity to supply enough fresh water to keep the water in the tunnel cool enough for condensing purposes; but the pipes have been installed in duplicate, in order that the second one may be thrown into immediate use in case the first becomes obstructed.

Temporary Office of Electrical Division

The office of the Electrical Division was moved on Sunday, April 19, from the frame building at Balboa, serving as temporary offices for the Mechanical Division until the permanent office building shall have been completed, to building No. 9 of the terminals. The change was made in order to give more room to both the Electrical Division and the principal office and drafting forces of the Mechanical Divsion, who have been considerably crowded. Building No. 9 was erected to house the proposed galvanizing plant, but the machinery has not arrived from the United States.

Withdrawal of International Insurance Company from Canal Zone.

The International Insurance Company (Compañia Internacional de Seguros), of Panama, has advised the Executive Secretary of its intention to withdraw from the business of underwriting fire insurance in the Canal Zone. All persons having any claims against the company arising from policies issued by it upon property in the Canal Zone, or who hold the company's policies upon property located in the Zone, are requested to communicate with the office of the Executive Secretary, Ancon, C. Z.

Cigar Stands in Canal Hotels.

Stands for the sale of cigars and cigarettes are to be placed in the Canal hotels at Balboa, Ancon, and Pedro Miguel, in charge of the clerks who take up coupons or cash for meals. Commissary coupons only will be accepted in payment. If the patronage of the stands warrants an extension of the system, they will be placed in the other line hotels.

Departing Employes to Advise Postmasters of New Addresses.

On account of current departures from the Isthmus of employes leaving the service of the Canal and Panama railroad, the Acting Director of Posts has issued a circular to all postmasters calling their attention to the desirability of obtaining from such employes their new addresses, for forwarding purposes. Blank cards with the regular postal change of address form are in the hands of all postmasters, and the Acting Director of Posts points out that the cooperation of departing employes in this matter will be to the advantage of all concerned.

Tivoli Dispensary Consolidated with Ancon Hospital.

The Tivoli dispensary, situated on the street leading from the Tivoli road to the Ancon fire station, will be abolished at the close of business on Thursday, April 30. Thereafter, a district physician having his headquarters in the admitting office at the gate of Ancon Hospital, will look after all Ancon dispensary visits, including physical examinations for employes, and will make visits to quarters. His office hours will be the same as heretofore at the Tivoli dispensary, that is, from 8 to 9.30 a. m., from 12 m. to 1 p. m., and from 4 to 6 p. m.; on Sundays and holidays, from 8 to 9.30 a. m., only. His prescriptions will be filled at the Ancon Hospital pharmacy.

LABOR FORCE AND QUARTERS IN MARCH.

The force report for March 25 shows the actual working force of the Isthmian Canal Commission on that date to have been 27,392; of the Panama railroad, 4,478; of the Panama railroad commissary department, 1,297; and of contractors, 34; a total working force of 33,201, an increase of 1,400, as compared with the statement for February 25. The gold force on the Canal work, composed almost exclusively of white Americans, was 4,560, divided, as follows: Canal Commission, 3,850; Panama railroad, 467; Panama railroad commissary, 243. A statement of the Canal Commission force, by divisions, follows:

Department or Division.	Silver Employes*													Total silver.	Total gold.	Grand total.
	Artisans.						European laborers.		West Indian laborers.							
	Monthly	44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents.	7 & 5 cents.			
Construction & Engineering..	3,808	6	5	273	1,127	3,481	814	595	54	67	4,077	2,274	153	16,734	2,744	19,478
Civil Admin....	130	..	..	...	.....	.....	.....	.....	...	...	.....	.....	...	130	315	445
Sanitation......	504	..	..	2	2	3	.....	.....	...	...	38	292	41	882	240	1,122
Quartermaster's	965	..	..	383	600	1,029	4	.....	...	...	1,059	1,070	26	5,136	392	5,528
Subsistence.....	620	..	..	2	1	.....	.....	.....	...	...	2	.....	23	648	40	688
Disbursements .	7	..	..	...	.....	.....	.....	.....	...	...	.....	.....	...	7	17	24
Examination of Accounts.....	5	..	..	...	.....	.....	.....	.....	...	...	.....	.....	...	5	102	107
Total......	6,039	6	5	660	1,730	4,513	818	595	54	67	5,176	3,636	†243	23,542	3,850	27,392
Month previous.	5,846	6	4	593	1,534	4,286	864	536	86	157	4,959	3,806	‡232	22,909	3,908	26,817

I. C. C. force, 27,392; Panama railroad force, 4,478; Panama railroad commissary force, 1,297. Total 33,201.
*All wages specified are in gold. †Includes 175 at five cents. ‡Includes 131 at five cents.

The force report of the Department of Construction and Engineering, including the employes of contractors, as of March 25, follows:

Division.	Silver Employes*													Total silver.	Total gold.	Grand total.
	Artisans.						European laborers.		West Indian laborers.							
	Monthly	44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents	16 cents.	13 cents	10 cents	7 & 5 cents.			
First Div.......	131	..	..	66	314	861	8	2	...	...	697	318	21	2,418	414	2,832
Second Div.....	1,025	..	..	39	234	871	306	288	...	...	1,064	692	41	4,560	569	5,129
Fourth Div.....	245	..	..	11	45	94	462	246	53	62	135	662	28	2,043	218	2,261
Dredging Div...	1,802	..	..	16	47	99	13	13	...	5	160	2	3	2,160	348	2,508
Fortifications Division	130	..	..	58	131	345	2	......	1	...	417	96	4	1,184	98	1,282
Municipal Engineering.....	249	..	..	60	226	425	2	45	...	...	465	318	30	1,820	114	1,934
Mechanical Div.	226	6	5	23	130	786	21	1	...	...	1,139	186	26	2,549	983	3,532
U. S. Steel Products Co......	......	..	..	...	.....	.....	......	......	...	...	.....	......	....	12	11	23
Chicago House Wrecking Co.	......	..	..	...	.....	.....	......	......	...	...	.....	......	....	8	3	11
Total......	3,808	6	5	273	1,127	3,481	814	595	54	67	4,077	2,274	†153	§16,734	§2,744	§19,478
Month previous	3,612	6	4	312	1,090	3,404	857	534	86	157	4,107	2,360	‡158	§16,687	§2,845	§19,532

*All wages specified are in gold. †Includes 121 at five cents. ‡Includes 100 at five cents. §Forces of contractors (total 34 on March 25), not included in these totals.

QUARTERS.

A report of Canal Commission and Panama railroad quarters occupied on March 31, follows:

Place.	Gold.			Europeans.			West Indians.		
	Men	*Women*	*Children*	*Men*	*Women*	*Children*	*Men*	*Women*	*Children*
Ancon[1]	801	328	258	......	......	......	404	40	4
Balboa	555	32	30	516	12	15	1,170	161	246
Corozal[2]	814	239	201	426	......	......	553[3]	36	29
Cristobal[6]........................	820	354	379	48	......	......	1,056[7]	193	407
Culebra........................	311	143	130	79	30	43	551	232	308
Empire[4]........................	510	262	300	49	6	17	240	120	204
Gatun........................	386	187	183	194	5	11	691[5]	32	34
Paraiso........................	283	74	78	130	4	12	325	110	176
Pedro Miguel........................	208	110	124	160	......	......	228	......	......
Porto Bello	58	27	22	80[9]	1	2	204	3	7
Toro Point........................	68[8]	12	11	53	......	......	159	......	......
Total	4,814	1,768	1,716	1,735	53	100	5,581	927	1,415

(1) Includes Sabanas police station, Taboga Island, Culebra Islands and Palo Seco. (2) Includes Miraflores. (3) Includes 55 Panamanians. (4) Includes Las Cascadas and Bas Obispo. (5) Includes seven colored Americans. (6) Includes Colon Beach and Colon Hospital. (7) Includes seven East Indians, nine American citizens, and 65 Panamanians. (8) Includes 25 Coast Artillery men. (9) Includes nine Asiatics. Gold force of contractors (included above), two familes, 49 bachelors.

CHURCHES AND SOCIETIES.

Empire Christian Endeavor Society Disbanded—General Notes.

At the meeting of the Empire Christian Endeavor Society on Thursday, evening, April 16, it was decided to disband the society, on account of changes in membership and the removal of members. At the same time, the officers recommended that those members still remaining in the village should hold informal meetings on Sunday mornings in the chapel, in order to keep alive the Christian Endeavor spirit among the young people.

In accordance with this arrangement, the first of these meetings was held on Sunday morning, April 19. The regular Christian Endeavor subject for the day was discussed in connection with the praise and song service.

The Empire Christian Endeavor Society was organized in a meeting held in the Commission chapel at Empire on July 8, 1913, Mr. Robert Browning being provisional chairman, and Mr. D. L. Johnson, secretary. At this meeting, a committee was appointed to draw up a constitution for the society, which had as its object the promotion of religious work and social intercourse among the young people in Empire. The next meeting was held on July 15, when the constitution presented by this committee was adopted and the organization perfected. The rules provided for four officers, three committees, and active and associate members. The following officers were elected: President, Warren H. Barrett; vice-president, Mary Smith; secretary, Mrs. Frank Peak; treasurer, D. L. Johnson. The committees were the outlook, prayermeeting, music, and social. There were 14 active members. In addition to the regular Christian Endeavor meetings, the society held monthly entertainments and a banquet was given on February 17, 1914. The services maintained have been undenominational and the society has enjoyed the support of the residents of Empire who are interested in protestant church work.

The financial operations during the year were a gift of $10 to the Balkan Relief Committee, $10 to the Building Fund of the United Society of Christian Endeavor, $25 toward the support of a missionary in Central America, and a donation to the community Christmas celebration in 1913.

The smallest enrollment of the society was 14, and the highest membership was 45. The average attendance at the Sunday morning meetings was 35, at entertainments, 45. The officers of the society at the time of its disbanding were, as follows: President, V. W. Koontz; vice-president, H. A. Jackson; secretary, Jacob Sack; treasurer, D. L. Johnson; pianist, Kathryn Moore; assistant pianist, Marguerite Griley; chairman of outlook committee, Amos C. Byle; chairman of prayermeeting committee, H. A. Jackson; chairman of social committee, Mattie Berry; chairman of music committee, Kathryn Moore; chairman of missionary committee, D. L. Johnson.

The disbanding of this organization releases the members living in Corozal, Balboa, Ancon, and Las Cascadas from obligations, thus enabling them to give their time to the building up of two similar societies that have recently been organized, one at Corozal and one at Las Cascadas. Both of these societies were formed through the efforts of members of the Empire oganization. The properties of the Empire Christian Endeavor Society have been divided between these new organizations.

There have been five organizations of Christian Endeavor Societies in the Canal Zone during the American occupation. They were at Empire, Corozal, Las Cascadas, Cristobal, and Gorgona. The oldest and largest of these societies is at Cristobal. It was organized in 1909 and has a membership of about 100.

Independent Order of Odd Fellows.

A letter has been received by the district grand sire on the Isthmus, from the Sovereign Grand Sire of the I. O. O. F., approving the removal of Isthmian Canal Lodge, No. 1, to Ancon from Empire. The first meeting at Ancon will take place on May 7, and Pacific Lodge, No. 4, will also be consolidated with Isthmian Lodge, No. 1, at this time. All members of the Odd Fellows on the Isthmus are invited to attend.

Order of Isthmian Conductors.

The next regular meeting of the Order of Isthmian Conductors will be held in Ancon lodge hall on Sunday, May 3, at 9.30 a. m. Important business is to be transacted.

Geo. B. Allen,
Corozal, C. Z., April 28, 1914. *Secretary.*

Obituary.

Dr. Herman Canfield, who was formerly Assistant Chief Sanitary Inspector in the old Department of Sanitation, died on Thursday, April 9, at Carrabelle, Fla. He was sixty years of age, and is survived by his wife and two children. Dr. Canfield entered the service of the Isthmian Canal Commission as an interne on January 22, 1906; on July 1, 1906, he became a sanitary inspector, and on September 1, 1906, was appointed to the position of Assistant Chief Sanitary Inspector, which he held until March 31, 1911, when he resigned from the service of the Commission and returned to the United States.

American Institute of Electrical Engineers.

The next regular meeting of the Panama section, American Institute of Electrical Engineers, will be held at Balboa shops, on Wednesday evening, May 6, at 8 p. m. Mr. Hartley Rowe will present a paper on "The power and illumination system at Balboa shops," which will be followed by an inspection of the shops and of their lighting.

Special train service on the Panama railroad has been arranged for the meeting.

PERSONAL.

Henry Goldmark, designing engineer, resigned from the service of The Panama Canal on April 15, and sailed for the United States on April 26, to resume, in partnership with his brother, engineering and consulting work in the city of New York. He entered the service of the Isthmian Canal Commission in 1906 and was stationed at its Washington office, in charge of designing, until 1908, when he was transferred to the Isthmus. He has had direct charge, under Colonel Hodges, of the design of the lock gates, floating caissons, chain fender machines, and pontoon bridge, and has supervised the construction of the lock gates. The lock gates were completed in March of this year, several of the chain fender devices have been installed and found satisfactory, and the construction of the accepted types of caissons is in the hands of contractors in the United States. In addition, Mr. Goldmark has served in a consulting capacity in the designing of various operating machines, valves, etc. He was born in New York City in 1857; graduated from the Polytechnic Institute of Brooklyn in 1874; from Harvard University, with the degree of bachelor of arts, in 1878; and from the Technische Hochschule in Hanover, Germany, in 1880. Prior to entering the service of the Isthmian Canal Commission, he was connected with many engineering projects in the United States and Canada, principally in bridge work and steel construction. He is a member of the Western Society of Engineers, of the American Society of Civil Engineers, of the Canadian Society of Civil Engineers, of the Institution of Civil Engineers of Great Britain, and of the International Society for Testing Materials.

A. L. Robinson, former superintendent of the Mechanical Division, is now occupying the position of consulting engineer with the Barber Asphalt Paving Company, with headquarters in Philadelphia.

Society of the Chagres.

Effective at once, Mr. John K. Baxter will act as secretary-treasurer of the Society of the Chagres. Mr. Baxter's address is Ancon, C. Z. All mail for the Society of the Chagres should be addressed to him.

R. E. Wood, *President.*
Culebra, C. Z., April 24, 1914.

Estates Being Settled.

The following estates of deceased employes of The Panama Canal or Panama Railroad Company are now in progress of settlement by the office of the Administrator of Estates, Ancon, C. Z., and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings or postal money order deposits, or any other moneys due them, should be presented at that office at once on order that the estate may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once.

Name.	*M. C. No.*	*Native of*	*Isthmian Residence.*	*Employed by*	*Date of Death.*
Herman Adams	160289	Barbados	Panama	Fortifications	April 15.
James Callender	38489	Barbados	Empire	Mechanical Div.	April 14.
Charles Clarke, alias Alfred Manns	198562	Barbados	Empire	Dredging Div.	April 16.
James Fenton	123803	Montserrat	Colon	Fortifications	April 23.
James Guthrie	57206	Jamaica	Cristobal	P. R. R	April 21.
Joseph McTaggart	166187	Jamaica	Balboa	Unknown	April 21.
Gonzales Nima	213722	St. Lucia	Gatun	Land Defenses	March 31.
Maximilian Onoway	44420	Martinique	Mount Hope	Health Dept.	April 17.
Foster Richards	209245	Barbados	Gatun	First Division	April 23.
Victor Sarien	56784	Guadeloupe	Cristobal	P. R. R	April 19.
David Stewart	128935	Jamaica	Colon	Q. M. D	April 17.
John Tomlinson	56740	Jamaica	Colon	P. R. R	April 10.

NEW STATION IN PANAMA.

Modern Structure Designed in Accord with Local Operating Conditions.

The erection of a new terminal station at Panama was taken into active consideration by the Panama railroad officials in February, 1912. Mr. H. E. Bartlett, the Panama railroad architect, submitted several schemes which were considered, revised, and modified until they met the various requirements. The resulting sketches were formally approved on April 19, 1912. They were reproduced in The Canal Record of June 5, 1912.

These preliminary sketches contemplated the erection, south of the old station, of a two-story main building fronting 167 feet on Avenue "B", with a three-story wing in the rear, extending back 100 feet to the alighting platform. The level of this platform, and of the baggage room leading from it, is about seven feet lower than the street curb in front of the building, which permitted the introduction of a mezzanine story in the rear wing. The steel framework of the rear portion of the building was recovered from the old station. This fixed many of the dimensions and determined the order of erection of the different parts of the structure. The ground floor of the main building is at the same level as the sidewalk, and contains separate entrances, *portes cochères*, vestibules, and waiting rooms for each of the two classes of passengers. Stairs have been avoided wherever possible, so that almost any portion of the building to which the general public has to have access, can be reached by means of ramps having a seven per cent slope.

Waiting rooms are usually very spacious, in stations from which more than one line of railroads radiate, or from which local and express trains arrive and depart. Here, however, there is no occasion for passengers from incoming trains to await, at the station, the departure of another outbound train. The relatively small waiting rooms provided are intended primarily to accomodate the few people who arrive before the trains are placed. Both waiting rooms are the same size. The one for the first-class passengers has a beamed ceiling, executed in plaster, and walls decorated with plain paneling, while the second-class waiting room has no relief decorations at all.

Both the first and second classes are served by the same ticket seller, and use the baggage room in common. Past experience has proved that one man can handle the ticket traffic under normal conditions, owing to the fact that the majority of the first-class passengers use mileage books and passes. Provision is made, however, for dividing the work, in case of a rush, between two men, one selling first-class and the other selling second-class tickets. On the other hand, so few second-class passengers check baggage that it is not worth while making separate provision for them in the baggage room.

Climatic conditions made it advisable to provide carriage accomodations ample in extent and well protected from the weather, to roof all open passageways, and to protect the front and rear walls with porticos.

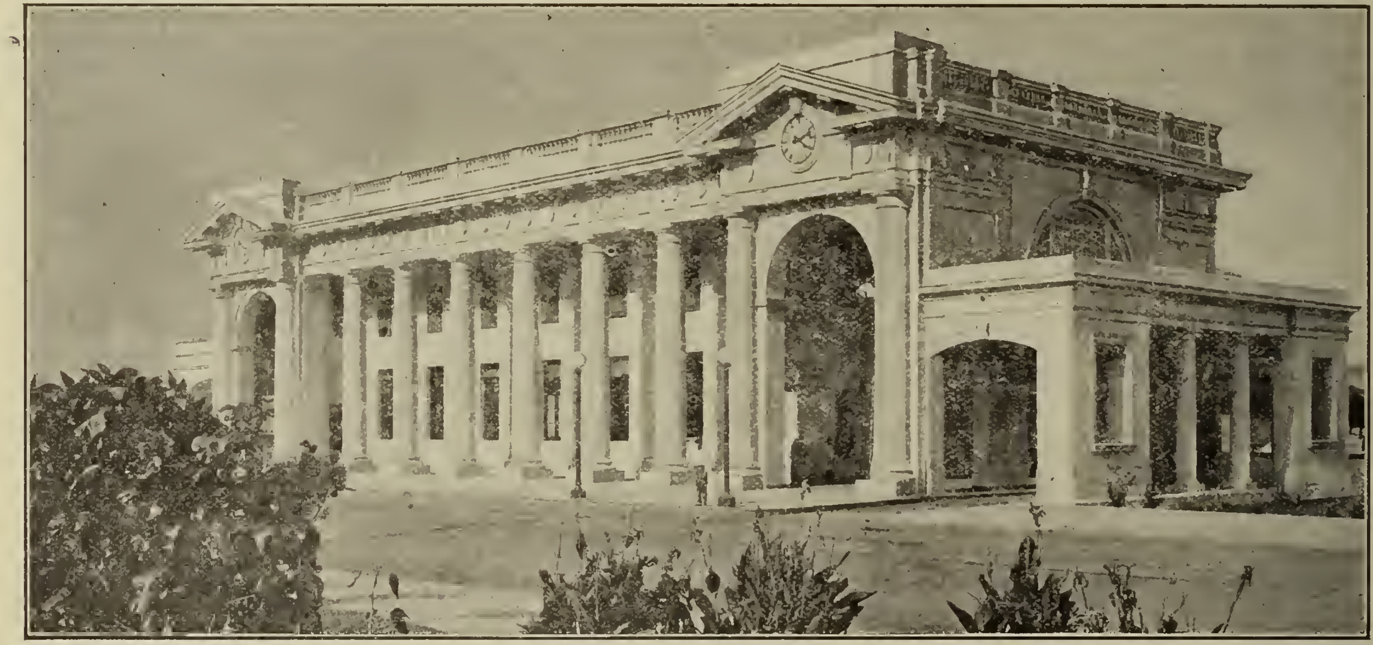
In accordance with the Panama railroad's long-established custom of providing quarters for employes, the entire second story was divided up into rooms for bachelors. Those in the main building are intended for one occupant, while those in the rear wing extend the full width of the building and readily accommodate two. There are two electric lights and a built-in wardrobe per occupant. The walls and ceilings are plastered, and the base and trim consist of flat bands of Keene's cement. Therefore, the only wood used is in the doors, the window sash, and their respective frames.

Offices, and a room for unclaimed baggage are placed in the mezzanine story, directly above the baggage room.

The location of the baggage room was dedetermined by the makeup of the Panama railroad trains. Irrespective of the direction in which these are going, they always have the first-class coaches on the southern end of the train and the second-class coaches on the northern end, and the baggage car, or cars, in the middle. Hence, it follows that the most logical position for the baggage room is on the axis of the building, adjoining the alighting platform and at the same level. On the north side of the baggage room, a service court four feet below the level of the alighting platform is provided for the use of mail and baggage wagons. Service roads leading to and from this court pass under the passenger and carriage ramps connecting the main building with the alighting platform, an arrangement which makes the handling of baggage absolutely independent of the movement of passengers. Certain incoming trains have, on the rear, either an observation car, or a hospital car bringing patients to Ancon Hospital. The patients are carried across the alighting platform to an ambulance waiting in the turn-around. When an observation car takes the place of a hospital car, the ambulance is replaced by public carriages.

The carriage and service roads in the grounds form an integral part of the plans. They are laid out with the object of preventing congestion and confusion by keeping all vehicles and pedestrians on a given road or sidewalk moving in the same direction. The baggage wagons, for example, will enter the service road from the Twenty-third street extension, whether empty or loaded, and leave by the service road at the north end of the grounds. The "coaches" or carriages, when bringing passengers to a departing train, will enter either the first-class or second-class driveway, and discharge their passengers at the waiting room or continue down the carriage ramp and draw up along the alighting platform. The roof of this platform projects 13 feet over the road, so that passengers, even during a tropical downpour, will be protected from the wet. Coaches awaiting the incoming train will line up along the alighting platform.

In a consideration of the elevations of the building, it will be noted that the general treatment is a free adaptation of the stucco architecture of Pilladio as found, for example, in Vicenza and nearby cities of northeastern Italy. A two-story Doric colonnade, crowned



NEW PASSENGER STATION AT PANAMA.

with a balustrade and terminated at the ends by the entrance pavilions, forms the motive of the main façade. At each end is a one-story *porte cochère* through which the main carriage roads pass. Above the roofs of the carriage entrances are large semicircular windows, filled in with cast concrete grilles. These admit light and air to the groined vaults covering the two-story vestibule. On the rear of the main building, free standing columns are replaced by pilasters which support a gallery at the level of the second story. This gallery and the decorative concrete balustrade continue down the sides of the rear wing. A roof of concrete tile, manufactured at Paraiso, covers this wing and adds a note of color to the perspective view of the rear.

The working drawings were started immediately after the preliminary sketches had been approved, and in the following June the foundation plan was issued to the superintendent of bridges and buildings. His forces at once began the work of excavating for the foundations and of pouring the mass concrete. After several month's work, the footings, piers, etc., were brought up to the level of the under side of the first-floor slab; parts of the sidewalk were built; the alighting platform was increased from its original width of 20 feet to 36 feet, and roofed for 600 feet of its length with corrugated iron. At present, there are 150 feet at each end of the alighting platform which are open to the weather.

Forces of the railroad continued to work on the ground as opportunity offered, building sidewalks, curbs, bridges over the service road, the concrete pavement of the service road and court, retaining walls, etc.

The width of Central Avenue at the foot of the ramp leading up to Caledonia bridge has been increased by four feet, and the curb and street pavement readjusted. Opposite the station in the triangular park, the old curb line was abandoned and a new one constructed further away from and parallel to the railroad tracks. Twenty-third street was extended from Avenue "B" to the alighting platform, and increased in width throughout this section to 30 feet. Later on, the portion between Avenue "B" and Central Avenue was correspondingly widened by the Panamanian authorities. The macadam roads were built by the municipal engineering forces of the Isthmian Canal Commission, but the integral curbs and gutters of concrete were made by the Panama railroad forces. Drainage of the grounds is effected by means of a continuation of the "yard drain," a storm-water sewer which collects the rainfall in the Panama railroad yard.

While this preparatory work was in progress, the working drawings and specifications were finished, and on August 21, 1912, they were issued to prospective bidders. By the terms of the specifications, the Panama railroad agreed to furnish, at cost, certain building materials then on order, as, for example, structural terra cotta blocks. Unit prices on other kinds of material, such as cement, reinforcing rods, sand, gravel, etc., were quoted, but the contractor was not debarred from purchasing equally good qualities in other markets. Terra cotta blocks were selected as the most suitable material for walls and partitions. Their cellular structure makes them an excellent nonconductor of heat, and the ragged grooves on the exterior surfaces offer a good key for plaster or stucco. The floor slabs, wall columns, and girders were made of concrete, reinforced with bars.

The entire exterior and most of the interior first floor of the main building are finished in white cement stucco, tinted with mineral colors. This gives a more pleasing texture and color than the usual painted stucco and possesses the added advantage of lowering the cost of maintenance. Iron and steel corrode so rapidly in the hot, moist atmosphere of the Isthmus that they have been used sparingly, and, whenever practicable, bronze has been substituted. Welch floor tile is used practically throughout the building for floors. The principal exceptions are the concrete floor of the baggage room and the white tile floors of the toilet rooms. The public toilets on the first floor have a 5-foot wainscot of sanitary glass. What little finishing lumber was used in the first-class waiting room and its dependencies, is of mahogany, a wood which is not molested by ants. Cypress, used elsewhere in the building, possesses the same quality of repelling boring insects.

The principal items of equipment are the fittings of the news stand, with its glazed wall cases, counters, etc., and the bulletin boards, two in each vestibule and one in each waiting room. Four of the six are fitted with a train annunciator device in the upper portion. There are also in each vestibule gongs, controlled from the alighting platform, which announce the departure of trains. Ice water is piped throughout the building from a central cooler located in the baggage room. A main panel board in the closet of the main stairs controls all lighting and power circuits on the grounds and building.

Six different contractors submitted bids. Of these, the Central American Construction Company, Limited, of Colon, was the lowest bidder and, on September 10, 1912, the contract was awarded to it. The formal contract was dated three days later. For the sum of $81,688, the aforesaid company agreed to furnish necessary labor and material for the erection of the superstructure complete and for the razing of the old station. A few items were not included in the contract, but were furnished by the Panama railroad. Under this heading come the bronze lighting fixtures, electric clocks, ticket cases, seats upholstered in cane for the first-class waiting room, and wooden slat seats for the second-class waiting room. All of these were designed by the architect and bought, for the most part, through the office of the General Purchasing Agent. The mahogany seat ends in the first-class waiting room were made at Cristobal in the Panama railroad carpenter shop, just before it was discontinued.

The occupation of the building has proceeded by stages. On August 22, 1913, the bachelors moved into the quarters in the second story of the main building. On September 9, the second-class waiting room was opened for the accomodation of first-class passengers. On November 16, the first-class waiting room was opened for its regular service, and the second-class waiting room was turned over to the second class passengers. About March 1, the offices of the trainmaster were moved to the station from Colon, and at about the same time the baggage room was placed in service. The entire building, including the offices and quarters in the wing, is now in use.

COLLIERS FOR THE CANAL.

Award Made for Two Vessels to Haul Coal to Stations at Entrances.

Contract for building two colliers, equipped ready for service, has been let by The Panama Canal to the Maryland Steel Company, of Sparrow's Point, Maryland, at the price of $987,500 each. These are the vessels provided for in an Act of Congress, appropriating for sundry civil expenses, approved June 23, 1913, in which the building of two colliers to convey coal to the Canal coaling plants was authorized at a cost of not more than $1,000,000 each.

The Navy Department was authorized to prepare the plans and specifications and to advertise for bids from both Government and private yards. The vessels are to be approximately 500 feet long, 62 feet in beam, and 39 feet six inches deep. They are to have a cargo capacity of 12,000 tons of coal, with reservations of space sufficient for bunker coal for a trip from Norfolk to Colon and return, and other requisite materials and supplies for operation. Their sea speed, loaded, is to be 14 knots, and their maximum draft is not to exceed 28 feet, in sea water.

The bids, opened on February 2, 1914, ranged from $970,000 to $1,436,000 for each vessel. The lowest bid was made by the Maryland Steel Company, and a supplementary bid, providing for certain improvements in construction and material at an additional charge of $17,500 per vessel, was recommended by the Navy Department and accepted by The Panama Canal.

The ships are to be named *Achilles* and *Ulysses*, in conformance with the practice of giving colliers names from Greek and Roman mythology. They will be built according to Navy Department practice and when completed will be very similar to the *Orion* and the *Jason*, which, after extensive service, are regarded as very satisfactory. It is expected that they will be placed in commission early in 1916.

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Value of Material and Supplies Received in March.

The value of material and supplies received on the Isthmus by the Chief Quartermaster during the month of March, 1914, was $900,045.68, distributed, as follows:

Mount Hope (stock)	$321,277.56
First Division	293,120.12
Second Division	15,526.23
Fourth Division	1,128.19
Dredging Division	72,982.14
Mechanical Division	75.780.47
Municipal Engineering	23,504.56
Sanitary Department	3,801.44
Panama Railroad Company	32,126.88
Civil Administration	98.67
Fortifications	4,078.21
Law Department	12.00
Examiner of Accounts	192.95
Permanent Buildings	56,416.26
Total	$900,045.68

The material came forward in 43 steamers. The total weight of cargo, exclusive of lumber, ties, and piling, was 21,169 tons.

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Missing Men.

Any one having information regarding the whereabouts of Luther B. Anderson, a West Indian who is supposed to be on the Isthmus, is requested to communicate with the American Legation, Panama.

Any one having information regarding the whereabouts of the following-named men who are supposed to be on the Isthmus, are requested to communicate with THE CANAL RECORD, Ancon, C. Z.: Jacob Brumley, Benjamin Schwartz, and Edward R. Harkins.

CANAL WORK IN MARCH.

Report of the Chairman and Chief Engineer to the Secretary of War.

CULEBRA, C. Z., April 18, 1914.

The Honorable the Secretary of War,
Washington, D. C.

SIR: I have the honor to submit the following report of operations on the Isthmus for the month of March, 1914:

Department of Construction and Engineering.

The following table summarizes the principal items of work accomplished by the construction divisions during the month:

ITEM.	Unit.	1st Div.	2d Div.	4th Div.	Dredging.	Municipal Engin'ring	Total.
Work excavation, wet	Cubic yds.				964,055		964,055
Work excavation, dry	Cubic yds.		113,497	147,998			261,495
Total work excavation	Cubic yds.		113,497	147,998	964,055		1,225,550
Plant excavation, dry	Cubic yds.		1,094				1,094
Plant excavation, wet	Cubic yds.						
Total	Cubic yds.		1,094				1,094
Total Canal excavation	Cubic yds.		114,591	147,998	964,055		1,226,644
Concrete placed in locks, dams, and spillways	Cubic yds.	1,279					1,279
Fill placed in dams	Cubic yds.			31,365			31,365
Explosives used	Tons (Gr.)		42.93	7.05	41.40		91.38
Rock drilled	Feet		123,747	22,029	20,827		166,603
Tracks removed	Miles		4.20	6.86			11.06
New tracks laid	Miles		5.72	2.09		.02	7.83
Rock crushed	Cubic yds.			43,430			43.430
Cement used	Barrels	2,036	13,043			4,711	19,790
New roads built	Miles					.43	.43
Water mains laid	Feet		2,132			22,092	24,224
Sewers laid	Feet					2,249	2,249
Open drains and ditches dug	Feet					780	780
Average daily force		3,193	4,033	1,731	2,449	1,897	13,303
Average rainfall	Inches	0.49	0.45	0.01	0.30	0.26	0 26

First Division—Office of the Chief Engineer.

LOCKS GATES AND PROTECTIVE DEVICES.

Only painting and similar finishing work remains to be done on the lock gates before they are completed. This is done by Canal forces, the contractor having finished his work.

Delivery of chains ordered for the chain fenders is indefinite, and it may be necessary to purchase some of them in Europe. Ten chain-fender machines for Gatun and 10 for Pedro Miguel, and parts of 22 other machines have been received, and installation is in progress.

Rapid progress was made on the construction of the lock entrance caisson at the contractor's works.

PONTOON BRIDGE.

The barge for the pontoon bridge was launched at Mount Hope on March 25, 1914; and on the 27th of that month it was towed to Paraiso, where the work of assembling the superstructure is now under way.

OPERATING MACHINERY AND ELECTRICAL EQUIPMENT.

It is expected that the entire installation of machinery and electrical equipment at Gatun hydroelectric station will be ready for test in April.

All rising stem, cylindrical, and auxiliary culvert-valve machines have been completely installed. All of the guard-valve machines have been received, and 95 per cent of the mechanical, and 40 per cent of the electrical installation are completed.

All mechanical and 97 per cent of the electrical installation on the miter-gate moving machines have been completed. The miter-gate forcing machines are completely installed.

Track installation is 99 per cent complete at Gatun, 100 at Pedro Miguel, and 98 per cent at Miraflores; single crossovers, 100 per cent; double, 99 per cent.

Mechanical and electrical installation of the spillway gate machines have been completed at Gatun; all mechanical, and 80 per cent electrical, at Miraflores.

Pumps and motors with floats switches and starters have been received complete, except one motor for chain fender machines. Mechanical erection is 100 per cent complete on miter gate sump pumps, 37 per cent on chain-fender sump pumps, and 100 per cent complete on drainage sump pumps and culvert pumps. Electrical installation is 97 per cent complete on miter-gate sump pumps, 100 per cent on drainage sump pumps, 20 per cent on culvert pumps, and three per cent on chain-fender sump pumps.

To date, the work on transformer room equipment is 95 per cent completed at Gatun, 92 per cent at Pedro Miguel, and 90 per cent at Miraflores. The installation of all transformer rooms at all locks combined is approximately 92 per cent complete.

Control houses at Gatun, Miraflores, and Pedro Miguel are practically completed, except for placing roofing tile, floors, and windows, which work is now in progress.

About 96 per cent of the total of 2,605,795 linear feet of duct line cable on order have been delivered, and 2,011,788 linear feet have been pulled into ducts.

All but one of the 208 lamp posts on the walls of Gatun Locks, all of those at Pedro Miguel, and at Miraflores, out of a total of 168 lamp posts, 164 bases, 97 posts with single arms, and 56 double arms, and one without arms, have been set.

The main control boards at Gatun and Pedro Miguel are completely installed, the board at Miraflores, about 50 per cent.

Out of a total of 809 foundations for the transisthmian transmission line, 793 have been placed; total concrete to date, 7,233 cubic yards, of which 293.6 cubic yards were placed in March; total track-span bridges in place, 775, of which 147 were placed in March. Stringing of wires continued, 31¾ miles of ground and 33 miles of power wire having been strung to the end of March. It is probable that the transmission line will be nearly completed in April.

Building operations at the Gatun substation progressed satisfactorily during the month. Work on the Miraflores substation is being delayed. At Cristobal substation, the foundations have been completed and are in readiness for the steel contractor. Six hundred piles were driven in preparing this foundation.

LOCK AND SPILLWAY OPERATIONS.

Eleven lockages were made at Gatun, and two each at Pedro Miguel and Miraflores. All of the 14 spillway gates at Gatun were operated satisfactorily, with the surface of the lake at approximately 85 feet above sealevel.

AIDS TO NAVIGATION.

Work was advanced in the construction of range light towers, targets, beacons, and electric light pole line.

Second Division—Office of the Chief Engineer.

TERMINALS AND SHOPS.

Balboa shops.—The work of design and preparing requisitions continued, studies were made of the layout of the yard, the 70-foot turntable was tested and accepted, excavation to the amount of 2,384 cubic yards, and 3,981 cubic yards of filling were accomplished; 1,693 cubic yards of concrete were placed in foundation piers, footings, floors, walls, roofs, and tunnel.

Dry docks, Balboa—Design work was continued. Excavation for the dry docks entrance basin, and coal pockets amounted to 114,591 cubic yards; the lowest cut in the entrance basin is now at 40 feet below sealevel, in the dry dock, 28 feet below.

Quay wall and pier, Balboa—The superstructure of section "g-h-i" of the quay was completed, and brick paving and track are now in place, In the construction of section "i-j-m-n", 150 cubic yards of concrete were placed in the caissons, 64 linear feet of floor slab were placed, and work was started on the anchorages. No construction was done on section "e-f."

On the pier, 51 caissons were filled with concrete, 2,602 cubic yards of concrete being used. Work was begun on the superstructure concrete, floor slab 75 feet long and 11 feet wide, using 791 cubic yards of concrete, being placed.

Coaling plants—Studies were made of the berm cranes used at Miraflores Locks, with a view to adapting them to use in the coal handling plants.

Excavation at the coal pocket at Balboa is practically at grade, except for sea-wall excavation along the entrance basin. One hundred fifteen cubic yards of masonry wall were built along the south side of the coal pocket, to smooth up the rough-rock surface from 18 feet below sealevel to top of rock where inclined wall is to be built. Three hundred and seventy cubic yards of concrete were placed in the berm crane foundations.

Design of various parts of the substructures of Cristobal plant was continued, storage yards for material were considered, and a proposed modification in design of the reloader was submitted.

Fuel-oil plants—Studies of type, size, and arrangement of equipment to be adopted were made, specifications were prepared for the fuel-oil pumping plants, and a preliminary study was made of a gasoline storage plant. The question of erecting oil storage tanks in a 16-acre tract south of Mount Hope cemetery was taken up. Plans were prepared illustrating the general location of the plant at the Pacific entrance, and the berthing required for tank steamers was determined.

Study of the fire walls was completed, and perparations for construction were begun.

Wireless stations—Work on foundations and design of the station at Caimito was continued, and studies were made for the location of stations at Colon and Balboa.

West breakwater, Atlantic entrance—Twenty-one thousand, two hundred and twenty cubic yards of rock from Porto Bello were dumped on Toro Point breakwater, making the total to date 442,020 cubic yards. Three thousand, two hundred and sixty linear feet of breakwater were completed during March, making the total completed 9,051 linear feet, including the "ell."

East breakwater, Atlantic entrance—Work on the east breakwater consisted of storage track construction, trestle building, and arranging pile yard. Seven thousand, three hundred ninety-five cubic yards of rock were received from Mount Hope borrow pit.

LANDSCAPE ARCHITECT.

Grading, laying sewer, and making streets on the new townsite at Balboa were continued. An analysis was made, on the basis of the latest information as to types to be used, of the number of buildings which can be accommodated on the townsite layout as approved, in which it was found that, unless ground relatively unsuitable for buildings be utilized, the present building program will very nearly take up all of the available street frontage. Building-location plans based on this analysis were made, and submitted to the committee on location of buildings in permanent towns.

METEOROLOGY AND HYDROGRAPHY.

Dry-season weather continued throughout March, the rainfall amounting to about one third of the March average for thirteen years. Monthly totals ranged from zero, at several stations in the Pacific section, to 1.21 inch, at Brazos Brook. The average for the Gatun Lake watershed was .71 of an inch. Evaporation was above station average at all stations except Gatun and Colon. It was 6.519 at Colon and 8.506 at Ancon.

The water yield of Gatun Lake watershed was 25 per cent below the 6-year normal for March; notwithstanding this, and the great evaporation, the lake rose from 84.8 to 84.81 feet above sealevel.

Fourth Division—Office of the Chief Engineer.

A daily average number of steamshovels 6.33, working 164.5 shovel days, excavated 180,358 cubic yards, of which 102,868 cubic yards were rock. Of the total, 118,278 cubic yards were removed from Gold Hill, 29,720 cubic yards from Miraflores spillway, and 32,360 cubic yards from borrow pits. Eighty-one thousand, four hundred cubic yards were dumped on Naos Island trestle; total to March 31st, 1,973,605 cubic yards.

Dredging Division.

The status of dredging in the Canal prism, and Balboa harbor, and Cristobal coaling station on March 31 was, as follows:

Location.	*March. Cu. Yds.*	*Remaining. Cu. Yds.*
Miraflores Locks to the Pacific	13,720	2,067,393
Miraflores Lake	....	328,872
Culebra Cut	376,809	2,186,733
Gatun Lake	....	51,000
Gatun Locks to Atlantic	112,466	410,975
Total Prism	502,995	5,044,973
Balboa Harbor	166,092	5,831,602
Cristobal coaling station	25,019	799,963
Total	694,106	11,676,538

Nine dredges were at work in the Culebra Cut.

Water hyacinths—The work of poisoning water hyacinths in Gatun Lake was taken up on March 21. A solution of 25 pounds of arsenic, 25 pounds of soda, and 25 gallons of water, boiled for one hour, is mixed with 425 gallons of water, and then sprayed upon the plants. In about 10 days, a plant so treated is apparently dead.

Division of Municipal Engineering.

Work was continued on the new water system for Panama and vicinity, including the purification plant at Miraflores, the pipe lines, new pump station at Ancon, and the high-service reservior at Ancon, and on the installation of the 20-inch and 30-inch mains.

At La Boca townsite, the municipal work was completed. The storm sewer at Balboa townsite was completed. Municipal improvements in Panama city were carried forward; and various small pieces of construction were advanced in the Canal Zone.

Gold Hill Sluicing.

The sluicing at Gold Hill, part of the work for reducing slides, amounted to 122,800 cubic yards in March. Of this amount, 25,800 cubic yards were classified as earth and 97,000 as rock.

Quartermaster's Department.

Labor force—The total number of employes on the Canal and Panama railroad forces was 33,173 on March 25; divided into 4,560 white Americans, 1,413 European laborers, and 27,200 negroes.

Buildings—Shop employes were moved from Empire to Balboa, resulting in a congestion of bachelor quarters at Balboa and vicinity. Building construction at La Boca advanced and 375 apartments are completed or nearly so. The number of people housed in Canal and railroad quarters was 18,114, of whom 8,398 were Americans, 1,893 Europeans, and 7,923 were negroes.

Subsistence Department.

The 13 line hotels served 173,963 meals; 12 laborers' messes, 229,937; Hotel Tivoli, 14,161; Hotel Aspinwall, 1,578. The net profit was $5,624.10, including $4,913.95 profit on Hotel Tivoli.

Department of Civil Administration.

COURTS.

The circuit court disposed of 111 civil and 37 criminal cases; district courts, 25 civil and 385 criminal cases.

POSTS, CUSTOMS, AND REVENUES.

Money order sales for March amounted to $296,510; fees, $1,449.10; receipts from stamp and card sales, $7,181.51; deposits in savings accounts, $147,456; withdrawals, $143,474. Revenue collections amounted to $12,161.10; court fines, costs, and fees, $1,318.10.

POLICE AND PRISONS.

Arrests numbered 390, of which 30 were women. Four convicts were committed to the penitentiary, and nine were discharged; total in confinement at the close of the month, 80. The cost of guarding and subsisting the convicts was $1,814.02, and the value of their work on the Gamboa-Empire road was $1,388.80.

FIRE PROTECTION.

Fifty-four fires occurred in March; damage, $521.60.

SCHOOLS.

The net enrollment in the white schools was 1,237, the average number belonging, 995.9, and the average daily attendance, 956.3. In the colored schools, the net enrollment was 1,421, the average number belonging, 843.9, and the average daily attendance, 710.7.

Department of Sanitation.

The total number of deaths from all causes among employes was 34 (disease 24, violence 10), an annual average per thousand of 6.18 and 2.57, respectively. The annual average death rate per thousand in the cities of Panama and Colon, and in the Canal Zone, including both employes and civil population, for the month of March, was 25.48. Among employes, deaths from the principal diseases were: Lobar pneumonia, five; organic disease of the heart, one; tuberculosis, three; typhoid fever, one; malaria fever, two; leaving 12 deaths from all other diseases, and 10 deaths from external violence. No case of yellow fever, small pox, or plague originated on, or was brought to the Isthmus, during the month.

Respectfully,
Geo. W. Goethals,
Chairman and Chief Engineer.

New Pay Arrangements.

The paymaster advises that, effective with the May payments, the pay car of The Panama Canal will operate on the following approximate schedule, on the 11th and 12th days of each month:

11th.

Leave Empire at 6 a. m.
At Pedro Miguel, 6.30 to 7.30 a. m.
Paraiso Shops, 7.40 to 8.30 a. m.
Radio Station, 9 to 9.20 a. m.
Gatun, 10.20 a. m. to 12 m.
Rio Grande, 2 to 2.30 p. m.
Culebra, 2.40 to 2.55 p. m.
Las Cascadas, 3.10 to 3.20 p. m.
Empire, 3.40 to 4.30 p. m.

12th.

Leave Empire at 6 a. m.
At Diablo Hill, 6.30 to 6.45 a. m.
Balboa Shops, 7 to 8.30 a. m.
Ancon Crusher, 8.50 to 9.10 a. m.
Administration Building, 9.12 to 9.42 a. m.
Breakwater and Dumps, 9.50 to 10.20 a. m.
East Balboa, 10.30 to 11.10 a. m.
Corozal, 11.30 a. m. to 1 p. m.
Miraflores Locks, 1.30 to 2 p. m.
Power Plant, via high line, 2.40 to 3.10 p. m.
Miraflores Hill, Filtration Plant, 3.30 to 4 p. m.
Close up and run to Empire.

Outside payments will be made as heretofore from the Cristobal, Empire, and Ancon offices.

To relieve congestion at the Ancon pay office, that office will pay, from the 1st to the 12th of each month, pay receipts for employes working around Ancon only. The men from Balboa and the line must wait for the pay car. Any time voucher will be cashed when presented if properly validated.

When other stops by the pay car are desired, arrangements in advance should be made with the paymaster.

Site for Quarantine Station at Atlantic Entrance.

The chief quarantine officer and Mr. E. H. Chandler, superintendent of the northern district of the Division of Municipal Engineering, have been appointed a committee to select and recommend a site at Cristobal for a permanent quarantine station at the Atlantic entrance to the Canal.

OFFICIAL CIRCULARS.

Work Performed by Employes for Individuals and Companies.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 641:

1. No employe of The Panama Canal will perform work for any individual or company during the employe's regular working hours unless the performance of the work has been authorized by this office on Form P. C. 159 and the usual work order issued by the proper official, except that the Chief Quartermaster is authorized to approve the performance of work by employes of the Supply Department for employes of The Panama Canal when the total cost of the job does not exceed ten dollars.

2. Heads of departments and divisions are authorized to permit employes of The Panama Canal to use machines, tools, etc., in the performance of private work for employes only, provided that work is not performed by the employe during working hours, the machine and tools can be spared for such use, and the use of them for the purpose will not result in their being injured.

Geo. W. Goethals,
Governor.

Leave Regulations—Relief Days.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 14, 1914

Circular No. 602-4:

1. Paragraph 17 of Circular No. 602 reads, as follow:

> "Hereafter, all days or half days off with permission or reserve days must either be charged against the annual leave of employes or be without pay. In case a monthly employe regularly employed in the daytime works at night, he may be allowed time off the following day if needed for rest or recuperation."

2. The following exception to this rule is authorized for the classes of employes who work regularly on Sundays and holidays:

3. When heads of departments or divisions can arrange without increasing the force to allow such an employe a Sunday or holiday off, pay will be allowed and the day will not be charged against annual leave.

Geo. W. Goethals,
Governor.

Appointment—Acting Superintendent, P. R. R.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 22, 1914.

Circular No. 661-6:

During the absence of Lieut. Frederick Mears, on leave, Mr. F. R. Blunt will act as Superintendent of The Panama Railroad Company, effective April 21, 1914.

Geo. W. Goethals,
President.

Measuring of Sand, Gravel, and Stone.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 637:

The following quantities will be standard for measuring carloads of sand, gravel, and crushed stone for The Panamal Canal:

	Cu. Yds.
Standard or large coal cars	25
Rodger ballast cars	25
P. C. wooden and steel flats, without sideboards	10
P. C. wooden and steel flats, with sideboards.	15
Oliver dump cars	12
Western dump cars (large)	20
Western dump cars (small)	12

Geo. W. Goethals,
Governor.

Interference with and Use of Equipment.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 654:

INTERFERENCE WITH EQUIPMENT.

1. Unauthorized persons are forbidden to touch or approach closely any parts of the mechanical or electrical equipment of The Panama Canal.

ELECTRICAL OPERATING EQUIPMENT.

2. The general instructions contained in Circular No. 492, issued by the Isthmian Canal Commission under date of July 19, 1913, will be continued in force until further notice.

Geo. W. Goethals,
Governor.

Buildings on Public Lands.

The Panama Canal,
Office of The Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 647:

The construction of buildings or houses of any kind upon the lands of the United States or the Panama railroad and the occupancy of such lands are prohibited, except under authority of a license or lease therefor duly issued by the Governor of The Panama Canal and in accordance with the regulations prescribed by him, provided that this rule will not apply to reservations of the Army and Navy or other Executive Departments of the Government.

Geo. W. Goethals,
Governor.

Appointments—Surveying Officer.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 21, 1914.

Circular No. 661-5:

SURVEYING OFFICER.

Mr. Charles L. Parker is appointed surveying officer, The Panama Canal, effective April 22, 1914, vice Mr. H. S. Farish.

Geo. W. Goethals,
Governor.

Appointments.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 9, 1914.

Circular No. 661-4:

1. The following appointments are hereby made:

BOARD OF LOCAL INSPECTORS.

Commander Douglass E. Dismukes, Chairman.
Lieut. Commander H. V. Butler, Member.
Mr. J. Macfarlane, Member.

BOARD OF ADMEASUREMENT.

Cpat. Hugh Rodman, U. S. N., Chairman.
Commander Douglass E. Dismukes, Member.
Lieut. Commander H. V. Butler, Member.
Commander Dismukes, Deputy Inspector of Boilers.
Lieut. Commander Butler, Inspector of Hulls.

Geo. W. Goethals,
Governor.

Hand Cars.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 667:

1. Hand cars may be run over mainline tracks only when their use has been approved by proper authority, or in case of absolute necessity.

2. Seats shall not be built on hand cars, and those now in use must be removed.

3. The practice of leaving hand cars in isolated places is a temptation to unauthorized persons to use them, and this must be discontinued. When not in use, hand cars should be left at railroad stations or section houses, and locked with a chain and padlock.

Geo. W. Goethals,
Governor.

Material and Equipment Turned in to Stores.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 15, 1914.

Circular No. 630-1:

1. Referring to all instructions which have heretofore been issued, stating that certain articles, such as hand and push cars, padlocks, etc., should be turned in to Empire store or Empire shops.

2. These instructions are now changed to cover the turning over of these articles to Balboa store or Balboa shops, instead of Empire.

Geo. W. Goethals,
Governor.

Transportation on Panama Railroad Steamships to Employes on the Gold Roll and Members of their Families.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 610:

UPON TERMINATION OF SERVICE.

1. Free transportation will be granted, as follows:

To employes who are citizens of the United States appointed on or after April 1, 1914, who did not serve under the Isthmian Canal Commission up to and including March 31, 1914, who resign or are discharged for any cause after three years' service; to employes who on March 31, 1914, were entitled to free transportation for service under the Isthmian Canal Commission but did not avail themselves of the same on account of reemployment under The Panama Canal; to employes who are citizens of the United States, appointed in the United States, whose employment is terminated by or at the instance of the Governor of The Panama Canal with less than three years' service for any reason other than inefficiency or misconduct; to employes who are citizens of the United States, appointed on the Isthmus, whose employment is terminated by or at the instance of the Governor of The Panama Canal after less than three years' but more than six months' service for any reason other than inefficiency or misconduct; to employes who on March 31, 1914, had served less that two years under the Isthmian Canal Commission, who resign or are discharged for any cause after serving a sufficient length of time under The Panama Canal to complete two years' service.

2. The twenty-dollar rate will be granted, as follows:

To aliens appointed on the Isthmus prior to January 1, 1909, who served under the Isthmian Canal Commission up to and including March 31, 1914, and were reemployed under The Panama Canal April 1, 1914, who resign or are discharged for any cause.

3. The thirty-dollar rate will be granted, as follows:

To employes who are citizens of the United States who resign or are discharged for inefficiency or misconduct after serving more than six months but less than three years; to employes who are citizens of the United States, appointed on the Isthmus, whose employment is terminated by or at the instance of the Governor of The Panama Canal after serving less than six months; to aliens appointed in the United States whose employment is terminated by or at the instance of the Governor of The Panama Canal for any reason other than inefficiency or misconduct, regardless of length of service; to aliens appointed in the United States who resign or are discharged for inefficiency or misconduct after serving one year; to aliens appointed on the Isthmus who resign or are discharged for inefficiency or misconduct after serving three years.

4. The forty-five-dollar rate will be granted, as follows:

To employes who are citizens of the United States who resign or are discharged for inefficiency or misconduct after serving less than six months; to aliens appointed in the United States who resign or are discharged for inefficiency or misconduct after serving less than one year; to aliens appointed on the Isthmus who resign or are discharged for inefficiency or misconduct after serving less than three years.

5. The fifteen-dollar steerage rate will be granted, as follows:

To all employes on the gold roll, and citizens of the United States on the silver roll, who may apply for it.

6. Employes entitled to free transportaton to New York on the Panama Railroad Steamship Line may be granted, instead, free transportation to any port of the United States on any other line, provided such transportation does not cost the Government more than forty dollars; if the cost exceed forty dollars, the employe must pay the excess.

7. An employe who originally sailed from San Francisco under regular appointment from the Washington Office of the Isthmian Canal Commission or The Panama Canal will be granted free transportation to that port upon termination of service under the conditions outlined in paragraph 1 of this circular.

ON LEAVE OF ABSENCE.

8. Employes appointed prior to January 1, 1909, for service under the Isthmian Canal Commission, whose service was continuous up to and including March 31, 1914, and who were reemployed April 1, 1914, under The Panama Canal, will be granted a reduced rate of twenty dollars each way between Cristobal and New York on regularly authorized leave of absence.

9. Employes whose service has not been continuous since December 31, 1908, will be granted a reduced rate of thirty dollars each way begween Cristobal and New York on regularly authorized leave of absence.

10. Request for reduced-rate transportation on lines other than the Panama Railroad Steamship Line will be issued upon application. (For conditions and rates see Circular No. 611).

FAMILIES OF EMPLOYES.

11. The twenty-dollar rate will be granted, as follows:

To the following members of the families of employes appointed prior to January 1, 1909, for service under the Isthmian Canal Commission, who served continuously up to and including March 31, 1914, and were reemployed April 1, 1914, for service under The Panama Canal: wives and dependent children, brothers, sisters, and sisters-in-law, who intend to make the Isthmus their home; parents of employes and of employes' wives, upon certificate that they are dependent upon such employes and intend to make the Isthmus their home (males over 21 years of age, except parents, not to be considered dependent.)

12. The thirty-dollar rate will be granted to the relatives indicated above of all employes who have not served continuously since December 31, 1908.

13. The twenty and thirty-dollar rates will be granted to relatives of employes approximately once a year.

14. The forty-five-dollar rate will be granted to the relatives indicated above who request transportation oftener than once a year; to relatives of employes who desire to visit such employes on the Isthmus, regardless of dependency.

15. Residence of less than six months on the Isthmus will be regarded as a visit.

GENERAL.

16. No charge will be made for the children of employes under six years of age; half fare will be charged

for children over five years of age but less than twelve; children twelve years of age or over will be charged full fare. No children under twelve years of age will be permitted to travel on vessels of the Panama Railroad Steamship Line unless accompanied by an adult passenger. Members of the ship's crew are not allowed to assume responsibility for children under twelve years.

17. The names and ages of children must always be given when requesting transportation, except upon termination of service.

18. Reduced rate transportation will not be granted families of employes in advance of assignment of family quarters unless the employe agrees to waive all right to such quarters until regularly assigned.

19. Transportation for families is arranged by the Washington Office of The Panama Canal, upon application to the Governor's office, through the head of department.

20. Reduced rates are granted on lines other than the Panama Railroad Steamship Line in accordance with the provisions of Circular No. 611.

21. The servant of an employe will be granted the rate to which the employe is entitled on leave of absence.

22. Requests for steamship transportation will not be issued more than thirty days in advance of the date upon which it is desired to sail.

GEO. W. GOETHALS,
Governor.

Photographs and Blue Prints.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 617:

All photographs for official purposes will be issued by the Office Engineer, Executive Office, and certain authorized photographs, not to exceed a selection of more than fifty, will be sold to employes at twenty cents gold each.

All requests for photographs will be made in writing to the Executive Office.

Copies of blue prints will be sold at fifty cents gold each, on written request approved by the Governor, or by his direction.

GEO. W. GOETHALS,
Governor.

Artificial Limbs and Appliances.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 620:

An employe furnished with any special appliance or apparatus, as spectacles, etc., shall be required to pay the cost thereof, plus 15 per cent, unless such special appliance or apparatus is made necessary by injury sustained or illness contracted in the performance of duty. Peg legs and crutches, at the expense of The Panama Canal, may be furnished to either an employe or a nonemploye in any case in which it is considered that the interests of The Panama Canal will be benefited thereby.

GEO. W. GOETHALS,
Governor.

Interments and Cremation.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 624:

1. Before the burial of a body in any cemetery in the Canal Zone, certificate of death must be presented to the authorized representatve of the Chief Health Officer of The Panama Canal in charge of the cemetery wherein the burial is desired.

2. A permit will be issued for the burial of each body upon the payment of two dollars ($2), U. S. currency, to cover the cost of interment. When a body is disinterred, a charge covering the actual cost of the work involved will be made against the responsible person.

DISPOSITION OF BODIES OF AMERICAN EMPLOYES.

3. In case of death of an American employe on the Isthmus of Panama, the body will be embalmed and placed in a hermetically sealed casket, and returned to the home of such employe in the United States, subject to such quarantine regulations as may exist at the port of entry, and the cities and towns through which it may have to pass, and of the place of destination. The expense of embalming, casket, and transportation from the Isthmus to the home of such employe will be paid from funds available for The Panama Canal.

4. No body having been interred in a public or private cemetery shall be disinterred until after the expiration of eighteen months from the date of interment.

CREMATION.

5. With the exception of bodies embalmed for future disposition, the bodies of persons dying while in the military or naval service of the United States, and the bodies of American employes which can not be embalmed, the bodies of those dying in Ancon Hospital or brought there for disposal will be cremated, unless taken away within twenty-four hours after death.

6. The ashes of those cremated will be placed in suitable receptacles and delivered to relatives or friends of the deceased, provided such relatives or friends make application therefor to the superintendent of Ancon Hospital in advance; otherwise, the ashes will be placed in a common grave.

7. Bodies embalmed for future disposition must be removed as soon as possible; if not removed within 90 days from date of embalming, they will be cremated.

8. The bodies of American employes which can not be embalmed will be buried immediately, but can not be disinterred for a period of 18 months, in accordance with the laws of the Canal Zone.

9. The following scale of charges for cremation will govern:

(*a*) For bodies buried in Ancon Hospital prior to February 1, 1914..........No charge
(*b*) For all other bodies, as follows:
Of employes........................No charge
Of families of employes whose pay is more that $50 a month............$10.00
Of families of employes whose pay is $50 a month or less............... 2.00
Of nonemployes.................... 30.00
(*c*) For receptacles as, follows:
For ashes of adults other than employes 1.00
For ashes of children................ .75
For ashes of employes...............No charge
(*d*) No burial fee will be charged for bodies cremated. Coffins will be charged for as at present.

GEO. W. GOETHALS,
Governor.

Seniority.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 605:

1. The Executive Order of February 2, 1914, provides:

> SEC. 5. When employes in the present organization are transferred to the permanent organization, they shall retain their seniority as regards questions of Civil Service, quarters, and other privileges or considerations, provided, however, that the seniority granted to employes by this Order shall not be operative in any case, so as to form any claim involving the payment of funds of the United States.

DEFINITION.

2. In general, seniority will be determined by the date of entry into the service in the particular class in which one claims seniority privileges.

CIVIL SERVICE.

3. The purpose of this provision is to make it clear that persons in the classified civil service will not lose any rights pertaining to their civil-service status by reason of the change of organization.

PROMOTIONS.

4. It is the policy to promote employes according to seniority, *other conditions being equal.* In all cases, however, greater weight will be given to effectiveness in the class of work to which an employe is assigned than to mere considerations of longevity in that class of work, or in the service in general.

REDUCTION OF FORCE.

5. Seniority *in a particular class of work will be given weight in reduction of force.* (See Discharge—Reduction of Force.) In this connection "length of service" does not mean total continuous service on the Canal or railroad force, but in a particular class of employment. The seniority of clerks is determined by the length of service in clerical positions; the seniority of foremen by length of service as foremen in the same general line of work, but the dates of promotions from grade to grade do not affect the question. If an employe were transferred from a clerical position to shop work or outside construction work and the question of his seniority came up, his service as a clerk would not be counted. Previous service in a class of employment closely related to the class in which a reduction is made may be given consideration when other conditions and the qualifications of the men concerned are approximately equal.

TRANSFERS.

6. The Panama Canal service will be considered as a unit, and men transferring from one department to another will carry with them seniority privileges, subject to other qualifications as herein specified.

TRANSPORTATION MEN.

7. Seniority of locomotive engineers and railway conductors will be determined, as follows:

(*a*) The seniority of engineers and conductors will be determined by the date they entered the service as engineers or conductors, regardless of transfers from one division to another. Increase to qualified pay will depend on the date the employe started on main-line work.

(*b*) When additional qualified men are needed, the senior unqualified man in the service (all divisions) will be given an opportunity to qualify, provided he has the requisite railroad experience.

(*c*) If it becomes necessary to qualify a man, and the employe entitled to promotion is sick or on leave of absence, a temporary promotion of the man next on the list may be made with the understanding that the senior man will supersede him on his return to duty. In such case, the date the temporary man qualifies will also be given the senior.

(*d*) Seniority will not hereafter be affected by absence from duty so long as the employe's service is continuous.

(*e*) In case of reduction of force, discharges will be made as follows, all divisions being considered as one service:

(a) Aliens.

(b) Men who have been reported for being in the hospital for alcoholism.

(c) Men habitually sick, or physically unfit for Isthmian service, as shown by repeated absences from duty.

(d) Men with unsatisfactory records.

(e) Men at the foot of seniority list.

(*f*) The seniority of a qualified man transferred to the Panama railroad will date from his transfer.

(*g*) The conductors and engineers who served on the P. R. R. relocation work will be included in the seniority lists, and will be subject to these rules the same as though they had served as employes of the Isthmian Canal Commission.

(*h*) If a qualified man refuses an offer to transfer to the Panama railroad operating department, he will thereafter have no right to such a transfer and his name will be marked on the seniority list as having refused transfer.

(*i*) In case of reduction of P. R. R. force, qualified men may be transferred to the Canal force and resume their seniority standing.

(*j*) Personnel of crews in charge of existing runs will not be changed by this seniority order except as vacancies occur.

GEO. W. GOETHALS,
Governor.

Official Circulars.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. No. 614:

1. The head of a department may issue circulars to his department, but circulars of a general nature, affecting other departments, will be issued from the Office of the Governor. Department circulars in conflict with higher authority will require the approval of the Governor.

2. Two copies of each circular or general order issued by heads of departments shall be furnished to the Office of the Governor.

3. The Office of the Governor will furnish each department a sufficient number of copies of each circular so that it will not be necessary for a department to reissue the same instructions as its own. A mailing list setting forth the requirements of each department will be kept in the Office of the Governor.

GEO. W. GOETHALS,
Governor.

Family Quarters for Silver Employes.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 628:

1. Housekeeping quarters at points where rental is charged will be assigned to married silver employes, and the rental for the same will be fixed and collected in accordance with the following rules and regulations:

2. The district quartermasters will maintain a regular list of applicants whose applications will be filed in the order in which they are received. They will make assignments, subject to the general rules governing the assignment of family quarters for silver employes.

3. The quarters may not be sublet and may be occupied only by the employe to whom assigned, and the immediate family or dependent relatives of such employe.

4. The apartment occupied, and the surrounding premises, must be kept in a clean and sanitary condition. Employes and their families will be required to comply with all sanitary regulations and to conform to the rules governing the occupancy of quarters.

5. Employes occupying quarters who leave the service, either by discharge or of their own accord, will be permitted to retain their quarters until the end of the period for which rental was paid prior to such separation, at which time they must vacate.

6. A monthly rental will be charged for each apartment. The rates, with the effective dates thereof, shall be shown on a copy of these regulations posted in each rented building.

7. The rental period will begin on the 16th day of one month and end on the 15th day of the following month. The monthly rental must be paid to the authorized

representative of The Panama Canal in advance, that is, prior to the first day of the monthly rental period. Receipt for payment must be given on the prescribed form and should be retained by occupant as evidence of right to occupancy. These receipts must be shown upon demand to authorized representatives of The Panama Canal.

8. In case occupancy begins at any date other than the 16th of the month, a daily rate equal to one-thirtieth of the monthly rate will be charged for each day the quarters are occupied, except that rental for a fractional part of a monthly period beginning after February 16, shall be determined by deducting from the monthly rental one-thirtieth thereof for each day between February 15 and the date the occupancy begins.

9. Should any of the above rules and regulations not be complied with the employe will be compelled to vacate his quarters at once, and no allowance will be made on account of rental paid by him for the unexpired balance of the month.

Geo. W. Goethals,
Governor.

Deportation of Invalids.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 619:

1. The Chief Health Officer of The Panama Canal is authorized to certify for deportation from the Canal Zone employes known to be chronically sick and incapacitated for further work, provided such persons voluntarily consent to deportation.

2. The Chief Health Officer will designate a medical examining board composed of physicians employed by The Panama Canal, which will examine and report to the Chief Health Officer on the fitness for further work of all patients who come before it.

Geo. W. Goethals,
Governor.

Employment—Physical Examination.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 7, 1914.

Circular No. 603-1:

Effective April 15, 1914, an examining physician will be located at the Tivoli dispensary, Ancon, for the purpose of examining employes hired on the Isthmus for service at the southern end of the line.

Until further notice, the examining physician at Culebra will continue to make physical examinations in cases where it is more convenient for the employe to report to him; in other words, employes will report for physical examination to the nearest examining physician.

Geo. W. Goethals,
Governor.

Hunting in the Canal Zone.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 645:

1. Hunting on the watershed of any reservoir in the Canal Zone is prohibited.

2. Hunting within that part of the Canal Zone lying west of the Canal line, between the Mandingo River and the Cocoli River, is prohibited.

3. In order to protect that arm of Gatun Lake from which a portion of the water supply for Brazos Brook is drawn, hunting is prohibited within that part of the Canal Zone lying north of the bascule bridge and east of the Panama railroad.

4. Employes of The Panama Canal or Panama Railroad Company who violate the above regulations will be subject to dismissal from the service.

Geo. W. Goethals,
Governor.

Contracts.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 636:

Contracts made by The Panama Canal, or by the Panama Railroad Company on the Isthmus, will be prepared by the Chief Quartermaster, who will advise with the district attorney or the auditor when necessary.

Geo. W. Goethals,
Governor.

Inflammable Liquids.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 629:

The following rules are prescribed in respect to the sale by commissaries, and the use by occupants of Panama Canal quarters, of grain aclohol, denatured alcohol, gasoline, and naptha, for use as fuel:

1. Sales of any of these liquid fuels from the commissaries (at present, alcohol alone is offered for sale) shall not be made in excess of one quart to any person at one time, and the containers in which sold shall have pasted thereon a warning label reading, as follows:

> (Name of Liquid Fuel)
> POISON
> DANGER!!
> NOTICE
>
> This container must be kept in a cool, well-ventilated place, removed from lights or fire. Lamps or burners must never be filled while lighted. Only one quart will be sold to a purchaser at one time.

2. Employes of The Panama Canal are forbidden to keep more than one quart of any one of the liquid fuels above listed in the quarters occupied by them, and will be expected to observe strictly the provisions of the warning label above quoted.

3. The Supply Department will see that there is posted conspicuously in kitchens and other places where liquid fuels may be used, a warning notice, printed on heavy durable paper or cardboard, reading, as follows:

> **WARNING NOTICE.**
>
> Alcohol, gasoline, benzine, naptha, or kerosene are easily ignited. They must be kept in a cool, well-ventilated place, removed from lights or fire. Lamps or burners must never be filled while lighted. The pouring of any of these fluids on a lighted fire or live coals, or on inflammable substances which it is the purpose to ignite, is dangerous to life and is absolutely prohibited.

Geo. W. Goethals,
Governor.

Dentists.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 622:

1. Dentists may be employed without salary, but will be privileged to charge certain fees for services, and will be entitled to privileges accorded employes on the gold roll. During the first two years of service, they shall be entitled to privileges and allowances of employes on the gold roll drawing eighteen hundred dollars a year, and after two years' satisfactory service may be assigned to the same class of quarters to which an employe drawing two hundred dollars per month is entitled. Office room and office furniture will be supplied by The Panama Canal.

2. In return for these allowances, they shall be subject to all the rules and regulations of The Panama Canal, and shall do dental work for employes of The Panama Canal and their families, and for employes of contractors for The Panama Canal, and members of their families, at rates to be fixed by the Chief Health Officer. These rates shall be posted conspicuously in each office, as follows:

FEE TABLE.

Professional visits	$2.00
Devitalizing nerve and removing same	2.00
Treatment of alveolar abscess, sterilizing roots and filling roots, each treatment	.50
Fillings of porcelain	5.00 to 15.00
Fillings of gold	2.00 to 8.00
Fillings of amalgam	1.00 to 3.00
Fillings of cement	1.00
Fillings of gutta percha	1.00
Cleaning teeth, removal of calculus, treatment of pyorrhea and diseases of the oral cavity, general (each sitting)	.50 to 2.00
Extraction of tooth	.50
Anesthesia (local) (extra)	.50
Gas	3.00
Full artificial dentures (or plate), vulcanite, (each)	10.00 to 20.00
Full artificial dentures (or plate), gold, (each)	75.00
Lower dentures, cast metal base	10.00
Partial dentures at comparative rates; base plate and one tooth	5.00
Crown work (each crown), incisors and bicuspids	7.50
Crown work (each crown), molars	10.00
Bridge work (bridge attachments are considered as teeth), per tooth, incisors and bicuspids	7.50
Bridge work (bridge attachments are considered as teeth), per tooth, molars	10.00
Gold inlay work	5.00 to 15.00
Administration of a general anesthetic	5.00

This is to include the extraction of one tooth, with an addition charge of 50 cents for each additional tooth extracted.

Geo. W. Goethals,
Governor.

Discipline.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 606:

1. The Executive Order of February 2, 1914, provides:

> Sec. 2. Service must be satisfactory to the head of the department in which employed, and employes are subject to the regulations of the Governor.
>
> Sec. 9. Assignment to duty is vested in the respective heads of the departments, and employes will be expected to perform such duties as may properly be assigned to them. The Governor may discharge an employe at any time for cause and terminate a provisional appointment when the exigencies of the service require.

GIFTS.

2. Section 1784 of the Revised Statutes provides:

> No officer, clerk, or employe in the United States Government employ shall at any time solicit contributions from other officers, clerks, or employes in the Government service for a gift or present to those in a superior official position; nor shall any such officials or clerical superiors receive any gift or present offered or presented to them as a contribution from persons in Government employ receiving a less salary than themselves; nor shall any officer or clerk make any donation as a gift or present to any official superior. Every person who violates this section shall be summarily discharged from the Government employ. (R. S., Act of February 1, 1870.)

LOANS FROM SUBORDINATES.

3. An employe who borrows money from another employe over whom he exercises supervision, control, or authority, will be subject to dismissal from the service.

LOTTERIES.

4. The selling of lottery tickets is forbidden by law in the Canal Zone. No person shall enter a building of the Canal administration, nor approach an employe at his work in any place, for the purpose of selling to him a ticket in any lottery or raffle whatsoever, no matter how worthy the purpose for which the lottery is intended.

DEBTS.

5. An employe must pay his just debts. Refusal to do so will be cause for dismissal.

SUSPENSION, REPRIMAND.

6. The head of a department may suspend an employe, or write a letter of reprimand or caution to him. In either case a copy of the order of suspension, showing period and cause, or letter of reprimand, should be sent at once to the office of the Executive Secretary, for the information of the Governor, and in order that it may be affixed to the personal file of the employe.

PROFANE AND ABUSIVE LANGUAGE.

7. The use of profane or abusive language by those in authority in addressing subordinates is forbidden. Violation of this rule will be sufficient cause for dismissal from the service.

COMPLAINTS TO SUPERIORS.

8. Officials and employes acting in supervisory capacity will hear complaints of subordinates, and, where within their power, will make a proper adjustment. Any complaints may be referred to higher authority, or an appeal may be taken to higher authority by an employe. Appeals to the Governor may be made only after decision by intermediary officials.

9. In formal administrative hearings or investigations, an employe affected may be present, and call and interrogate witnesses.

REDUCTION IN PAY.

10. The pay of an employe is determined by the character of his work, and under no circumstances will any infraction of discipline be punished by a reduction in pay.

PRIVATE USE OF GOVERNMENT MATERIAL OR LABOR.

11. An employe will work only for the Government during regular working hours. With the consent of the head of his department, division, or shop, he may do private work outside of regular hours, using Government tools or machines, provided these can be spared, and with the understanding that he will bear all expense of damages incident to his work.

12. Any employe who converts to his private or personal use or gain any material or supplies, the property of the United States, without proper written authority, shall be subject to discharge, and may be subject to prosecution. This refers both to new and used material. The use of such material or property, when not authorized to make improvements or changes in official quarters or grounds, will be considered private use.

13. No employe is authorized to use other employes under his supervision for personal errands or private work except on time for which the United States does not pay. When so used on outside time, the employe must pay for the service rendered. Violation of this order will, as in the past, subject the offender to immediate discharge and possible prosecution.

TRANSPORTATION MEN.

14. The Brown system of discipline was discontinued on March 1, 1914, and the discipline of transportation forces is now handled on the merits of each case. This is in accordance with the provisions of Panama Railroad Company joint transportation bulletin No. 29, of February 24, 1914.

NEPOTISM.

15. No persons related by blood or marriage may be employed in positions where the official authority of either can be used to the advantage of the other.

Geo. W. Goethals,
Governor.

Lost—Chagres Society pin, on Sunday, April 24, on trip from Cristobal to Paraiso and return. Finder please return to F. F. Stewart, Box 147, Cristobal, C. Z.

CANAL CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The schedule for moving pictures May 4 to 9 is, as follows: Monday, Gatun; Tuesday, Culebra; Wednesday, Balboa and Pedro Miguel; Thursday, Corozal; Friday, Empire; Saturday, Cristobal.

The schedule for Miss MacLaren's imitative readings of "Peg o' my heart" is, as follows:

Tuesday, May 5, Cristobal; Wednesday, May 6, Gatun; Thursday, May 7, Culebra; Friday, May 8, Empire; Saturday, May 9, Pedro Miguel; Monday, May 11, Balboa; Tuesday, May 12, Corozal.

The dates for "The misleading lady" will be given in next week's CANAL RECORD.

A meeting of the directors of the public school athletic league of the Canal Zone was held at the Pedro Miguel Y. M. C. A. on Saturday, April 25. The following were elected officers of the league:

Mr. John E. Talbot, president; Mr. A. N. Kjellander, vice-president; Mr. H. Darnell Brittin, secretary; Miss Marie E. Bayless, treasurer.

A constitution was adopted and a committee, consisting of Messrs. Warr, Brittin, Kjellander, Talbot, and Dickson, was placed in general charge of the proposed athletic meet in June.

The allisthmian duckpin tournament was finished on Saturday night, April 25, Cristobal winning the deciding game from Empire by three pins. The following is the standing:

	Won	*Lost*	*P. C.*
Cristobal	18	12	.600
Empire	17	13	.567
Pedro Miguel	16	14	.533
Corozal	16	14	.533
Culebra	15	15	.500
Gatun	8	22	.267

COROZAL.

The four-team local indoor baseball league has aroused much interest in the Corozal clubhouse. Two games were played Tuesday and Thursday evening of last week, when the Naps and Red Sox were victors over the White Sox and Cubs. Each team will play every other team three games.

The entertainment given Friday evening by the magicians, Olms and Nelly, was attended by a large audience.

The following are the scores made in the duckpin tournament on Saturday evening:

Corozal.				*Gatun.*			
Davis	79	93	106	Dumville	80	83	89
Steele	79	83	96	Kiger	107	83	82
Thirsk	85	82	92	Conley	75	84	105
Kiley	80	76	85	Richardson	95	77	69
Parkis	97	90	79	Claherty	87	89	97
	420	424	458		444	416	442

PEDRO MIGUEL.

In the local ragtime duckpin tournament, 18 men are entered. The leaders up to date are, as follows:

High double score—Landers and Dougherty, 569.
High individual score—Dougherty, 118.

Scores of 100 or more for the past week are: Davis, 102, 102; Landers, 102, 109, 102, 101; Vandeburgh, 105; Dougherty, 109, 118.

At the "Shipbored social" held on Wednesday evening, April 22, over 170 people attended. The social consisted of a program of games and a homemade lunch furnished by the ladies. The hall was decorated to represent a ship, with ship's signal flags, lanterns, port lights, and the captain's bridge arranged on the stage, with the steering wheel, bells, and wireless outfit. The officers were chosen for the good ship *Peter McGill*. During the intermission between the first and second group of games, the luncheon, consisting of sandwiches, cake, sea biscuits, and grog was served. These social times will be made a regular affair each month.

On Friday evening from 5 to 7.30, there will be a May party held for all the children of Paraiso and Pedro Miguel. One feature of this party will be the May pole dance by the children.

CULEBRA.

High scores in duckpins for the past week were, as follows: Barnes, 106; Koperski, 100, 100; Schmeck, 102; Ellsworth, Sr., 100, 101; F. Moore, 103.

On Wednesday night, April 22, the special reels of the "Passion play" were shown with three other reels. Mrs. E. S. Randolph furnished piano music.

The exhibition of the colored and sepia slides, "The political world in Christ's time," accompanied by a descriptive lecture, on Sunday night, April 24, was well attended. On Sunday night, May, 3, the last set in the series, "The religious world in Christ's time," will be shown. All are invited.

A local handicap pool tournament with 12 entries will begin May 1.

A new supply of Culebra Y. M. C. A. pennants has been received. The price is 75 cents each.

EMPIRE.

The smoker held on April 23 was attended by 200 men. The following program was given: Music by Gray's orchestra; Mr. Cantor, soloist; Mr. Emery in a bit of nonsense; Mr. Burkett, reader; Herr Olms and Fraulein Nelly, magicians; Mr. Brennan, juggler; Schaeffer and McMahon, piano and songs; Mr. DeFeet, flying rings and hand-balancing; 10-minute wrestling between Mr. Conner and Mr. Jordon. Tobacco and refreshments were served.

On account of so many of the people moving from Empire it was thought best to hold a farewell reception at this time. A special program was prepared for Friday, April 24, and a special train was run from Panama to Empire and return. There was an attendance of 500 people, 200 coming from other towns. The following program was given: Music, by the Tenth Infantry band; invocation, Rev. H. R. Carson; violin solo, Mr. Whitehead; the Empire Y. M. C. A., Mr. H. A. A. Smith; solo, Mr. Cantor; the old days, Mr. W. W. Warwick; piano solo, Mrs. Randolph; soprano solo, Mrs. Emma Hume Arthur; greetings from Culebra Y. M. C. A., Mr. E. E. Lee; greetings from Gatun Y. M. C. A., Mr. W. C. Gayer. After the program, a general reception with refreshments took place on the lower floor.

In the last games of the present duckpin league the Empire team took two out of three games from the Cristobal team, the scores being, as follows:

Empire	429	444	448
Cristobal	438	439	451

GATUN.

A night of motion pictures and magic was held on Monday evening, April 27, when Herr Olms and Fraulein Olms performed feats of magic and illusion, and three reels of comic motion pictures were shown.

Through the generosity of one of the members of the Y. M. C. A., 50 of the children of Gatun were given tickets of admission on April 21 to see the motion pictures illustrating the "Life of Christ." There was also a good attendance of the older people.

The Gatun clubhouse has, as members, 64 per cent of the men now living in Gatun.

A matinee social was held by the boys' and girls' gymnasium classes on Friday afternoon, April 24. The program was, as follows:

Part 1.

1. Grand March..........Gymnasium classes
2. Conversational game..........Everybody
3. Indian club drill..........Girls' class
4. Violin solo..........Mr. F. G. Smith
5. Serenade..........Seventh and Eighth Grades
6. Vocal solo..........Miss Maude Cheatham
7. Vocal solo..........Morris Witt
8. Trio..........Alice Holbrook, Maude Cheatham, Lula Pullig.
9. Recitation..........Miss Ethel Turner

Part 2.

1. Dumbbell drill..........Special Girls' class
2. Piano solo..........Miss Winnie Mae Stevenson
3. Vocal duet..........Morris Witt and Wm. Christian
4. Recitation..........Miss Madue Cheatham
5. Vocal solo..........Miss Marie Dirkes
6. Basketball song..........High school
7. Basketball game..........Boys vs. Girls
6. Trio....Morris Witt, Marie Dirkcs, Wm. Christian

Refreshments of homemade cakes, ice cream, and punch were served.

The result of the basketball game was a tie, score 4 to 4. The hall was decorated with American colors and college pennants. About 150 parents and friends of the boys and girls were present.

A class in "first aid" instruction as taught in the U. S. Army Hospital Corps will begin on Tuesday evening, April 28.

The Gatun Y. M. C. A. extends a very cordial welcome to the officers and men of the Tenth Infantry at Gatun to make use of the privileges of the clubhouse.

The "Musical five" scored a second victory when on Wednesday evening, April 22, the team defeated the "Multimillionaires" with a score of 24 to 4. The lineup was, as follows:

Musical Five.		*Multimillionaires.*
Smith, F. G.	L. F.	Kerruish
Sutliffe	R. F.	Griffith
Wright	C.	Godwin
Shepard	R. G.	Heslop
Conkerton	L. G.	Twitchell

Referee, Conley; timer, Gilbert; scorers, Sisson and Pentz.

CRISTOBAL.

Unusual interest was shown in the single folks' duckpin tournament on Monday night, April 20. The alleys were crowded with spectators, and 24 young people participated in the tournament. Winners were: Mr. D. V. Raymond and Miss. G. Butler, with a score of 483.

The bowling alleys were recoated with shellac during the past week and the pool and billiard tables were recovered.

Captain Mowbray of the steamship *Colon* delighted a large audience at the discussion club on Thursday night, April 23, with an interesting account of his recollections of Colon twenty years ago. The captain also gave a brief outline of the laws governing ships at sea. The meeting for May 7 will be the monthly current events meeting, at which will be discussed the Mexican situation and the Canal toll repeal Act, now before Congress.

The circus will be held on Friday and Saturday, May 15 and 16. The various gymnasium classes connected with the association will participate.

The C. A. C. team of the boys' department defeated the C. T. C. team, on Saturday April 25, taking two straight games of duckpins.

Team No. 1 defeated team No. 3 in the boys' indoor baseball league; score, 22 to 8.

The single men took five out of six games from the married men in a duckpin tournament on Wednesday night, April 22. The scores follow:

Married Men.				*Single Men.*			
Pinney	96	82	92	Russell	83	97	84
Weaver	83	90	86	Gill	83	94	80
Claherty	83	94	95	Farr	98	90	94
Bullard	74	87	87	Gibson	91	93	92
Collins	79	85	83	Smith	96	95	75
Totals	415	438	443		451	469	415

Married Men.				*Single Men.*			
Scheid	89	87	76	Parker	78	87	86
C. Butters	81	83	89	Robertson	84	89	94
G. Butters	74	67	86	Nash	86	73	80
Bevington	65	63	85	Hurst	76	99	94
C. Cotton	86	70	80	W. Scheid	85	90	77
Totals	395	370	416		409	438	431

Supplies for the Canal.

The following steamers with supplies for The Panama Canal and Panama Railroad Company, arrived at the ports of Colon and Cristobal during the week ending April 25, 1914:

Colon, April 20, from New York, with 16 boxes valves, four pieces chains (chain fenders), 245 kegs bolts, 101 cases electrical machinery, for First Division; eight reels copper wire, 45 kegs potassium chlorate, 48 packages transformers and oil, 54 boxes incandescent lamps, nine cases electrical machinery, 10 cases electrical material, 16 cases steel shutters, 9,500 pieces conduit, for Mechanical Division; nine pieces dredging machinery, 10 cases machinery, for Dredging Division; 30 bundles pipe, for Panama Railroad Company; 30 bundles angles, 525 bundles steel angles, for Second Division; 34 kegs rivets, 19 cases electrical machinery, 17 cases lubricating oil, 140 cases electrical machinery, 12 cases lubricating oil, for Division of Municipal Engineering; 81 pieces (1,108 board feet) mahogany lumber, 22,800 pieces hollow tile, 450 barrels cement, 190 crates roofing tile, 96 bundles steel reinforcing bars, for permanent buildings; 65 cases empty bottles, for Health Department; 20 ladders, 11 boxes valves, 37 crates earthenware, 38 step ladders, 37 reels wire rope, 30 bundles galvanized steel, 800 cases linseed oil, 200 cases soap, 327 coils wire, 73 kegs bolts and washers, 1,504 kegs wire nails, 44 boxes stoves, 19 barrels molasses, 12 pieces (204 board feet) white oak lumber, 10 cases lanterns, for stock; and a miscellaneous cargo, the whole consisting of 38,854 pieces, weighing 696 tons.

Prinz Joachim, April 20, from New York, with four cases plumbing material, one box whitewash brushes, for stock.

Heredia, April 22, from New Orleans, with 235 pieces creosoted switch ties, for Panama Railroad Company; 79 pieces untreated yellow pine piling, 5,489 pieces (21,959 board feet) yellow pine flooring, 3,660 pieces (24,620 board feet) yellow pine ceiling, 4,112 pieces (24,898 board feet) yellow pine siding, 89 rolls cotton duck, for stock.

Santa Marta, April 22, from New York, with 53 cases steel shutters, for Mechanical Division; 209 bundles steel angles, eight crates wheelbarrows, for permanent buildings; seven cases electrical material, for Division of Municipal Engineering; 12 cases axes, 34 pieces structural steel, 14 kegs nuts, 11 crates elbows, 19 cases screws, 51 cases caustic soda, for stock.

Atenas, April 23, from New Orleans, with 611 pieces creosoted switch ties, for Panama Railroad Company; 62 pieces untreated yellow pine piling, for stock.

Pastores, April 24, from New York, with 95 packages chain fender material, for First Division, 25 cases pipe fittings, for Division of Municipal Engineering, 11 crates structural material, for Fortifications Division; 10 cases bronze rods, 10 kegs wire nails, 58 kegs wire nails, 21 crates brooms, 20 cases yellow ochre, for stock.

Will of William Telfer.

FIRST JUDICIAL COURT,
ANCON, C. Z., April 20, 1914.

Notice is hereby given that the will of William Telfer who died in this circuit on the 16th day of November, 1913, has been presented by the Administrator of Estates for probate in the Circuit Court of the Circuit aforesaid, and the Court has appointed the 9th day of May, 1914, at 9 o'clock a. m., in the courthouse at Ancon for all to appear and contest the allowance of said will.

E. M. GOOLSBY,
Clerk of said Court.

COMMISSARIES.

The commissary stores are open during the following hours:

Cristobal, 8 a. m. to 12.30 p. m., and 2 to 7 p. m.
Balboa, 8 a. m. to 12.30 p. m., and 2.30 to 7 p. m.
Ancon, 8 a. m. to 1 p. m., and 3 to 6 p. m.
All others, 8 a. m. to 1 p. m., and 3 to 7 p. m.

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Sale of Steam Launch and Gasoline Launch Engine.

Sealed proposals will be received at the office of the Chief Quartermaster until 3 p. m., Saturday, May 2, and then opened, for the purchase of the steam launch *Q.* and the gasoline engine taken from the launch *Pratique.* Full information concerning above can be secured upon application to the storekeeper at Balboa, at which point this equipment is open for inspection. Proposals must be accompanied by certified check, postal money order, or cash, for five per cent of the amount bid. Proposals should be marked "Proposals for the purchase of launch and engine," and addressed to Capt. R. E. Wood, Chief Quartermaster, Culebra, C. Z.

◆

On Sale at Medical Storehouse.

THE PANAMA CANAL,
OFFICE OF THE CHIEF QUARTERMASTER,
CULEBRA, C. Z., April 24, 1914.

The Panama Canal has on hand at the medical storehouse at Colon a quantity of surplus supplies which are available for sale. These include medical and surgical supplies, medical books, beds, mattresses, pillows, and some articles of furniture. All will be sold at a reduced price. Prospective purchasers can inspect these supplies on Monday, Wednesday, and Friday afternoons.

R. E. WOOD,
Chief Quartermaster.

◆

Examination by Board of Local Inspectors

THE PANAMA CANAL,
BOARD OF LOCAL INSPECTORS,
ANCON, C. Z., April 24, 1914.

The Board of Local Inspectors will conduct examinations at the Administration Building, Ancon, on Wednesday, May 6, beginning promptly at 2 p. m., for persons desiring the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for licenses must procure from the office of the Local Board, Ancon, forms of application and information respecting the filling out of the same, not later than the day previous to the examination. In addition, all persons desiring chauffeurs' licenses must provide themselves with automobiles with which to demonstrate their ability properly to operate the same.

NOTE—The demonstration test for applicants for chauffeurs' license will be given on Tuesday, the day previous to the regular examination, at 2 p. m., at the Administration Building, Ancon; on Wednesday, the day of the regular examination, for out-of-town applicants, at 2 p. m., at the Administration Building, Ancon. No demonstration tests will be given at Cristobal, except by appointment.

HUGH RODMAN,
Chairman, Board of Local Inspectors.

◆

Captain Rodman an Accountable Official.

THE PANAMA CANAL,
ACCOUNTING DEPARTMENT,
EMPIRE, C. Z., April 18, 1914.

All accountable officials—Effective this date, Capt. Hugh Rodman, Superintendent of Transportation, is designated as an accountable official.

H. A. A. SMITH,
Auditor, The Panama Canal.

Approved:
GEO. W. GOETHALS,
Governor.

◆

Misdirected Letters.

ANCON, C. Z., April 27, 1914

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Acting Director of Posts, and may be received upon request of the addressees:

Bramble, John
Brodie, Orin B.
Clarke, Mrs. Jacob H.
Donavan, Mrs. S. A.
Donahue, J. O.
Duncan, Homer
Gibbs, Dan
Goldstien, Alf.
Green, W. O.
Guyton, A. R.
Hindle, Clifford D.
Kennedy, E. J.
McCartney, Robert J.
McDonald, James
Osborn, A. W.
Tarman, Ed.
Van Siden, W. A. (Mrs.)
Wade, Robert
Webster, Leigh
Wells, Judson T.

◆

FOUND—One watch and fob. Owner can have same upon proper identification at headquarters, Police and Fire Division, Ancon, C. Z.

Rainfall, April 1 to April 25, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*	2	*Ins.*
Ancon	1.54	2	2.19
Balboa	1.79		2.53
*Miraflores	3.30	25	8 88
Pedro Miguel	1.35	4	2.28
Rio Grande	.18	25	.41
Central Section—			
Culebra	.18	2	.39
*Camacho	.11	3	.32
Empire	.23	2	.38
Gamboa	1.11	2	1.31
*Juan Mina	.44	3 & 25	.98
Alhajuela	1.42	25	1.49
*El Vigia	.23	25	.34
Frijoles	1.46	3	2.33
*Monte Lirio	1.50	3	2.83
Atlantic Section—			
Gatun	.60	25	1.45
*Brazos Brook	1.34	3	2.57
Colon	.90	2	2.08
†Porto Bello	.18	4	.99

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight. †To 5 p. m., April 24.

◆

Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun and Miraflores Lakes for the week ending midnight, Saturday, April 25, 1914. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela	Gamboa.	Gatun Lake.	Miraflores Lake.
Sun., April 19	124.8	91.2	84.7	84.8	45.1
Mon., April 20	124.9	91.2	84.8	84.8	45.0
Tues., April 21	124.8	91.2	84.8	84.8	45.7
Wed., April 22	124.7	91.1	84.8	84.8	45.4
Thurs., April 23	125.2	91.8	84.8	84.8	45.4
Fri., April 24	125.2	91.8	84.8	84.8	45.1
Sat., April 25	125.0	91.5	84.8	84.8	45.0
Height of low water to nearest foot	125.0	91.0			

◆

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending May 9, 1914:

DATE.	High	Low	High	Low	High
	A M.	A.M.	A.M.	P M.	P.M.
May 3	......	2.58	9.04	3.33	9.26
May 4	......	4.02	10.12	4.43	10.40
May 5	.....	5.11	11.20	5.52	11.54
			P.M.		
May 6	.....	6.17	12.26	6.52	......
May 7	1.00	7.16	1.22	7.47	......
May 8	1.56	8.09	2.14	8.38	......
May 9	2.47	9.00	3 04	9.26	.....

75th meridian time.

◆

Movement of Vessels, Port of Balboa.

The following vessels arrived at, or departed from the port of Balboa during the week ending April 25;

Arrivals—April 20, *Aztec,* from San Francisco, *Pachitea,* from Callao; April 22, *Limari,* from Valparaiso, *Camino,* from San Francisco; April 25, *Barracouta,* from Central America, *Rupanco,* from intermediate ports.

Departures—April 18, *Ecuador*, to Guayaquil; April 20, *Victoria,* to Valparaiso, *Manavi,* to intermediate ports, *Huallaga,* to Callao; April 21, *Pleiades,* to San Francisco; April 25, *Newport,* to San Francisco.

◆

Hotel Aspinwall, Taboga.

Families of employes are entitled to the employes' rate of $2.25 per day, per person, at the Hotel Aspinwall, Taboga.

Launch tickets to Taboga are on sale at all P. C. hotels and the Hotel Washington

◆

FOUND—Masonic ring, consistory, 14th degree. Address, R. M. D., Auditor's Office, Empire, C. Z.

FOUND—One ring. Owner can have same upon proper identification at headquarters, Police and Fire Division, Ancon, C. Z.

MOVEMENTS OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.

		Sails.	*Arrives.*
*Advance	P. R. R.	April 27	May 4
*Allianca	P. R. R.	May 2	May 8
*Panama	P. R. R.	May 9	May 15
*Advance	P. R. R.	May 16	May 23
*Colon	P. R. R.	May 22	May 28

CRISTOBAL TO NEW YORK.

†Ancon	P. R. R.	May 7	May 14
†Advance	P. R. R.	May 7	May 14
†Allianca	P. R. R.	May 15	May 21
†Panama	P. R. R.	May 21	May 27
†Advance	P. R. R.	May 28	June 4

NEW YORK TO COLON.

*Metapan	U. F. C.	April 22	April 29
Prinz Aug. Wilhelm	H.-A.	April 25	May 4
*Tenadores	U. F. C.	April 25	May 2
Oruba	R. M.	April 25	May 3
*Zacapa	U. F. C.	April 29	May 6
Calamares	U. F. C.	May 2	May 9
Prinz Sigismund	H.-A.	May 2	May 12
*Almirante	U. F. C.	May 6	May 13
Trent	R. M.	May 9	May 17
Pastores	U. F. C.	May 9	May 16
Prinz Joachim	H.-A.	May 9	May 18
*Santa Marta	U. F. C.	May 13	May 20
Tenadores	U. F. C.	May 16	May 23
Prinz Eitel Friedrich	H.-A.	May 16	May 26
*Metapan	U. F. C.	May 20	May 27
*Calamares	U. F. C.	May 23	May 30
Orotava	R. M.	May 23	May 31
Prinz August Wilhelm	H.-A.	May 23	June 1
Zacapa	U. F. C.	May 27	June 3

COLON TO NEW YORK.

†Pastores	U. F. C.	April 29	May 6
Santa Marta	U. F. C.	April 30	May 7
Prinz Eitel Friedrich	H.-A.	May 4	May 13
†Tenadores	U. F. C.	May 6	May 13
Metapan	U. F. C.	May 7	May 15
Prinz August Wilhelm	H.-A.	May 12	May 20
Orotava	R. M.	May 12	May 20
†Calamares	U. F. C.	May 13	May 20
Zacapa	U. F. C.	May 14	May 22
Prinz Sigismund	H.-A.	May 18	May 27
†Pastores	U. F. C.	May 20	May 27
Almirante	U. F. C.	May 21	May 29
Prinz Joachim	H.-A.	May 26	June 3
Danube	R. M.	May 26	June 3
†Tenadores	U. F. C.	May 27	June 1
Santa Marta	U. F. C.	May 28	June 3

NEW ORLEANS TO COLON.

Parismina	U. F. C.	April 22	April 29
*Turrialba	U. F. C.	April 25	April 30
Cartago	U. F. C.	April 6	Mey 6
*Abangarez	U. F. C.	May 2	Mey 7

COLON TO NEW ORLEANS.

‡Atenas	U. F. C.	April 30	May 5
Parismina	U. F. C.	April 30	May 8
‡Turrialba	U. F. C.	May 7	May 12
Cartago	U. F. C.	May 7	May 15

BOSTON TO COLON.

Sixaola	U. F. C.	April 23	May 1
Carrillo	U. F. C.	April 30	May 8
Tivives	U. F. C.	May 7	May 15

COLON TO BOSTON.

Sixaola	U. F. C.	May 3	May 11
Carrillo	U. F. C.	May 10	May 18
Tivives	U. F. C.	May 17	May 25

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Piers 8, 9, and 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 2 p. m.; for Southampton, on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays at 3 p.m., for New Orleans, via Bocas del Toro and Havana, on Thursdays at 4 p.m.: ships for New York, via Kingston, on Thursdays, at 2 p. m.; for New York direct, on Wednesdays at 2 p. m.; for Limon and Bocas del Toro on Saturdays at 4 p. m.; for Bocas del Toro direct, on Thursdays at 4 p. m.; and for Boston, via Port Antonio, on Sundays at 3 p. m.

The Hamburg-American steamers *Prinz Eitel Friedrich* and *Prinz Sigismund* sail for New York, via Kingston and Fortune Island, on Mondays at 10 a.m.; the *Prinz August Wilhelm* and *Prinz Joachim* sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays at 10 a. m.

STATEMENT OF
CONSTRUCTION EXPENDITURES
TO DECEMBER 31, 1913

(Part II of The Canal Record, April 29, 1914.)

STATEMENT OF CONSTRUCTION EXPENDITURES TO DECEMBER 31, 1913.

Table No. 1.

Includes administrative and general expenses, but does not include "General Items" or expenditures for sanitation, hospitals, or civil administration.

Items.	Second Quarter Fiscal Year, 1914.			To September 30, 1913.			Total to December 31, 1913.		
	Quantities.	Amount.	Unit Cost.	Quantities.	Amount.	Unit Cost.	Quantities.	Amount.	Unit Cost.
From and Including Gatun to the Sea—	*Cubic Yards.*			*Cubic Yards.*			*Cubic Yards.*		
1 Dry excavation, prism		$76.30		2,181,998	$1,471,209.13	$0.6743	2,181,998	$1,471,285.43	$0.6743
2 Hydraulic excavation, prism				29,605	11,671.32	.3942	29,605	11,671.32	.3942
3 Dredging excavation, prism	765,500	150,705.84	.1969	37,690,150	8,791,030.78	.2332	38,455,650	8,941,736.62	.2325
Gatun Spillway—									
4 Dry excavation				1,544,202	$1,099,661.65	.7121	1,544,202	$1,099,661.65	$0.7121
5 Preparing foundations	5	$47.38	$9.4760	44,710	98,710.50	2.2077	44,715	98,757.88	2.2086
6 Masonry	904	17,769.96	19.6570	229,873	1,828,594.08	7.9548	230,777	1,846,364.04	8.0006
7 Ironwork		3,111.42			165,649.59			168,761.01	
8 Gates		3,368.10			92,158.20			95,526.30	
9 Operating machinery		7,068.92			97,369.65			104,438.57	
10 Backfilling	11,934	5,677.09	.4757	24,989	12,578.75	.5033	36,923	18,255.84	.4944
Total Gatun Spillway		$37,042.87			$3,394,722.42			$3,431,765.29	
Gatun Dam—									
11 Dredging excavation				38,425	$20,041.19	$0.5216	38,425	$20,041.19	$0.5216
12 Dry Filling	86,258	$38,212.19	$0.4430	12,104,157	5,271,019.64	.4354	12,190,415	5,309,231.83	.4355
13 Hydraulic Filling		**1,102.11**		10,728,965	3,203,669.47	.2986	10,728,965	3,202,567.36	.2985
14 Paving excavation				15,075	35,555.78	2.3581	15,075	35,555.78	2.3581
15 Paving Riprap		301.30		78,590	66,771.78	.8496	78,590	67,073.08	.8535
16 Paving Broken Stone				15,740	40,652.92	2.5828	15,740	40,652.92	2.5828
17 Surfacing (square yards)	85,975	5,139.40	.5978	304,090	8,765.18	.0288	390,065	13,904.58	.0356
18 East Saddle Dam, Dry Filling	1,139	341.36	.2997	2,978	1,462.53	.4911	4,117	1,803.89	.4382
Total Gatun Dam		$42,892.14			$8,647,938.49			$8,690,830.63	
Gatun Locks—									
19 Dry excavation				4,660,055	$3,155,572.44	$0.6771	4,660,055	$3,155,572.44	$0.6771
20 Dredging excavation				1,756,977	561,923.85	.3198	1,756,977	561,923.85	.3198
21 Preparing foundations—excavation				228,376	453,999.02	1.9879	228,376	453,999.02	1.9879
22 Preparing foundations—dredging				19,814	39,720.50	2.0047	19,814	39,720.50	2.0047
23 Preparing foundations—filling				41,661	16,514.47	.3964	41,661	16,514.47	.3964
24 Preparing foundations—piles, concrete (lineal feet)				83,670	141,743.12	1.6941	83,670	141,743.12	1.6941
25 Preparing foundations—piles, wooden (lineal feet)		**$376.80**		251,199	164,612.79	.6532	251,199	164,235.99	.6538
26 Masonry, Mass	19	10,372.01	545.8953	2,041,156	15,225,205.35	7.4591	2,041,175	15,235,577.36	7.4641
27 Masonry, Machine installation	520	17,729.87	34.0959	25,011	309,707.08	12.3828	25,531	327,436.95	12.8251
28 Ironwork		6,386.29			1,354,568.63			1,360,954.92	
29 Gates and fender chains		107,156.92			2,407,977.36			2,515,134.28	
30 Emergency Dams		12,983.82			842,788.32			855,772.14	
31 Operating machinery		154,561.47			2,692,616.30			2,847,177.77	
32 Control House, masonry		3,815.36		658	20,891.99	31.7507	658	24,707.35	37.5492
33 Control House, ironwork and misc		8,365.85			18,404.12			26,769.97	
34 Control House, machinery installation		6,343.23			15,243.60			21,586.83	
35 Buffer timbers		**966.60**			17,775.97			16,809.37	
36 Crib Fenders		12,394.44			26,455.21			38,849.65	
37 Backfilling	24,409	63,970.68	2.6208	2,094,759	1,099,032.45	.5247	2,119,168	1,163,003.13	.5488
38 Filling center wall		**384.76**		113,163	91,144.42	.8054	113,163	90,759.66	.8020
39 Filling around south app. wall—dry				7,072	3,777.61	.5342	7,072	3,777.61	.5342
40 Filling around south app. wall—hyd				594,495	94,077.49	.1582	594,495	94,077.49	.1582
41 Cleaning up		8,743.54			24,442.58			33,186.12	
Total Gatun Locks		$411,095.32			$28,778,194.67			$29,189,289.99	
Gatun hydroelectric power plant—									
42 Dry excavation				87,067	35,310.45	$0.4056	87,067	$35,310.45	$0.4056
43 Preparing foundations				11,709	23,860.05	2.0378	11,709	23,860.05	2.0378
44 Building construction		$79,046.48			155,944.73			234,991.21	
45 Operating machinery		43,609.43			231,030.01			274,639.44	
Total Hydroelectric Power Plant		$122,655.91			$446,145.24			$568,800.15	
Gatun-Mindi Levee—									
46 Dry filling	60,146	$21,607.23	$0.3592	203,523	$81,401.61	$0.3999	263,669	$103,008.84	$0.3907
47 Hydraulic filling				20,398	3,483.32	.1708	20,398	3,483.32	.1708
Total Gatun-Mindi Levee		$21,607.23			$84,884.93			$106,492.16	
48 Caño saddle dam		$3,559.71						$3,559.71	
49 Colon breakwater—west	66,074	371,457.33	$5.6218	1,140,090	$3,004,839.01	$2.6356	1,206,164	3,376,296.34	$2.7992
50 Clearing drift from Gatun Lake		1,308.09			6,018.26			7,326.35	
Total construction cost, Gatun to Sea		$1,162,400.74			$54,636,654.25			$55,799,054.99	
51 Plant and equipment to be absorbed after December 31, 1911								**$42,870.34**	
Total expenditures, Gatun to the sea								$53,756,184.65	
Gatun to Pedro Miguel—									
52 Dry excavation—prism	537,900	$357,621.82	$0.6648	109,171,881	$85,408,035.82	$0.7823	109,709,781	$85,765,657.64	$0.7818
53 Dredging excavation—prism	1,020,849	454,574.32	.4453	48,939	58,929.05	1.2041	1,069,788	513,503.37	.4800
54 Hydraulic excavation—prism	328,300	86,342.90	.2630	403,774	87,421.50	.2165	732,074	173,764.40	.2374
55 Clearing Canal line without exca. (acres)		2,398.58		2,539	155,171.25	61.3325	2,530	157,569.83	62.2806
56 Masonry				1,271	8,353.66	6.5721	1,271	8,353.66	6.5721
57 Facing—cement gun, square yards				4,250	4,079.11	.9598	4,250	4,079.11	.9598
Total cons. cost, Gatun to Pedro Mig'l.		$900,937.62			$85,721,990.39			$86,622,928.01	
58 Plant and equipment to be absorbed in const. costs after December 31, 1913								360,316.92	
Total expenditure Gatun to Pedro Mig'l								$86,983,244.93	
From and including Pedro Mig'l to the Sea—									
59 Dry excavation, prism		**$68,548.98**		4,819,969	$3,576,065.39	$0.7419	4,819,969	$3,507,516.41	$0.7277
50 Hydraulic excavation, prism				1,549,904	1,120,907.35	.7232	1,549,904	1,120,907.35	.7232
61 Dredging excavation, prism	956,960	349,839.34	.3656	38,858,359	9,811,607.39	.2525	39,815,319	10,161,446.73	.2552
Pedro Miguel Dams—									
62 Dry excavation				10,475	20,125.17	1.9213	10,475	$20,125.17	$1.9213
63 Dry filling		**12.29**		299,518	336,790.49	1.1244	299,518	336,778.20	1.1244
64 Masonry		**30.48**		1,567	8,441.82	5.3872		8,411.34	
Total Pedro Miguel Dams		**$42.77**			$365,357.48			$365,314.71	
Pedro Miguel Locks—									
65 Dry excavation				1,133,280	$1,033,574.05	$0.9120	1,133,280	$1,033,574.05	$0.9120
66 Preparing foundations		**$10.38**		175,987	479,426.79	2.7242	175,987	479,416.41	2.7242
67 Masonry Mass	618	10,528.76	17.0368	906,518	5,332,185.64	5.8821	907,136	5,342,714.40	5.8897
68 Masonry, Machinery installation	1,582	22,267.00	14.0752	14,612	176,265.86	12.0631	16,194	198,532.86	12.2597
69 Iron work		76.04			666,554.40			666,630.44	
70 Gates		109,198.62			1,457,315.07			1,566,513.69	

Bold face type indicates credit.

(Table 1—*Continued.*)

ITEMS.	SECOND QUARTER, FISCAL YEAR 1914.			TO SEPTEMBER 30, 1913.			TOTAL TO DECEMBER 31, 1913.		
	Quantities.	Amount.	Unit Cost.	Quantities.	Amount.	Unit Cost.	Quantities.	Amount.	Unit Cost.
71 Emergency Dams		57,126.20			621,670.08			678,796.28	
72 Operating machinery		143,922.04			1,381,196.94			1,525,118.98	
73 Control House, masonry	252	22,817.74	90.5466	545	27,631.35	50.6997	797	50,449.09	63.2987
74 Control House, Iron work and misc.		7,146.02			15,347.73			22,493.75	
75 Control House, machinery installation		20,551.49			960.31			21,511.80	
76 Buffer timbers		356.25			17,657.07			18,013.32	
77 Crib fenders		1,060.35			21,102.05			22,162.40	
78 Backfilling	13,570	19,169.70	1.4127	815,478	346,839.15	.4253	829,048	366,008.85	.4415
79 Filling center wall	800	480.59	.6007	217,139	109,317.23	.5034	217,939	109,797.82	.5038
80 Cleaning up		8,340.57			15,937.19			24,277.76	
Total Pedro Miguel Locks		$423,030.99			$11,702,980.91			$12,126,011.90	
Miraflores east dam and spillway—									
81 Dry excavation	31,580	$33,506.26	$1.0610	134,671	$247,949.38	$1.8411	166,251	$281,455.64	$0.6930
82 Masonry, Mass	739	6,463.16	8.7458	73,482	501,688.19	6.8274	74,221	508,151.35	6.8465
83 Masonry, machinery installation	15	832.58	55.5053	44	2,673.20	60.7545	59	3,505.78	59.4200
84 Ironwork		311.07			31,185.74			31,496.81	
85 Gates and caissons		4,722.81			48,188.60			52,911.41	
86 Operating machinery		8,935.48			92,870.26			101,805.74	
87 Cleaning up		631.70			1,478.96			2,110.66	
88 Channel south, dry excavation	4,520	1,815.27	.4016				4,520	1,815.27	.4016
Total Miraflores east dam, and spillway		$57,218.33			$926,034.33			$983,252.66	
Miraflores west dam—									
89 Dry excavation		**$1.71**		24,459	$25,681.77	$1.0500	24,459	$25,680.06	$1.0499
90 Dry filling	26,420	27,278.22	$1.0325	1,708,639	831,024.19	.4864	1,735,059	858,302.41	.2947
91 Hydraulic filling		**20.22**			53,344.31			59,324.09	
92 Masonry		**92.15**		4,403	21,408.95	4.8624	4,403	21,316.80	4.8414
Total Miraflores West Dam		$27,164.14			$937,459.22			$964,623.36	
Miraflores Locks—									
93 Dry excavation, Diversions				5,885	$2,028.98	$0.3448	5,885	$2,028.98	$0.3448
94 Dry excavation in lock site				2,222,582	2,065,386.14	.9293	2,222,582	2,065,386.14	.9293
95 Dredging excavation				309,647	142,379.66	.4598	309,647	142,379.66	.4598
96 Hydraulic excavation				332,703	195,299.02	.5870	332,703	195,299.02	.5870
97 Preparing foundations—excavation		**$58.42**		415,981	793,116.52	1.9066	415,981	793,058.10	1.9066
98 Preparing foundations—wood piles (l.f.)				44,705	58,874.76	1.3170	44,705	58,874.76	1.3170
99 Masonry—Mass	77	10,651.41	138.3300	1,479,079	7,927,244.10	5.3596	1,479,156	7,937,895.51	5.3665
100 Masonry—machinery installation	4,118	52,435.23	12.7332	16,984	196,013.87	11.5411	21,102	248,449.10	11.7737
101 Iron work		303.25			935,344.25			935,647.50	
102 Gates		179,034.27			1,371,855.75			1,550,890.02	
103 Emergency dams		205,538.36			247,447.14			452,985.50	
104 Operating machinery		187,594.81			1,741,093.73			1,928,688.54	
105 Control house—masonry	741	38,504.70	51.9632	200	11,114.59	55.5730	941	49,619.29	52.7304
106 Control house—iron work and misc.		11,544.66			5,833.52			17,378.18	
107 Control house—machinery installation.		952.32			4.73			957.05	
108 Buffer timbers		**43.06**			7,435.92			7,392.86	
109 Crib fenders		13,182.65			38,397.31			51,579.96	
110 Backfilling	95,138	83,180.05	.8743	2,125,275	841,524.15	.3960	2,220,413	924,704.20	.4165
111 Filling center wall		652.76		246,655	155,779.43	.6316	246,655	156,432.19	.6342
112 Cleaning up		19,654.20			27,025.43			46,679.63	
Total Miraflores locks		$803,127.19			$16,763,199.00			$17,566,326.19	
La Boca locks and dams (abandoned)									
113 Dry excavation				78,233	$158,343.29	$2.0240	78,233	$158,343.29	$2.0240
114 Construction—dams					315,350.07			315,350.07	
115 Construction—locks					159,306.40			159,306.40	
Total LaBoca locks and dams					$632,999.76			$632,999.76	
116 Naos Island breakwater	139,097	$162,553.16	$1.1686	1,547,862	$431,364.93	$0.2787	1,686,959	$593,918.09	$0.3521
Total const. cost, Pedro Miguel to sea		$1,754,341.40			$46,267,975.76			$48,022,317.16	
117 Plant and equipment to be absorbed in construction cost after Dec. 31, 1913								828,996.51	
Total expenditures, Pedro Miguel to sea								$48,851,313.67	
Terminal facilities, Cristobal—									
118 Fuel oil tanks		$32,886.93			$16,830.97			$49,717.90	
119 Coaling Plant		99,872.93			72,172.66			172,045.59	
Total Terminal facilities, Cristobal		$132,759.86			$89,003.63			$221,763.49	
Terminal facilities, Balboa—									
120 Preliminary work		$2,586.77			$34,591.47			$37,178.24	
Preparing site—									
121 Miscellaneous		$107,667.24			$277,606.44			$385,283.68	
122 Excavation	5,855	12,690.66	$2.1675	412,707	250,816.02	$0.6077	418,562	263,506.68	$0.6296
123 Filling	107,626	40,501.29	.3763	632,474	279,070.96	.4412	740,100	319,572.25	.4318
Total preparing site		$160,869.19			$807,493.42			$968,362.61	
124 Yards and tracks		$1,686.52			$16,443.82			$18,130.34	
125 Dredging inner basin	195,651	53,826.96	$0.2751	2,467,625	393,410.29	$0.1594	2,663,276	447,237.25	$0.1679
126 Main dry dock		193,411.72			314,875.01			508,286.73	
127 Dry Dock No. 2		1,961.87						1,961.87	
128 Coaling plant		103,685.06			88,854.56			192,539.62	
129 Sea wall		79.62			2.99			82.61	
130 Permanent shops		527,856.99			723,144.18			1,251,001.17	
131 Docks		245,007.30			575,322.97			820,330.27	
132 Fuel oil tanks		32,359.32			4,307.31			36,666.63	
Total const. cost, terminals, Balboa		$1,323,331.32			$2,958,446.02			$4,281,777.34	
133 Plant and equipment to be absorbed in construction costs after Dec. 31, 1913								273,274.02	
Total expenditures, terminals at Balboa								$4,555,051.36	
Miscellaneous items—									
134 Permanent town site—Balboa		$108,565.95			$70,077.51			$178,643.46	
135 Permanent town site—LaBoca		35,306.79			84,258.26			119,565.05	
136 Permanent town site—Pedro Miguel		55,689.93			352.85			56,042.78	
Total town sites		$199,562.67			$154,688.62			$354,251.29	
Permanent Buildings—									
137 Designing—General		$1,962.28			$7,175.39			$9,137.67	
138 Admin. Building, Balboa		99,091.62			70,380.52			169,472.14	
139 Gold employes quarters, Balboa		3,887.98						3,887.98	
140 Silver employes quarters, LaBoca		21,346.83			18,241.74			39,588.57	
141 Municipal buildings, Paraiso		883.80						883.80	
Total, construction permanent build'gs		$127,172.51			$95,797.65			$222,970.16	

Bold face type indicates credit.

(Table 1—*Continued.*)

ITEMS.	SECOND QUARTER, FISCAL YEAR, 1914.			TO SEPTEMBER 30, 1913.			TOTAL TO DECEMBER 31, 1913.		
	Quantities.	Amount.	Unit Cost	Quantities.	Amount.	Unit Cost	Quantities.	Amount.	Unit Cost
Power Transmission system—	*Cubic Yards.*			*Cubic Yards.*			*Cubic Yards.*		
142 Preliminary work		$10,326.51			$12,441.50			$22,768.01	
143 Overhead transmission line		115,004.69			87,012.52			202,017.21	
144 Cable direct lines		44,051.00			134,705.63			178,756.63	
145 Transformer substations		44,174.75			1,625.41			45,800.16	
Total power transmission system		$213,556.95			$235,785.06			$449,342.01	
146 Trans-Isthmian oil line					$34,558.73			$34,558.73	
147 Lights and buoys		46,566.86			442,036.75			488,603.61	
Total const. miscellaneous items		$586,858.99			$962,866.81			$1,549,725.80	
148 Plant and equipment to be absorbed in construction costs after Dec. 30, 1913								$48,671.28	
Total expenditures misc. items								$1,598,397.08	
Total construction expenditures								$197,965,955.18	

Item 26 and 99—Charges to masonry in this quarter represent, to a great extent, work done in finishing, chipping, etc., and the cost has no direct relation to the yardage placed.

Item No. 57—Represents operation cement gun used in facing walls of cut.

Item No. 54.—Hydraulic Excavation—This work was done on the upper banks of the Canal north of Gold Hill.

Item No. 91—Hydraulic filling Miraflores West Dam—Expenditures represent cost of pipe lines, flumes, etc. 661,048 cubic yards have been deposited in the dam from dredges and hydraulic excavation in lock chambers and in prism below the locks. The expense thereof has been charged to "Excavation."

Items 113, 114, and 145—La Boca locks and dams—These expenses were incurred prior to the adoption of Miraflores as the site for the lower locks and dams at the Pacific entrance of the Canal.

Item 119—Preliminary work and dredging.

Items 143 and 147—Includes charges to plant account for this work.

Items 51, 58, 117, 133, and 148—The expenditures for Plant and Equipment are absorbed in the construction costs on the basis of the estimated cost of plant and the estimated quantities of work to be done. The amount under these items represents the balances which are to be absorbed into construction costs of December 31, 1913.

General—When excavated material is used for filling, such as dams, backfilling, etc., the cost of dumping only is charged to the item benefitted, other expenses being charged to "Excavation."

Due to changes in organization, this statement no longer represents the work done by the various construction divisions, the divisions shown thereon being geographical.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, MAY 6, 1914. No. 37.

The Canal Record

Official publication of The Panama Canal.

The Canal Record is published weekly free of charge, one copy each, to all employes of The Panama Canal and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

◆

Pontoon Bridge Swung Into Position.

The pontoon bridge over which trains are to cross the Canal at Paraiso was towed from alongside the Dredging Division's repair wharf to the site of the crossing, in the morning of Monday, May 4, and connected by its massive hinge to the abutment on the east bank of the Canal. It was later swung back into the recess excavated for it along the side of the Cut, and about 4.30 p.m. of the following day, Tuesday, May 5, it was swung across the Canal into the position it will occupy when in use. An attempt was made to tow the structure into position by steam and motor launches, but owing to the strong wind blowing their combined power was not sufficient to bring it around, and the services of a tug were enlisted.

The adjustments of the steel apron girders at the two ends, by which connection with the land approaches is effected; the electrical connections to the motors, by which the aprons will be raised and lowered, and to the motor which will actuate the machinery for swinging the bridge, were practically completed on May 5. The laying of the track on the aprons and on the trestle on the barge is in progress, and it is probable that the pontoon will be ready for train service about the first of the week. As soon as it is ready for use, work on the removal of old bridge No. 57½ will be begun.

◆

Proposed Hospital for Cristobal.

Capt. R. E. Wood, Capt. L. P. Williamson, and S. M. Hitt have been appointed a committee to investigate and submit recommendations for a suitable site in Cristobal upon which to construct a new 50-bed hospital, with provision for future extension in case experience demonstrates the need thereof. Plans and specifications, and an estimate of the cost, are to accompany the committee's report. The proposed hospital is designed for the treatment of all emergency cases among employes at the Atlantic terminus, and of Panamanians in Colon and vicinity, who require treatment, as well as to take care of the work at present done by the Cristobal dispensary.

In the meantime an arrangement has been approved whereby Panamanian citizens residing in Colon and vicinity may receive treatment at Colon Hospital at the same rates as are now charged at Ancon Hospital, and indigent Panamanian citizens will be admitted upon request of the authorized representative of the Republic of Panama, bills for the expense incurred in their treatment to be made against the Panama Government.

◆

Offices of Port Captains Established.

The offices of the captains of the ports at Ancon and Cristobal, in the Panama Canal organization, were formally established on Monday, May 4. Two pilots, one gold clerk, and the silver force, formerly employed by the Panama railroad in this service, were taken over as of that date. The office of the captain of the port of Cristobal, Com. Douglas E. Dismukes, U. S. N., will be for the present in the rooms adjoining the quarantine office above the Panama railroad freight station, which were formerly occupied by the captain of the port at Colon. It is probable that later on a more suitable office will be constructed for this and other port purposes at Cristobal. The office of the captain of the port at Ancon, Lieut.-Com. H. V. Butler, U. S. N., will be for the present in the Panama railroad building at the Balboa wharves.

◆

Second 15-Yard Dipper Dredge on Way to Colon.

The 15-cubic yard dipper dredge *Paraiso*, twin of the *Gamboa*, now at work in Culebra Cut, and built under the same contract, sailed from Port Richmond, New York, in tow of a tug, on April 26. No word has been received from the vessels since their departure. The voyage of the *Gamboa* from the same port to Colon consumed 26 days. The boom and two dippers of the *Paraiso* were shipped separately in advance; the boom has been delivered at the Paraiso shops, and one of the dippers has been placed in use on the *Gamboa*.

◆

Prevention of Mosquito Breeding in Miraflores Lake.

Pipeline suction dredge *No. 82*, with about 1,000 feet of discharge pipe, mounted on pontoons, was transferred from Cucaracha slide to Miraflores Lake on Sunday, May 3, and has begun work south of Pedro Miguel Lock to supply spoil to a fill to be made in the area between the southeast wing wall and the Panama railroad embankment. This area includes the edge of the lake, and has a natural slope so gentle that slight fluctuations in the lake's surface make considerable variations in the shore line. This condition interferes with effective prevention of mosquito breeding.

An abrupt shore line, around the edge of the arm of the lake adjoining the village of Pedro Miguel, is being attained by excavation. During the recent lowering of the lake, forces of the Division of Municipal Engineering, under work request from the Health Department, have been cutting a berm around the sides of the lagoon, leaving a vertical bank, so that when the lake rises to normal elevation, the water will be several feet deep at the shore. This will afford a regular shore line for oiling, and will give the benefit of wave action in the prevention of mosquito breeding.

◆

Widening Streets of Panama at Sharp Corners.

Work of grading for street use a triangular plot at the junction of Sixteenth street and Central avenue, Panama, in order to relieve congestion of traffic and decrease the sharpness of the turn at this point, was begun by forces of the Division of Municipal Engineering on Saturday, May 2. This plot was formerly in the yard of St. Paul's Anglican church, and was recently acquired by the city of Panama by purchase. It is about 35 feet long, and the street will be widened accordingly, leaving a 4-foot strip, next to the present limit of the churchyard, for a concrete sidewalk. The area for vehicular traffic will be paved with vitrified brick, similar to the present paving of the adjacent streets.

Similar improvements are to be made at triangular corners on Nineteenth, Twentieth, Twelfth of October, and Third of November streets.

◆

Canal Pilots.

The following arrangement has been approved in connecton with the handling of applications for the position of Canal pilots:

The Washington office of The Panama Canal will handle all applications for the position of Canal pilot from the region of the Great Lakes, obtain as much necessary information in regard to their qualifications as practicable, arrange an eligible list in the order of merit, and submit it, through the Governor, to the Superintendent of Transportation on the Isthmus, accompanied by the full file of the applicant, to be returned later. The Washington Office will then make the appointments, when notified by the Governor to do so.

All other applications will be handled direct on the Isthmus by the Superintendent of Transportation. There are already on file a great many applications from employes on the Isthmus, from officers of the Panama Railroad Steamship Line, and from officers of other vessels running to Isthmian ports, most of whom the Superintendent has examined in person. The result is that ample material has been found for the complement of pilots that will be necessary for the opening of the Canal. In view of the large number of applications already received, and of the fact that they are still coming in, it is believed that there will be no difficulty in increasing the complement of pilots as the trade of the Canal warrants.

No applicant is considered eligible for examination unless he holds a master's license for the Great Lakes or ocean going vessels; he must be under 45 years of age, and an American citizen.

Visit of the "Montcalm."

The iron armored French cruiser *Montcalm*, L. G. Viaux, commander, the flagship of Admiral A. L. M. Huguet, commanding the French naval division of the Extrême Orient, with station at Saigon, Indo-China, arrived in Panama Bay on Wednesday, April 29, from Punta Arenas, Costa Rica, with the Admiral and his staff, consisting of Maj. M. M. E. Lagorio, Chief of Staff; L. A. Halter, chief mechanician; Mertian de Muller, division commissary, and A. M. J. Willm, *aide de camp*, on board. The vessel is about 460 feet long, has a depth of 27 feet, and is of about 9,000 gross tons. It has a complement of about 600 officers and men. The Admiral and party were presented to President Porras of Panama by the French Charge d'Affaires, M. Bizel, and later met Colonel Goethals, who furnished both the officers and men with every facility for seeing the Canal. The cruiser will sail on or about Thursday, May 7, for Talcahuano, Chile, returning to Callao, Peru, after which it will probably leave for its eastern station.

Explosion of Panama Powder Magazine.

Eight persons were killed, and about 15 injured, by the blowing up of the powder magazine located in an old stone building on the Corozal road, a short distance from its intersection with the Sabanas highway, at about 3.15 a. m., on Tuesday, May 5. One of the injured died on Wednesday, making the number of fatalities nine. The building is a relic of the early history of the city, and served during that period as a fortified outpost; it was a mamposteria built structure, surrounded by a wall, and was provided with watch towers, or turrets, and loopholes for firing at an enemy. For some time past it has been used as a storehouse for explosives, and was known as El Polverin. The explosives, consisting for the greater part of black powder and dynamite, were set off by a fire, the origin of which has not yet been clearly established. It communicated with a wooden lean-to attached to the building, and later, the roof of the main structure caught fire.

The concussion produced by the explosion was felt over a very wide area. It awoke the greater part of the inhabitants of Panama City, Ancon, and environs, and appears to have had almost as startling an effect in Culebra, Empire, and other towns on the Pacific slope in the Canal Zone. The shock was nearly as pronounced at Naos Island. The explosion completely destroyed the powder magazine, tore a great hole in the ground upon which it stood, and sent large pieces of rock several hundred yards away. It did considerable damage in shattering windows, and twisting doors in Panama and Ancon, and the soap factory, butter factory, Plaza de Toros, and other buildings in the vicinity of the magazine suffered severely. Windows were broken in the Administration Building at Ancon, and in nearly every house in the settlement, articles were shaken off the shelves, and in some cases the sleeping inmates were thrown from their beds.

The killed, with the exception of two, were members of the Panama paid fire department, who were endeavoring to extinguish the fire when the explosion occured. The two others were a man, who was employed as caretaker at the Plaza de Toros, and his wife, who lived on the premises. They had left their room and three children, and had gone into one of the boxes evidently for the purpose of witnessing the fire. They were killed by masses of flying rock, but the children escaped injury.

All the killed were given a public funeral Tuesday afternoon, and the procession was one of the largest ever seen in Panama. President Porras issued a decree proclaiming it a day of mourning in the Federal District, and calling upon business men to close their stores during the afternoon, a suggestion which was carried out to the letter. Flags were displayed at half mast on the public buildings, and at the offices of the foreign diplomatic representatives.

Annual Dinner of 1904 Men.

The seventh annual dinner of the members of the Society of the Incas, composed almost exclusively of Canal employes and others whose term of service with The Panama Canal and Panama railroad began during the year 1904, was held at the Hotel Tivoli on Saturday evening, May 2. The dinner, as usual, was in honor of the anniversary of the taking over of the French canal property by the United States Government, which took place on May 4, 1904. Although there have been numerous separations of 1904 men from the two services during the past 12 months, there were present 39 persons, only five short of the number at the dinner last year, representing about four-fifths of the 1904 employes still on the Isthmus. Mr. J. J. Meehan presided. The principal speaker was Judge H. A. Gudger, who described the events that led up to Panama's secession from Colombia on November 3, 1903. Mr. A. B. Nichols, on behalf of the committee appointed at the last dinner, to confer with Colonel Goethals, with a view of procuring his consent to allow the 1904 men still on the Isthmus to pass through the Canal on the first ship, reported that he had taken the matter up, but that the Colonel had considered it too early to make an announcement. The committee will continue to serve. Mr. A. B. Nichols was elected president of the society for the ensuing year, Mr. Milo C. Pratt was reelected secretary-treasurer, and Mr. J. J. Meehan was elected toastmaster for next year's dinner. By an unanimous vote, the following ladies were admitted to membership: Anna R. Turner, Marietta Meech, Mary Prial, Amy E. Todd, Eleanor Smith Albin, and Jessie M. Murdock. The members present at the dinner were: J. J. Moran, D. F. Donahue, J. S. Kirk, W. L. Power, R. W. Bergin, C. L. Bleakley, D. W. Dennis, R. P. Dixon, O. S. Boyd, D. E. McDonald, Henry Anderson, F. E. Moore, L. E. Dubois, C. C. J. Wirz, W. C. Haskins, J. J. Reidy, G. W. Wonson, C. L. Stockelberg, Max Herz, A. A. Lundishef, Frank Loulan, Numa Nunn, R. E. Laughlin, James Macfarlane, M. B. Connolly, Hartley Rowe, Dan E. Wright, R. H. Wardlaw, George Buchan, W. H. Davies, George M. Wells, Dr. M. E. Connor, J. J. Meehan, A. B. Nichols, Judge H. A. Gudger, M. C. Pratt, Dr. A. B. Herrick, Walter Emery, Chas L. Parker. Letters containing the well wishes of the society were ordered written to Gen. W. C. Gorgas and Mr. Tom M. Cooke, now in the United States.

EXECUTIVE ORDER

Establishing Regulations Relative to the Payment of Tolls and of Bills for Materials, Supplies, Repairs, Harbor Pilotage, Towage, and Other Services, Furnished to Vessels by The Panama Canal.

By virtue of authority vested in me under the Panama Canal Act, the following regulations, relative to the payment of tolls and of bills for materials, supplies, repairs, harbor pilotage, towage, and other services, furnished to vessels by The Panama Canal, are hereby prescribed:

1. The payment of tolls by vessels using the Panama Canal, and the payment for fuel and for other material and supplies sold, and for repairs, harbor pilotage, towage, and other services furnished by The Panama Canal to vessels, shall be made to the Collector of The Panama Canal at either the port of Balboa or Cristobal, except that deposits for tolls may be made with the Treasurer or an assistant treasurer of the United States to the official credit of the Collector of The Panama Canal, as authorized in Paragraph 6 hereof.

A vessel may enter Gatun Lake from either end of the Canal and may, without passing through the locks at the other end, return to the original point of entry of the Canal without payment of additional tolls.

2. All payments shall be made in lawful money of the United States, but, in order to facilitate such payments, drafts may be accepted for conversion into lawful money under the conditions provided for in Paragraph 5 hereof.

3. Payment of tolls shall be made, or fully secured as provided for in either Paragraph 5 or 6 hereof, before the vessel is allowed to enter any lock of The Panama Canal. All bills for materials, supplies, repairs, harbor pilotage, towage, and other services furnished by The Panama Canal to vessels shall be paid, or fully secured, as provided for in either Paragraph 5 or 6 hereof, before clearance papers are issued from the port of departure.

4. A certificate that the vessel is entitled to pass through the locks of the Canal may be issued to the officer in charge of the operation of the locks, and, if desired, to the master of the vessel by the Auditor of The Panama Canal. The Auditor shall certify that the tolls have been paid to the Collector, or that their payment has been secured as provided in either Paragraph 5 or 6 hereof, or that the vessel is entitled to passage. Before a vessel that passes through the Canal is cleared from the port of departure, all statistical data in regard to cargo and passengers required by the Governor of The Panama Canal shall be furnished to the Auditor, or arrangements to furnish same satisfactory to the Auditor, shall have been made through an agency on the Isthmus. When all bills are paid, or secured, as provided in either Paragraph 5 or 6 hereof, and the statistical data furnished or satisfactorily arranged for, the Auditor will issue a certificate to that effect to the port captain charged with the duty of clearing the vessel.

5. Unless, in the opinion of the Governor of The Panama Canal, payment in cash to the Collector of The Panama Canal is necessary for Canal purposes, drafts on banks in the United States under the supervision of the Comptroller of the Currency and otherwise satisfactory to the Governor of The Panama Canal, may be accepted for conversion into cash to effect payment of tolls and for bills for materials and supplies, repairs, harbor

pilotage, towage, and other services, provided the payment of such drafts is secured by deposit of high grade bonds with the official of The Panama Canal designated by the Governor of The Panama Canal, under the following conditions:

Bonds will be acceptable only from steamship companies having frequent sailings through the Canal, or from the agents of several vessels or steamship companies. The bonds deposited by any one agency or company shall be sufficient to cover the tolls on a minimum number of vessels, as fixed by the Governor of The Panama Canal. Bonds of the United States, the Philippines, Porto Rico, and the District of Columbia will be accepted at their par value. If otherwise satisfactory to the Governor of The Panama Canal, or his representative, bonds of the Hawaiian Territory, the Philippine Railway Company, and those of States, municipalities, and high grade railroads, such as are legal investments for savings banks in the States of New York, Massachusetts, Connecticut, or New Jersey, will be accepted at 90 per cent of their market value, but not exceeding 90 per cent of their par value.

The Governor of The Panama Canal may refuse to accept coupon bonds and may limit exchanges of bonds by depositors.

6. Steamship companies or agencies may make deposits to the official credit of the Collector of The Panama Canal with the Treasurer or any assistant treasurer of the United States to be applied in payment of tolls. The treasurer or assistant treasurer receiving a deposit will forward a copy of the receipt direct to the Auditor of The Panama Canal at Balboa, Canal Zone. The receipt shall specify the vessel or vessels the tolls on which are to be charged against the deposit. Upon request, a cable notice will be sent to the Auditor of The Panama Canal. Request in writing that cable notice be sent will be made upon the treasurer or assistant treasurer receiving the deposit. He will telegraph the Washington Office of The Panama Canal, giving the number and date of the certificate of deposit, the amount paid, and the vessel or vessels for which the deposit is made, and state that cable notice is requested. The cost of sending the cable will be paid by The Panama Canal and the fees prescribed for such services will be charged against the deposit. The Auditor of The Panama Canal will issue monthly a certificate of the amount of tolls and fees charged against deposits with the Treasurer or Assistant Treasurer of the United States. Upon such certificate the Collector of The Panama Canal will draw his check for the proper part of the deposits to be covered into the treasury as moneys received in payment of tolls, or as a credit to The Panama Canal funds, as the case may require.

7. A refund of any excess amount deposited in payment of tolls with the Treasurer or Assistant Treasurer of the United States will be made when the steamship company, or other agency making the deposit, ceases to act for the vessels passing through the Canal, or, when on notice to the Governor, the amount is to be withdrawn.

Application for refund shall be made to the Auditor of The Panama Canal who, upon approval of the Governor, will state the account and certify the amount to be refunded to the Collector of The Panama Canal, who shall then draw his check for the amount of the refund to be made.

8. The Governor of The Panama Canal may prescribe such additional detailed regulations as may be necessary and proper.

WOODROW WILSON.

THE WHITE HOUSE,
April 16, 1914.
[No. 1917.]

PERSONAL.

Lieut.-Col. George D. Deshon, accompanied by Mrs. Deshon, arrived on the Isthmus on the *Turrialba*, on Thursday, April 30, to take up his duties as superintendent of Ancon Hospital.

Mr. Thomas Edwin Brown, Jr., associate justice of the Supreme Court of the Canal Zone, returned to Colon from a three weeks' special leave of absence, on the *Metapan*, on Wednesday, April 29.

Rebekahs to Move to Ancon.

Isthmian Canal Rebekah Lodge, No. 1, I. O. O. F., will move its lodge to the lodge hall in Ancon on May 14. Thereafter, meetings will be held in that place on the second and fourth Thursday evenings in each month, at 8.15 o'clock. Members are urged to be present at the meeting on May 14, or to send their addresses to the secretary, Mrs. S. E. Calvit, Corozal.

A Charity Donation.

A donation of $50, Panamanian silver, has been made for charitable purposes in the Canal Zone, by Mr. G. M. Eichlon, through the alcalde of Panama, Mr. E. Adames V. The amount has been turned over to the Collector of The Panama Canal, and will be distributed by him, in accordance with Mr. Eichlon's wishes, as follows: Ten dollars to the chief of the police and fire division, for distribution among the prisoners at the Gamboa stockade; $10 to the superintendent of Ancon Hospital, for distribution among the inmates of the insane asylum; $20 to the Chief Health Officer, for distribution, $10 among the inmates of the Palo Seco leper asylum, and $10 for the helpless blind; and $10 to be retained by the Collector in trust until such time as an association is formed for the purpose of organizing a fund for the erection of a monument in memory of those who have given their lives in the building of The Panama Canal.

Knights of Columbus Degree Work.

The New Jersey degree team of the Knights of Columbus, in charge of National Warden T. J. McLoughlin, arrived on board the *Allianca* on April 13. The team consisted of T. J. McLoughlin, E. J. Sweeney, J. F. O'Neil, George Cox, K. M. Ford, F. J. Moore, J. Kane, J, Slattery, F. Sexton, J. Rowe, J. Fitzpatrick, L. Hughes, and Hon. Allan B. Walsh, United States Congressman, from New Jersey. On Wednesday, April 14, they were the guests of Panama Council, who took them to Taboga Island and Old Panama; and on Thursday, April 15, through Culebra Cut. On Friday, April 16, they were the guests of Cristobal Council, who took them on a picnic to Fort San Lorenzo.

On Saturday, April 18, the fourth degree was exemplified at Cristobal, followed by a buffet lunch at the Strangers Club. On Sunday, April 19, the third degree was given to over 100 candidates at Cristobal, and in the evening a banquet was held at the Hotel Washington, with over 250 present.

The guests sailed for the United States on Monday, April 20, on the *Allianca*.

SOCIAL LIFE OF THE ZONE.

Church Notes.

The children of St. Luke's Sunday school, Ancon, were organized into a junior auxiliary of the missionary branch of the Episcopal church on April 22. The title of the society will be the St. Luke's Junior League. There were 16 children and two organizers present. The Sunday school room in the chapel will be used for the clubroom, and meetings will be held on Wednesday afternoons. The purpose of the auxiliary is to study and work for missions. A class in physical culture will be a feature of the work. The officers chosen are, as follows: President, Hazel Cummings; vice-president, Louise Dexter; secretary, Julia Heald; treasurer, Lillian Smith. The honorary president is the chaplain of the hospital chapel, the Rev. H. R. Carson.

The activities of St. Ferdinand's church, Empire, continue in spite of the changes that are taking place in the village. The priest in charge, the Rev. Father Allot, is in San Salvador at present and will be absent until about the middle of May. Various projects are under consideration for the future of the church, but these are dependent upon the return of the bishop of Panama, who is in Europe. It is possible that the church, with the parish house, will be removed to Guachapali, to be located on a site near the Panama Exposition grounds. St. Ferdinand's Society, composed of West Indians, will give an entertainment in the parish hall on May 30. The soldiers of Camp Otis will also hold an entertainment in the hall in May. The altar society of American women, assisted by the Catholic club, held a euchre party in the hall on Saturday evening, April 18. This was the first entertainment since the beginning of the Easter season.

Dr. A. P. Funkhouser, a minister and member of the commission engaged in the work of federating the Congregational, United Brethen, and Methodist branches of the Protestant church in the United States, was a visitor to the Isthmus during three weeks in April. He preached at Gatun, Pedro Miguel, Cristobal, and Empire. He preached in the Empire chapel in the morning and evening of Sunday, April 19, the Union churches of Empire and Culebra uniting in worship at that place. The Empire and Culebra congregations together adopted a resolution, sending greetings and best wishes of the Union Church of the Canal Zone to the new federation in the United States. At a later meeting in Cristobal, the local section of the Union Church ratified the resolution.

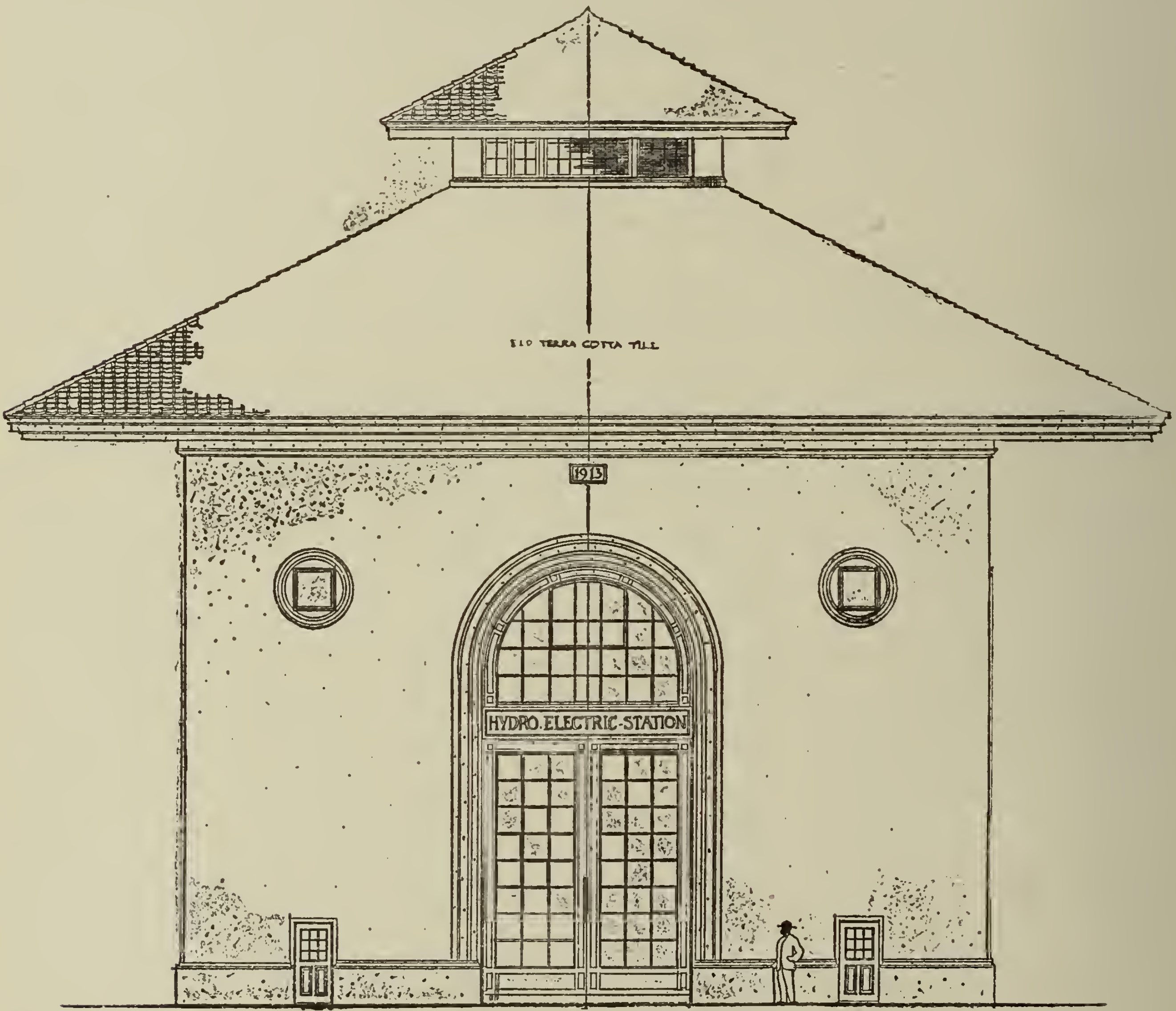
During the visit of Dr. Funkhouser, he was engaged by the Union Church of the Canal Zone to advise with the members of the executive council and local officers in regard to perfecting the organization of the church. The organization of the Union Church has so far advanced that negotiations are now pending, under which it hoped that the church will soon call a pastor to be its religious head.

The Woman's Foreign Missionary Society of the Methodist Episcopal Church has arranged for a special meeting to be held in the church on Sunday morning, May 10. The speaker for the day will be Mrs. D. E. Fulton, for three years city missionary in Des Moines, Iowa, and state lecturer on temperance and related subjects. Mrs. Fulton will speak on domestic missions.

NEW HYDROELECTRIC STATION

Description of Building which Houses Equipment for Generating Power for Canal.

The hydroelectric station at Gatun Spillway, the gate control house at the spillway, the four substations of the transmission system at Gatun, Miraflores, Cristobal, and Balboa, and the three lock control houses comprise the principal buildings connected with the actual operation of the Canal. These structures are designed on simple lines in harmony with the unbroken surfaces of concrete of the adjacent engineering works, and for the same reason are devoid of all modeled ornament; the plain wall surfaces are relieved only by the restrained mouldings of the bases and cornices, and architraves bounding the openings. This has the effect of enlarging the scale, or apparent size of the buildings, though they appear dwarfed by their proximity to large masses of concrete.



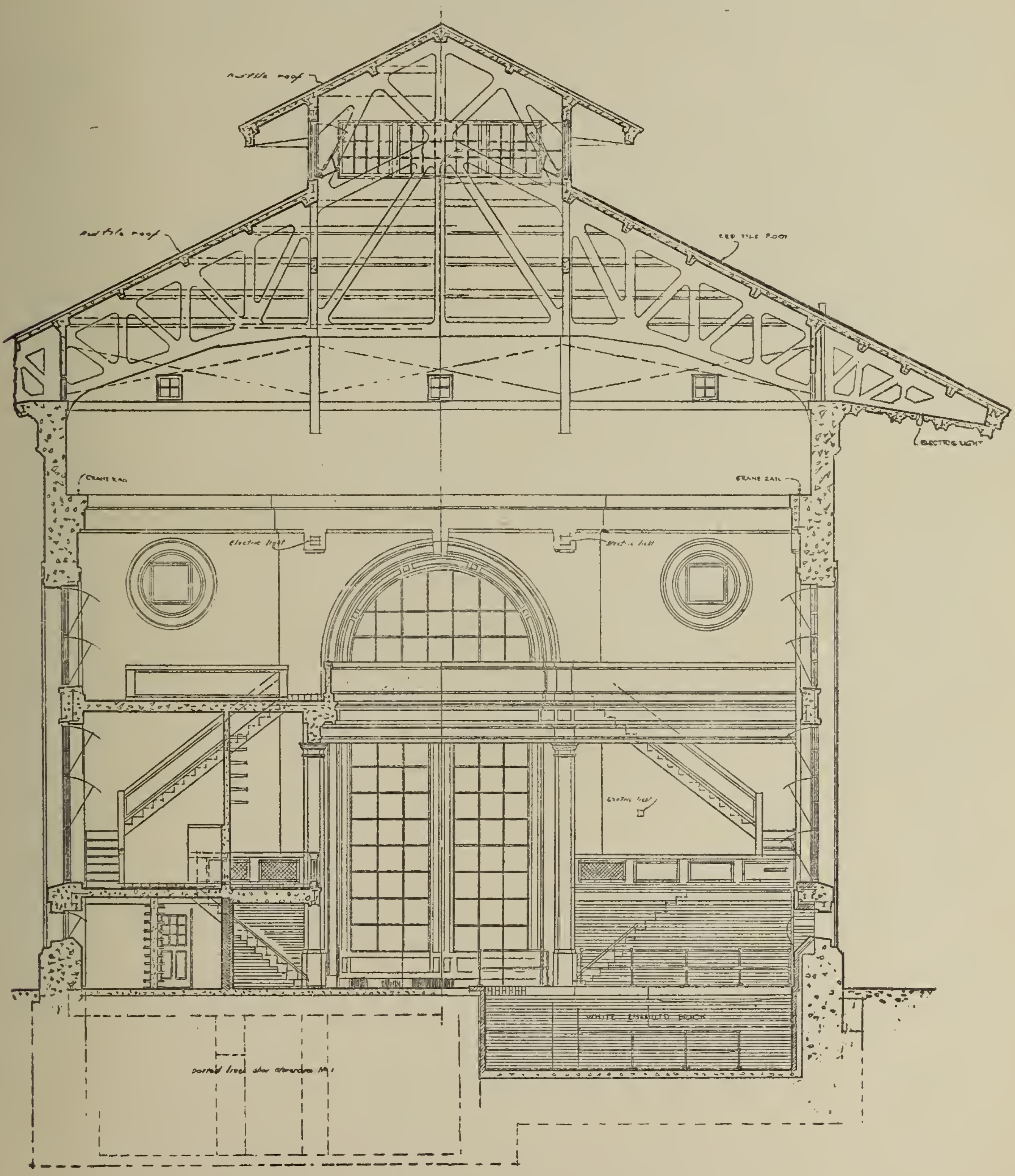
WEST ELEVATION, GATUN HYDROELECTRIC STATION.

The hydroelectric station, illustrated herewith, with dimensions of 61 by 137 feet, and an extreme height of 74 feet, shelters the turbines which will generate the power for the operation of the machinery at the locks, machine shops, dry docks, pumping plants, and coal-handling plants. In addition, it will furnish light for the Canal and the Zone towns and, if desirable, the power for the electrification of the Panama railroad.

The building which houses the station equipment is designed on the unit principal, to admit of future extension, and consists of a single room open to the roof, exposing the trusses upon which is laid the reinforced concrete roof slab, which, in turn, receives the red Spanish tiles. The walls are of poured concrete, 30 inches thick to the level of the crane rails, near the cornice. The exterior overhang of the main roof is 13 feet two inches and that of the monitor roof four feet eight inches, the exceedingly large projections having been generally adopted for all the permanent buildings in the Zone as a shelter from tropic rains, as well as from the heat of the sun.

In few features of the exterior or interior can one of the historical styles of architecture be recognized in this structure, which is devoted to a use unknown a few years ago. Beyond a general use of tile for flooring, and an interior white enameled brick wainscot 14 feet high, to relieve the coarseness of the walls, there is no difference in the finish of the concrete surfaces within and without, the scale of the nearby spillway, the uses of the building, and its isolated position, all combining to require a severe treatment of the structural materials in it. The dead surfaces of the concrete or stuccoed walls, which will probably be improved when weathered, are further relieved on the exterior by the red tile roofs. The principal field of ornament occurs in the soffit, or under side of the broadly projecting cornice, which is broken up into paneled coffers; a number of these contain light outlets which cast light down on the walls and throw the structure into strong relief at night. Interest also results from the breaking up of the large glass surfaces into smaller panes. Little wood is used anywhere, but for economy, it is utilized in the large side frames and sash, the end frames and sash being of iron.

The interior has four principal elevations, namely, a pit for the three 2500 K. V. A. turbines, a main floor, and two galleries. The turbine pit, with an area of over 2,100 square feet, is located six feet below the level of the main floor, and is reached from it by iron stairs situated alongside the turbines. From the pit, other stairs lead down to the storeroom on the north side, and to the air compressor and oil pump compartments at the ends. The pit is lined with white enameled brick, which is not only attractive, but is adapted to the purpose of the space, where cleanliness is a necessity. A 14-foot wainscot of the same material extends from the main floor to the first gallery elevation on the south wall of the pit, and the other parts of the room are, for the sake of harmony, treated with the same material. The simple pattern of the curb around the pit and the cap of the tile wainscot are illustrative of the decorative use of the brick.



Sectional Plan, Gatun Hydroelectric Station.

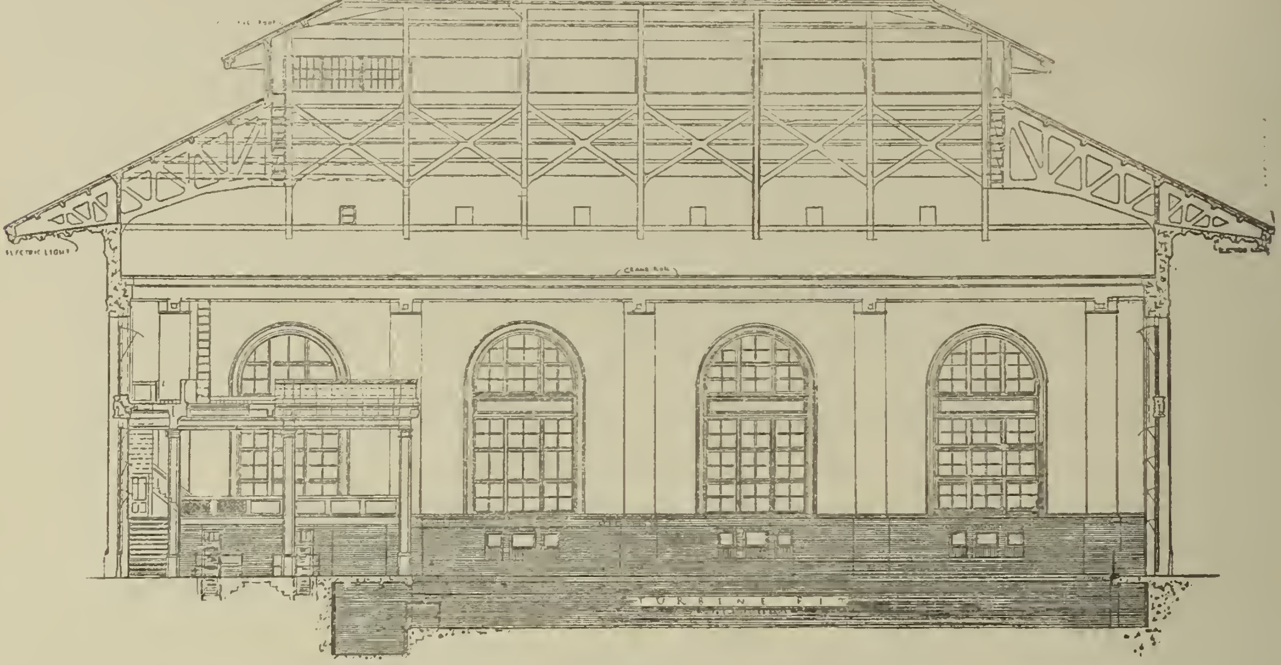
Intermediate between the pit and the main floor, and reached by stairs from the latter, are toilets in the southeast corner of the building, giving separate accommodations for white and colored employes. The walls are treated in enameled brick, similarly to the turbine pit, and the rooms are equipped with modern fixtures and separate shower compartments.

The main floor divides into two parts, one being partitioned off and devoted to the use of the electrical equipment, and the other forming an uninterrupted passage on the longitudinal axis of the building, terminating with the two large entrance doors at either end of the building. Easy access to railway cars is afforded by means of a track which enters this floor from grade through the northwest door, thus giving every facility for the handling of heavy machinery by the 30-ton electric crane running the length of the building overhead.

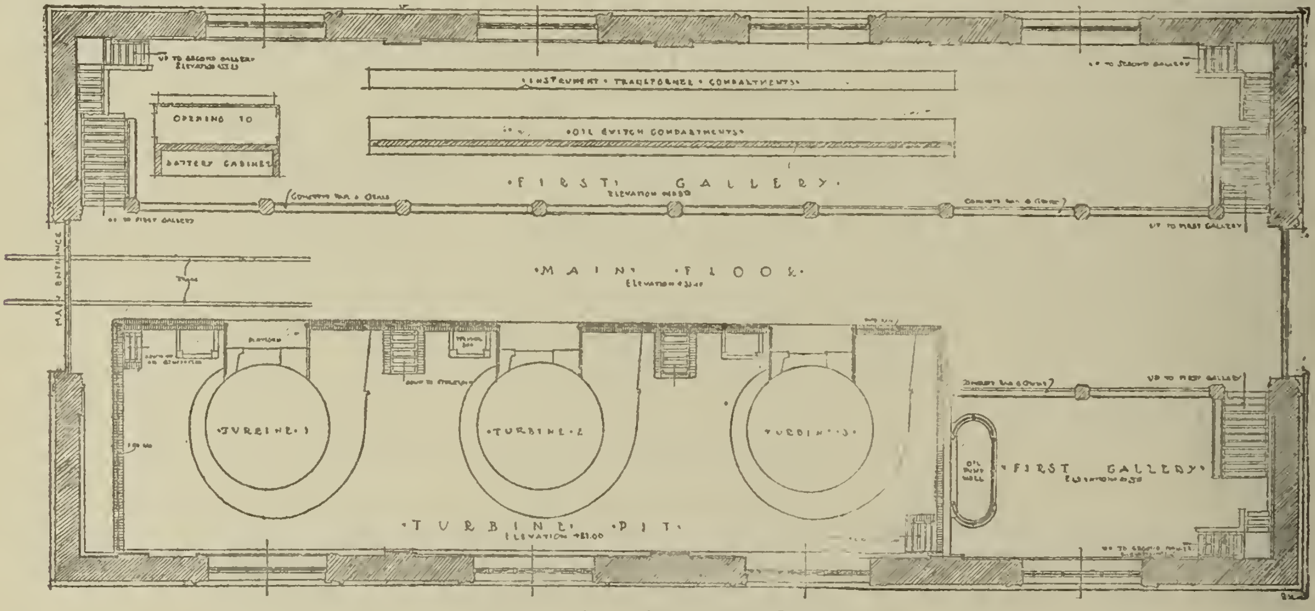
Concrete stairways at either end of the

building give access to the mezzanine and second galleries, which are devoted to the switchboards, oil switch compartments reactance coils and other electrical equipment. Two such galleries extend the entire length of the station on the northeast side, and in the south corner are superimposed two smaller ones used as a machine shop, and an office, respectively. The sash in the large side wall windows are operated in sections by a hand gear system; continuous bottom hinged sash in the roof monitor are operated by motors.

It is expected that the station will be entirely ready to be turned over for operation before the end of the present month. A description of the penstocks and electrical equipment was published in THE CANAL RECORD of July 3, 1912.



LONGITUDINAL SECTION, LOOKING SOUTH, GATUN HYDROELECTRIC STATION



FLOOR PLAN, GATUN HYDROELECTRIC STATION.

Elysius James Trust Committee Formed.

At a meeting of the Elysius James education committee, held at the Hotel Tivoli on April 17, action was taken on forming a board of trustees to handle the fund, now at interest in the treasury of the committee, to be used for the support of the blind boy on his return to the Isthmus. The names of the following were submitted and approved by the committee, and they will be the Elysius James trust committee: Lieut.-Col. Charles F. Mason, Dr. Charles A. Hearne, Mr. W. C. Todd, and the Cristobal Woman's Club, to be represented by its president. The board will control the fund and disburse it for the use of the boy on his return to the Isthmus from the Perkins Institute for the Blind, Boston. In the event of the death of the boy before his return to the Isthmus, the board is empowered to use the money for philanthropic purposes on the Isthmus, preferably for the relief of some blind person, or persons.

◆

Scores in Indoor Pistol and Revolver Matches.

The following are the results of the indoor championship pistol and revolver matches held at the range of the Ancon Pistol and Rifle Club from April 18 to 26, inclusive:

Match A, any revolver, 50 shots—M. E. Woodward, 407; J. Bernson, 400; E. S. Maloy, 311.

Match B, pistol 50 shots—J. Bernson, 415; M. E. Woodward, 400; E. S. Maloy, 348.

Match F, pocket, 25 shots—M. E. Woodward, 160; E. S. Maloy, 132; J. Bernson, 128.

Match G, novice—E. S. Maloy, 191; Miss Shellie Dunn, 181; D. T. Baker, 169.

Hotel Aspinwall, Taboga.

Families of employes are entitled to the employes' rate of $2.25 per day, per person, at the Hotel Aspinwall, Taboga.

Launch tickets to Taboga are on sale at all P. C hotels and the Hotel Washington.

OFFICIAL CIRCULARS.

Organization of Department of Operation and Maintenance.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., April 27, 1914.

CIRCULAR No. 660-9:

GENERAL CONSTRUCTION DIVISION.

1. The forces engaged in sluicing at Gold Hill, grading and filling at the locks and dams, constructing Naos Island breakwater, and in connection with the construction transportation at the Atlantic end are hereby united as the General Construction Division, under the direct supervision of the Governor.

2. The Culebra section, engaged in lightening the banks by dry excavation, the Miraflores section, engaged in grading and filling, the Ancon quarry section, the breakwater and dump section at Balboa, and the water service section, each in charge of a general foreman, are under the supervision of General Superintendent G. A. Greenslade, reporting to the Governor. Headquarters, Culebra.

3. The Gatun section, engaged in grading and filling at Gatun and the inspection of the Caño saddle work, is in charge of Foreman John J. Walsh, reporting to the Governor. Headquarters, Gatun.

4. The Atlantic transportation section, in charge of construction transportation by rail for the Gatun grading and filling work and the east breakwater work, is in charge of Yardmaster R. E. Hopkins, reporting to the Governor. Headquarters, Gatun.

5. The Gold Hill sluicing section, engaged in sluicing north and south of Gold Hill, is in charge of General Foreman Harry McAdams, reporting to the Governor. Headquarters, Gold Hill.

GEO. W. GOETHALS,
Governor.

Organization—Electrical Division.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 16, 1914.

CIRCULAR No. 660-6:

1. Effective this date, the work of electric wiring heretofore carried on under the resident engineer of the Supply Department is transferred to the Electrical Division of the Department of Operation and Maintenance.

2. Transfer of employes engaged in this work is also effective this date.

GEO. W. GOETHALS,
Governor.

Examination, Treatment, and Care of Water Supplies.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 646:

1. These rules and regulations shall cover all regular, auxiliary, and emergency water supplies for domestic and industrial use under the jurisdiction and control of The Panama Canal.

ANALYSES.

2. A complete chemical, microscopical, and bacteriological analysis of the raw, untreated waters of all reservoirs or other sources of water supply shall be made at least once each month.

3. A bacteriological and microscopical report of all filtered waters, including the results of such examinations of the bacterial content, alkalinity, and color of both raw and filtered water shall be made each day.

4. A bacteriological analysis shall be made of condensed water, both as it goes from the condensers and in the distributing cart.

5. When any marked changed of any nature occurs in the water supply it shall be reported at once.

6. The methods of analysis are to be those of the American Public Health Association.

CARE AND MAINTENANCE.

7. An inspection shall be made at least twice a month of all reservoirs and a report made thereon in writing, covering such matters as condition of water supply, manner of drawing water from reservoirs, and treatment of waters. The amount and character of chemicals to be used in treating water, and the method of applying the same will be subject to the supervision of the physiologist.

8. As little water as practicable will be allowed to flow over the spillways. When the water in the reservoir reaches the crest of the spillway, the main blow-off valves shall be opened upon orders from competent authority, and water from the lower parts allowed to escape until the level drops to a short distance below the spillway crest.

9. Water drawn from any reservoir for domestic use shall be taken from as near the surface as practicable.

10. Hunting and picnicking on reservoir watersheds, and fishing or boating on reservoirs is absolutely forbidden. Custodians and others connected with water supplies will see that this rule is enforced. The Police Department will inspect all reservoir watersheds at least three times each month, at regular intervals, to prevent trespassing thereon.

11. The Department of Health shall submit to the Governor comments or recommendations based upon the reports regarding water supplies.

12. The head of a department shall report the use of water from any other than a regular source of supply. No new source of supply for domestic purposes shall be used, except after approval of the Division of Municipal Engineering.

GEO. W. GOETHALS,
Governor.

Requests for Manufacture of Material.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 640:

1. In submitting work requests for the manufacture of material at shops operated by The Panama Canal, the following rules in regard to indicating thereon the time of delivery desired will be observed:

(*a*) When the material is required for future use the date on which it should be delivered will be stated on the request for each item.

(*b*) When material is urgently required the word "Rush" will be placed on the request. Such material will be worked on 16 hours per day (Sundays excepted), until completed.

(*c*) When an emergency exists that requires the completion of the material at the earliest possible date, the words "—— hours overtime per day authorized" will be placed on the request, and if Sunday work is desired the words "Including Sundays" will be added. The overtime authorized per day will be in excess of the 16 hours worked by the day and night shifts.

2. If material cannot be finished by the desired date of delivery, even when worked on 16 hours per day, the Superintendent of the Mechanical Division will promptly notify the head of the department or division concerned and request instructions as to whether or not overtime is required.

3. Upon receipt of each work request the Superintendent of the Mechanical Division will determine whether or not the work covered by it can be completed by the date specified for its delivery without delaying the delivery of other work under previous requests. If the work cannot be finished within the time limit without delaying other work beyond the date fixed for its delivery, he will so inform the head of the division or department concerned and arrange for such extension in delivery on that or on some other work for that division or department as will enable specified dates of delivery to be met.

4. In case early delivery is required, one copy of form PC 159, with drawings, should be sent direct to the Superintendent of the Mechanical Division and that fact noted on the remaining copies, which will be sent to this office.

5. It is enjoined that future needs be anticipated as much as possible and that the date of delivery be fixed as far in advance as the uninterrupted prosecution of construction work will permit.

6. While sufficient employes will be kept on the night shift under the Mechanical Division to reduce overtime work to a minimum, it should be borne in mind that night work is generally more expensive than that performed in daytime; therefore, rush work should be requested only when necessary. For similar reasons, overtime, including Sunday, work should be required only in case of emergency, or when apparatus cannot be spared for repairs at hours other than during overtime hours and on Sundays.

GEO. W. GOETHALS,
Governor

Recovery of Scrap.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 633:

1. Inspections will be made under the direction of the Chief Quartermaster to see that all scrap is recovered around shops, power houses, engine houses, field repair shops, and localities where construction work is in progress or has been carried on.

2. The construction and shop forces are primarily responsible for keeping premises clean and seeing that all scrap and usable material is picked up and turned over to the Supply Department.

3. The district quartermasters, storekeepers, and material foremen of the Supply Department will call the attention of responsible officials of the construction and shop forces to any scrap or material that is not being picked up or properly handled, and if no action is taken within a reasonable time they will report the matter to the Chief Quartermaster.

4. No tracks are to be taken up, leaving scrap in an isolated locality where it will be expensive to recover. In loading scrap in the field, a reasonable amount of care should be taken, so as to save the expense of unloading. For instance, rail and track fittings should not be loaded together on the same car unless in cases where only one carload of material is picked up.

5. Serviceable material, so far as practicable, should be kept separate from scrap and turned in to the nearest storehouse.

6. In handling scrap around shops, care should be taken, as far as practicable, to keep brass, babbitt, and iron and steel borings and chips separate. By mixing babbitt with brass borings, the value of the borings is reduced at least one cent a pound. By mixing iron and steel chips with brass borings, the value of the borings is reduced two or three cents a pound. Cast-iron scrap should be kept separate from other iron scrap.

7. Electric light, telephone, and power lines should be taken down as soon as no longer required.

8. Brass and copper should be kept in a secure place to prevent theft or loss.

9. In cleaning up around work, care should be taken to see that copper wire and small pieces of brass and copper scrap, and rope, hose, and scrap rubber are not picked up with dirt and thrown on the dump.

10. Track gangs should pick up all scrap, such as tie plates, bolts, rail, etc., collect same at some central point, and make shipments to Mount Hope at least once a month, or oftener if necessary. The track gangs on dumps should see that all scrap rail, car aprons, and scrap of all kinds are picked up.

11. Scrap receptacles should be placed at all section houses on the main line of the Panama railroad, and section gangs should turn in all scrap recovered on or in the immediate vicinity of the right-of-way.

12. The powder foremen will see that scrap fuse wire used in excavation work is picked up.

13. Heads of the departments will see that their men are informed as to the value of scrap and that they understand the importance of taking care of it and keeping it picked up. The following is the approximate value of the various classes of scrap:

	Per pound.
Copper	10 cents to 15 cents
Brass	9 cents to 12 cents
Lead	4 cents to 5 cents
Rope	2 cents to 3 cents
Hose and rubber	1 cent to 3 cents
	Per ton.
Serviceable rail	$20
Cast iron	$12 to $14
Steel and iron scrap	$4 to $12

14. In addition to scrap recovered, there is always a portion of serviceable material which finds its way into the scrap pile. By keeping the scrap cleaned up, this material will be recovered and put back in service while it is still in a usable condition.

15. Scrap iron and steel cable, scrap galvanized iron pipe, and scrap galvanized iron roofing have no scrap value and no money should be spent in recovering them.

GEO. W. GOETHALS,
Governor.

Citizenship.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 607:

1. The Executive Order of February 2, 1914, provides:

> SEC. 6. All employes who receive over $75 per month, or over 40 cents per hour, must be citizens of the United States, or the Republic of Panama, and such citizens will be given preference for employment in all grades. Aliens may not be employed in such grades unless
>
> (*a*) They have occupied similar positions during the construction of the Canal for two years or more, or,
>
> (*b*) In case of emergency, in which latter case, they must be replaced by citizens of the United States, or Republic of Panama, as early as practicable.

NATURALIZED CITIZENS.

2. A foreign born citizen must establish his citizenship, as follows:

(*a*) If naturalized directly, he must submit his final certificate of naturalization.

(*b*) If naturalized by the naturalization of a parent during the minority of the employe, he must submit the certificate of naturalization of the parent.

(*c*) If a foreign born child of American citizens temporarily domiciled abroad, he must furnish affidavits of two disinterested citizens as to the facts claimed.

(*d*) Declaration of intention to become a citizen will not be accepted in lieu of a certificate of naturalization.

LABORERS.

3. Laborers who are American citizens shall be paid in gold. Timekeepers will stamp "American citizen," on pay certificates of all such employes, in order that they may be identified by the paymaster.

4. Irrespective of nationality, a laborer who accepts a position in the "Silver" classification will not be permitted to transfer to the "Gold" roll as long as he re-

mains in that position. Citizens of the United States and Panama will not be carried on the "Gold" rolls unless they are doing work of the grade and character commonly performed by "Gold" employes.

CITIZENS OF PANAMA.

5. Employes who are citizens of Panama are entitled to certain privileges extended to American citizens, except that only those whose pay is in excess of $75 a month or 40 cents an hour are entitled to annual, cumulative, and travel leave.

6. Decree No. 11 promulgated by the President of the Republic of Panama, February 22, 1909, states:

> Article 1. Native Panamanians who aspire to be employed in the service of any of the official departments of the Canal Zone must previously present to this office (Secretary of Foreign Affairs of the Republic of Panama) their certificate of baptism, or a judicially acknowledged sworn declaration drawn upon stamped paper of the first-class, if such certificate is not available, by which the Panamanian nativity is established. The said certificate of baptism or judicial declaration will be exchanged at this office (*supra*) by a certificate setting forth the identity of the applicant.
>
> Article 2. Naturalized Panamanian citizens who desire employment with any of the official departments of the Canal Zone shall address a petition to this office on which they must state the date on which they obtained their naturalization papers, and this office (*supra*) will then issue the corresponding certificate, attesting to the Canal Zone authorities their Panamanian citizenship by adoption.
>
> Article 3. The office of the Secretary of Foreign Affairs shall keep a record of all certificates issued by it, in which shall be set forth all the details regarding the Panamanian citizens in whose favor they are issued.

7. No Panamanian will be appointed to a position on the "Gold" rolls until he has presented one of the two forms of certificate provided for in this decree. The certificate should be forwarded to the office of the Executive Secretary, attached to the application for increase of force or change of rating.

ALIENS.

8. Transfer from one department to another of an alien on the "Gold" roll, except a citizen of Panama, may be effected only after a statement of the reasons therefor has been approved by the Governor.

GEO. W. GOETHALS,
Governor.

Employment, Transfer, Promotion.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 603:

AGE LIMITS.

1. The Executive Order of February 2, 1914 provides:

> Section 7. * * * * * * * The age limit shall in all cases be under 45 years, but the Governor may waive this limit, when, in his judgment, such action is for the good of the service.

2. The minimum age limit for all positions (except physician, which is 22 years) is 20 years. The maximum age limit for entering the service for rodman, hydrographer, and physician is 30 years; fireman (fire department), policeman, hostler, locomotive engineer, trainman, nurse, levelman, transitman, 40 years.

PHYSICAL EXAMINATION.

3. Before entering the service on the Isthmus, employes on the gold roll must submit to a physical examination to determine their fitness for this service.

REEMPLOYMENT.

4. The employment of a person formerly in the Canal or Panama railroad service will be effected through the office of the Executive Secretary and the Washington office. Former employes will be subject to all conditions of employment in effect as regards new employes, except:

(*a*) The age limit will not be effective until after six months' separation from the service.

(*b*) One whose record in the Canal or Panama railroad service was "Excellent" or "Very good," as to workmanship and conduct, will be entitled to preferment in employment, and his application will be placed on the list of prefererd eligibles in the Washington office, provided the head of the department in which he formerly worked approves of his reemployment.

(*c*) Reemployment in positions in the classified civil service is subject to the general rule, that eligibility expires one year after termination of service.

(*d*) An employe who voluntarily leaves the service without giving five days' notice in advance to his immediate superior will be ineligible for reemployment for 30 days thereafter, and if reemployed may not be paid at a higher rate than he was receiving when he left the service.

WOMEN.

5. Women will be employed only in the following positions: Clerk, at $75 per month, or less; dietist, housekeeper, laundress, matron, schoolteacher, trained nurse, telephone operator, and saleswoman. Women for the position of clerk will be employed only on the Isthmus.

INTERDEPARTMENTAL EMPLOYMENTS.

6. No officer nor employe of one department shall offer inducements to an employe in another department to transfer, or to resign with the expectation of reemployment.

INTERDEPARTMENTAL TRANSFERS.

7. Transfers from one department to another may be made only with consent of the department from which the employe is to be transferred. The transfer will be effected through the office of the Executive Secretary, and must be approved by the Governor.

TRANSFER TO CLASSIFIED SERVICE IN THE UNITED STATES.

8. An employe who has occupied a classified position in the Canal service for three years or more may apply for transfer to a position in the classified service in the United States if at the time of application he has a classified status, i. e., has passed an examination for the position occupied and has been certified. The employe himself must make the arrangements for transfer.

ARTISANS.

9. An Executive Order of February 18, 1913, provides:

> All artisans, citizens of the United States, who are now, or who may hereafter be, in the service of the Isthmian Canal Commission, and who have rendered one year's satisfactory service on the Isthmus of Panama, and who may be recommended, upon discharge, for transfer, may be transferred within three years to corresponding positions in the classified service under the several Executive Departments and independent Government establishments, without examination, subject to the other provisions of the civil service rules.

10. To be entitled to the benefits conferred by this Executive Order, an employe must fulfill all of the following requirements, viz:

(*a*) Have worked in the Canal or Panama railroad service in a position covered by the term "Artisan."

(*b*) Be a citizen of the United States.

(*c*) Have been in the service on or subsequent to February 18, 1913.

(*d*) Have rendered one year's satisfactory service, part of which may have been rendered prior to February 18, 1913.

(*e*) Have been discharged on account of "Reduction of force" or "At his own request" (that is, by resignation, and not "For cause."

(*f*) Be specifically recommended for transfer to a corresponding position in the classified service under the several Executive Departments and independent Government establishments in the United States.

DUTIES TO CORRESPOND WITH RATINGS.

11. An employe is assigned to a certain position in the authorized organization, and the position is rated as worth a certain wage or salary. When the work he is doing is changed in nature, the employe must be transferred to a position corresponding to the work to be done, and the change will be noted on the organization records in the office of the Executive Secretary.

12. Especial care must be observed in applying this rule to artisans, because they are employed to do a definite class of work. When there is no work for an artisan in his special class, he may be assigned temporarily to other work for which he is qualified and where his services are needed, and if he is either not competent or is unwilling to do the work of another class, he will be discharged.

HOURS OF WORK.

13. The Executive Order of February 2, 1914, provides:

> Section 11. Employes whose salaries are fixed on a monthly or annual basis will receive no pay for overtime work.
>
> Section 12. Employes above the grade of laborer, appointed with rates of pay per hour, or per day, will not be employed over eight hours in any one calendar day, except in case of emergency. The time such employes work over eight hours in one calendar day, and time worked on Sundays and regularly authorized holidays, including January 1, February 22, May 30, July 4, Labor Day, Thanksgiving Day, and December 25, shall be considered overtime for which time and one-half will be allowed. Such employes who work on the days prior and subsequent to the holidays specifically named above, will be allowed their regular pay for eight hours for such days, in addition to pay for any work performed.
>
> Section 41. Office hours and hours of labor will be fixed by the Governor within the limits prescribed by law.

14. Hours of work will remain unchanged for the present.

15. Variation in hours of work must depend upon the exigencies of the service, but as far as possible these hours must be regular, and not subject to change from day to day arbitrarily in the discretion of officials or employes in supervisory capacities.

PROMOTIONS.

16. (*a*) Efficiency in the particular position to which an employe is to be promoted will be given first consideration in the making of promotions. Seniority will be a secondary consideration.

(*b*) No promotions, or other changes in rating, shall be made while an employe is on leave of absence, or is absent on account of injury or sickness through no fault of his own.

(*c*) Promotion to a position in which the former incumbent has resigned with accrued leave shall not be made until 30 days after the end of the former incumbent's service.

(*d*) An employe temporarily assigned to perform the duties of a man in a higher grade who is absent on vacation leave *with pay*, or on sick leave *with pay*, shall not be allowed the salary of the higher position, except that an artisan on an hourly basis, temporarily performing the duties of a foreman, may be transferred to the monthly basis with foreman's pay to avoid excessive overtime.

(*e*) When an employe is absent *without pay* for more than 30 days, the substitute assigned to perform his duties may be paid the usual entrance salary of the position during such temporary assignment.

GEO. W. GOETHALS,
Governor.

Transfer and Marking of Rolling Stock and Other Equipment.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 665:

REQUESTS FOR TRANSFERS.

1. Requests for transfer of equipment chargeable to plant account and of shop machines, between the various departments and divisions of The Panama Canal and between The Panama Canal and the Panama Railroad Company, will be submitted to the Governor of The Panama Canal, on form PC 299-1, seven copies to be forwarded for each request. This procedure is not required on transfers within departments and divisions of The Panama Canal or the Panama Railroad Company, or for items not chargeable to plant account.

ACTION TAKEN ON REQUESTS.

2. The surveying officer is charged, under my direction, with investigation and recommending action to be taken on requests for the transfer of equipment.

INVOICING OF EQUIPMENT.

3. Equipment belonging to the Panama Railroad Company that is loaned to The Panama Canal will be covered by memorandum receipt taken from the department or division of The Panama Canal using it. Equipment belonging to The Panama Canal that is loaned to the Panama Railroad Company will be invoiced to the Depot Quartermaster, who will in turn obtain memorandum receipt therefor from the Superintendent of the Panama Railroad Company.

MARKING EQUIPMENT.

4. Equipment owned by The Panama Canal, such as cars, locomotives, and other rolling stock, hand and push cars, also floating equipment, will be lettered "U. S.," while equipment owned by the Panama Railroad Company will be lettered, "P. R. R." Such "U. S." equipment as is loaned to the Panama Railroad Company should be further marked with a yellow ball, while "P. R. R." equipment loaned to The Panama Canal should be marked with a white diamond, with letter showing department or division in whose service the same is operating, these letters to be indicated from from time to time by the surveying officer.

CONDEMNED CAR BODIES.

5. Box cars or other car bodies removed from condemned cars, and utilized for other service such as sleeping quarters, tool storage, or other similar purposes, shall be stencilled "I. & C.", showing that the same have been inspected and condemned as cars.

REPORTS OF EQUIPMENT.

6. The Superintendent of the Panama Railroad Company and the head of each department and division of The Panama Canal having Panama Railroad Company equipment in its possession will submit a monthly report to the Chief Quartermaster on S. D. form 61, showing this equipment by classes and numbers. Form S. D. 61 will also be submitted monthly to the Superintendent of the Mechanical Division, with copy to the Chief Quartermaster, by departments and divisions of The Panama Canal, showing numbers and classes of Panama Canal equipment in their service, and the Panama Railroad Company will submit a monthly report on the same form, showing all Panama Canal equipment in its service, to the Superintendent of the Mechanical Division, furnishing copy of the same to the Chief Quartermaster.

TOOLS ON EQUIPMENT.

7. Each unit of equipment, wherever practicable, shall have a complement of tools, and such complement of tools shall be transferred with the equipment and be charged to the employe having the custody of the equipment. All tools assigned to any piece of equipment will be properly branded, showing to what piece of equipment the same is assigned, unless it is determined that this is impracticable in any particular case.

RECORD OF EQUIPMENT.

8. Copies of all forms S. D. 4, covering transfers of plant units, copies of all completed surveys, covering

demolition, destruction, dismantling, or return to stock will be submitted by the accountable officers to the Chief Quartermaster as soon as the transfer or other change of status in equipment is effected, so that the permanent equipment record will at all times be complete.

CHARGES FOR REPAIRS AND DEPRECIATION.

9. For use of equipment belonging to The Panama Canal permanently assigned to the service of the Panama Railroad Company, and reversely, a monthly charge shall be made, based upon the annual depreciation and repair rates established for such equipment. The cost of repairs of equipment belonging to The Panama Canal shall be paid by it and charged against the reserve for repairs; likewise, the Panama Railroad Company shall pay the bills for repairs to its equipment. When one interest performs work for the other, the regular rates for depreciation and repairs on equipment used shall be charged. No equipment will be dismantled or remodeled so that it loses its identity, without securing an approved survey request.

TRANSFER PRICES.

10. All equipment will be transferred from one custodian to another at the value at which it is taken up in the accounts of the transferer. After equipment is taken up in the accountability records, the value at which it is carried will remain unchanged.

EQUIPMENT SECURED FROM STOREHOUSE FOR OBSOLETE MATERIAL.

11. This circular does not apply to the obtaining by departments and divisions of articles in the storehouse for obsolete material of the Supply Department, which articles will be secured by making formal requisition for the same on form PC 907 in like manner as other supplies received from that department.

TRANSFERS EFFECTED ON ORAL AUTHORITY.

12. Transfers effected by oral authority of the Governor must in every case be confirmed by formal request on form PC 299-1, which will be submitted by the division receiving the equipment. No transfer will be considered as officially authorized until this shall have been done.

Geo. W. Goethals,
Governor, The Panama Canal,
President, Panama Railroad Company.

Supply Department.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 17, 1914.

Circular No. 600-7:

PLUMBING.

Effective at once, all plumbing work in connection with buildings of The Panama Canal will be performed by the building division of the Supply Department.

Any transfers of force necessary in carrying out the above will be arranged at once by the departments concerned.

Geo. W. Goethals,
Governor.

*Rates of Pay, Silver Roll.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 666:

1. Effective May 1, 1914, all employes on the silver roll of The Panama Canal or Panama Railroad Company shall be rated as hereinafter shown. These ratings and rates of pay have been prepared with a view to limiting the maximum pay that can be given to this class of help, without the necessity of obtaining prior authority, and to eliminating, so far as possible, all unnecessary ratings. It is also desired to establish a uniform rate of pay for work of a similar nature in different departments and divisions.

2. An employe's rating shall in all cases correspond with his duties. Where it is considered desirable to pay a higher rate or to use a different rating than shown each case should be taken up separately and authority secured to use the higher rate of pay or different rating. It is thought that the ratings and rates of pay hereinafter shown will be sufficient to meet all ordinary requirements, and no changes should be requested unless absolutely necessary, in order to make the employe's pay commensurate with the work done, or to make the rating correspond with the duties performed.

3. An appointment or a reappointment shall not be made at a higher rate of pay than that authorized as the maximum entrance salary for the class of work to be performed, without special approval from the Governor. Unless otherwise specified, the maximum entrance salary shall be the lowest rate of pay given under the authorized ratings, and roll timekeepers must see that new employes are not started at higher rates unless special authority has been obtained. However, an employe may be regularly transferred from one department, division, or gang, to another without reduction, and an employe, absent for not more than 30 days, with the prior consent of competent authority in his department or division, or an employe discharged on account of reduction of force or lack of work, may be reinstated within 30 days, at his former rate of pay.

4. All employes leaving the service, or transferring from one department, division, or gang, to another, with the exception of Boys A, Laborers A, and Laborers B, will be furnished with "Silver employes service slips," form No. PC 262-2, properly filled out.

5. Office timekeepers will see that no employe is carried on the rolls who does not comply with these rules.

6. The maximum monthly rate of pay for silver employes shall be $60, U. S. currency, except where special authority has been granted to pay a higher rate. The monthly silver rates of pay are intended for those employes whose hours of work are more or less irregular, or whose time it would be difficult to check up on an hourly basis. The rate of pay per month shall not exceed the pay which would be received for the number of hours worked at the hourly rate of pay established for the same class of work. Whenever practicable, an hourly rate should be applied in preference to a monthly rate. The following table shows the corresponding monthly amount, at the different standard hourly rates of pay, based on eight, nine, 10, and 12 hours work per day:

Standard Rates of Pay. (U. S. Currency.)	Monthly Pay Equivalent to Different Hourly Rates. Sundays not included.			
	8 hrs. daily, 204 hrs. per month.	9 hrs. daily, 230 hrs. per month.	10 hrs. daily, 255 hrs. per month.	12 hrs. daily, 306 hrs. per month.
5 cents	$10.20	$11.50	$12.75	$15.30
7 cents	14.28	16.10	17.85	21.42
10 cents	20.40	23.00	25.50	30.60
12 cents	24.48	27.60	30.60	36.72
15 cents	30.60	34.50	38.25	45.90
16 cents	32.64	36.80	40.80	48.96
18 cents	36.72	41.40	45.90	55.08
22 cents	44.88	50.60	56.10	67.32

7. Unless otherwise specified, employes will be required to serve at least three months before being promoted to a higher grade. Promotions shall always be made to the next higher grade.

8. In all timebooks, and on all payrolls, the designations used will be Laborer A, Laborer B, Laborer C, Helper, Artisan A, Artisan B, or Artisan C, as the case may be. The term "Artisan" will cover the various ratings as shown under this heading.

9. When necessary to change the rate of pay of an employe to make it agree with the rates given hereinafter, the next lower rate should be used; provided, however, that promotion may be made to the next higher authorized rate after at least three months have elapsed.

10. The standard hourly rates of pay for silver employes shall be five cents, seven cents, 10 cents, 12 cents, 15 cents, 16 cents, 18 cents, and 22 cents, U. S. currency. The duties to be performed under each grade are, as follows:

11. *Boy A—Five cents per hour*—This is the entrance rate of pay for all boys (including water, shop, and messenger). They may be promoted to Boy B at seven cents per hour after six months' satisfactory service.

12. *Boy B—Seven cents per hour*—This rate can be used as the entrance rate only in cases where prior authority has been obtained from the Governor's office.

13. *Laborer A—Ten cents per hour*—This will cover all common labor, except as hereinafter specifically authorized.

14. *Laborer B—Sixteen cents per hour*—Only white labor is included in this class. Whenever it becomes necessary to employ laborers, it is desired that colored labor, at 10 cents per hour, be used whenever and wherever practicable.

15. *Laborer C—Thirteen cents per hour*—This is a special rate and can be used only where the work is specially difficult, extra hazardous, or particularly disagreeable, as work that requires the men to be in mud continuously, caisson work, cleaning sewers, etc. Prior authority must be obtained in each case where it is considered necessary to use this rate, and a statement should be furnished showing the nature of the work to be performed and the approximate length of time that this class of labor will be required.

16. *Helper—Twelve cents per hour*—This rating can be applied only to those performing the duties of helpers to shop or other mechanics, such as machinist, car repairer, carpenter, plumber, etc.

17. *Artisan A—Fifteen cents per hour*—Those employes performing the duties of shop, building construction, and other mechanics and artisans, shall be given this rating. It is the standard rate of pay for this class of help and shall be the maximum entrance rate for artisans. This designation covers employes performing the following services:

Blacksmith, boilermaker, carpenter, car repairer, calker, cement finisher, coppersmith, drill runner, ironworker, lineman, machinist, mason, molder, painter, pipefitter, pressman, planing mill hand, plumber, upholsterer, wireman.

18. *Artisan B—Eighteen cents per hour*—Artisans can receive this rate only after demonstrating that the quantity and quality of their work is such as would, in the opinion of the foreman in charge, entitle them to a higher rate than Artisan A. Promotion shall not be made in any case until after six months' satisfactory service. This designation covers employes performing the same services as under Artisan A.

19. *Artisan C—Twenty-two cents per hour*—This rate of pay shall be given only to those artisans whose services are particularly satisfactory, and who show an especial fitness for the work performed. Under no circumstances shall an employe be given this rate of pay until he has served at least one year in the lower grades. This designation covers employes performing the same services as under Artisan A.

DESIGNATIONS AND RATES OF PAY.

HOURLY RATES.

Artisan, A, 15; B, 18; C, 22 cents per hour.

(Note—For explanation of duties to be performed under this designation see Paragraphs Nos. 17, 18, and 19.)

Bookbinder, 25 cents per hour.

Boy A, five; B, seven cents per hour.

(Note—See Paragraphs Nos. 11 and 12.)

Cementman, 13 cents per hour.

(Note—This rate shall apply only to men handling dry cement in cars and cement sheds.)

Checker, 20 cents per hour.

Compositor, 20 and 25 cents per hour.

Concreteman, 13 cents per hour.

(Note—This rate shall apply only to men handling concrete materials to mixers, and to men placing concrete in forms.)

Diver, 20 and 44 cents per hour.

Helper, 12 cents per hour.

(Note—For explanation of duties to be performed under this designation see Paragraph No. 16.)

Laborer A, 10; B, 16; C, 13 cents per hour.

(Note—For explanation of different grades see Paragraphs Nos. 13, 14, 15.)

Laundress, eight, nine, and 10 cents per hour.

Laundryman, 10, 12, 15, 18, and 22 cents per hour.

Operator (crane), 16 and 20 cents per hour.

Packer (female), seven cents per hour.

Papercutter, 20 cents per hour.

Pitman, 13 and 16 cents per hour.

Rigger, 13 cents per hour.

Rubber stamp maker, 25 cents per hour.

Shoemaker, 16 cents per hour.

Scytheman, 13 cents per hour.

MONTHLY RATES.

Attendant, $15, $20, $40, $45.

(Note—The rate of $40 is exclusively for morgue attendants, and the rate of $45 is exclusively for operating room attendants, and also laboratory attendants, working in filtration plants.)

Baker, $37.50, $50, $75.

Barber, $25.

Boatman, $25, $30, $37.50.

(Note—This rating is for the crews of cayucas and row boats only.)

Boatswain, $45, $55.

Boy, $10, $12.50.

(Note—Water boys and shop boys shall be employed at hourly rates only. Cabin boys and mess boys shall be rerated as waiters.)

Cablesplicer, $60, $75.

Captain: Dredge, $100, Clapet, $85, Steam launch, $75.

(Note—Masters will be known and rated as captains; ratings above $75 per month are for white employes only.)

Cartman, $30, $35.

Cemeteryman $32.50.

Chainman, $30, $37.50.

(Note—The $37.50 rate is only for employes required to work on both land and water.)

Chainman, foreman, $45.

Checker, $40.

Clerk, $30, $35, $40, $45, $50, $60.

Coalman, $30.

Coalpasser, $40.

(Note—Coalpassers shall be employed only on seagoing dredges.)

Cook, $20, $25, $30, $35, $40, $45, $50, $60, $75.

(Note—The maximum entrance rate for cook on marine equipment in the Dredging Division is $40. In all other cases the maximum entrance rate shall be $25.)

Dairyman, $25, $30.
Engineer:
  Marine (dredge), $67.50, $75.
  Marine (clapet), $65, $75.
    (steam launch), $75.
  Steam, $30, $35, $40, $45, $50, $55, $60.
Farrier, $40, $50.
Fireman, $25, $30, $35, $40, $45, $50, $60.

(Note—The maximum entrance salary for fireman on dredges, tugs, and clapets shall be $45; for fireman at the Cristobal power plant $40; and for standard gage locomotives $35.)

Foreman, $25, $30, $35, $40, $45, $50, $60.

(Note—The maximum entrance rate for white foreman shall be $50.)

Gardener, $30.
Helper, $10, $12.50, $15, $17.50, $20, $25.

(Note—The designation 'Helper' will apply to cooks' helpers, kitchen helpers, scullions, scrubbers, and other employes performing helpers' duties for which distinct designations are not provided.)

Hostler, $25, $30, $35, $40.
Janitor, $17.50, $20, $25, $30.
Janitor, head, $37.50.
Laundress, $15, $17.50, $20, $22.50, $25, $30, $35.
Laundryman, $25, $30, $35, $40, $45, $50.
Luggerman, $25, $30, $35, $40, $45.

(Note—The rating of luggerman shall be confined to men handling ice, meat, and other cold storage.)

Maid, $12, $15.

(Note—The $15 rate shall be confined to maids at the Ancon insane asylum and the quarantine station on Culebra Island.)

Mate:
  Dredge, $80.
  Clapet, $75.
Messenger, $17.50, $20, $25, $30, $35, $40.

(Note—The maximum entrance rate for messengers shall be $25.)

Oiler, $30, $35, $40, $45, $50, $55.

(Note—On dredges, tugs, and clapets, oilers may be appointed at a maximum entrance salary of $50. The $55 rate shall be confined to oilers on seagoing dredges, pipeline dredges, and tugs; the $50 rate shall be confined to oilers on other marine equipment. The maximum rate for oilers on land shall be $45.)

Operator:
  Motor boat, $30, $35, $40, $45, $50, $55.
  Filter, $50.
  Telephone, $30.
  Pump, $50.

(Note—The rating of operator (pump) at $50 shall be confined to employes in pump stations where there is no white supervision.)

Policeman, $40, $45, $50.
Saddler, $30, $40, $50.
Salesman, $30, $35, $40, $45.
Scavenger, $32.50.
Seaman, $30, $35, $40, $55.

(Note—The $55 rate for seamen is not allowed if subsistence is furnished.)

Stableman, $30.
Steward, $37.50, $50, $62.50, $75.
Storeman, $25, $30, $37.50, $50.
Teacher, $50, $60.
  (Palo Seco), $5.
Teamster, $35, $40.
Trainman, $30.
Waiter, $15, $17.50, $20.
Waiter, head, $25, $30, $37.50.
Watchman, $20, $25, $30, $37.50.
Watertender, $55.
Wheelwright, $50.
Winchman, $50, $55.
Wrecker, $30, $35, $50.

(Note—The $50 rate for wrecker shall be confined to white employes.)

THE PANAMA RAILROAD COMPANY.

	Rate. Hour. *Cents.*	Rate. Mo. *Dollars.*
Road employes:		
Baggagemaster	.25	......
Fireman	.25	......
Flagman	.20	......
Brakeman (local freight)	.20	......
Brakeman	.18	......
Leverman	.13	......
Porter (parlor car)		50.00
Yard employes:		
Engineer	.25	......
Foreman	.25	......
Switchman	.18	......
	.16	......
Fireman	.15	......
Clerk (yard)		75.00
Flagman (crossing)		37.50
Lamplighter		37.50
Dock employes:		
Trucker	.11	......
Stower	.12	......
Longshoreman	.12	......
Coal handler	.13	......
Winchman	.15	......
	.17	......
Gangwayman	.16	......
	.20	......
Foreman	.18	......
	.20	......
	.22	......
Paint and call boy		37.50
Car recorder and sealer		45.00
Telephone employes:		
Operator, $30, $35, $40, $45, $50.		
Line employes:		
Agent, assistant		75.00
Agent		60.00
		50.00

GEO. W. GOETHALS,
Governor.

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*Attention is called to the following circular postponing operation of the above until May 15.

◆

Circular No. 666 Not Effective until May 15.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., May 4, 1914.

HEADS OF DEPARTMENTS AND DIVISIONS:

Circular No. 666, with reference to rates of pay, silver roll, will not become effective until May 15, 1914.

GEO. W. GOETHALS,
Governor.

◆

Heads of Executive Office Bureaus.

CULEBRA, C. Z., May 4, 1914.

All concerned—The following are the heads of the bureaus of the Executive Office provided for in the Governor's circular No. 660-10:

Mr. W. P. Copeland, chief clerk, is in charge of the Clerical Bureau.

Mr. John O. Collins, is clerk in charge of the Personnel Bureau.

Mr. E. W. Palmer is Chief Timekeeper, Timekeeping Bureau.

Mr. Ad. Faure is Costkeeping Accountant, in charge of the Costkeeping Bureau.

Mr. A. B. Dickson is Superintendent of Clubs and Playgrounds, in charge of the Bureau of Clubs and Playgrounds.

C. A. MCILVAINE,
Executive Secretary.

◆

Reporting Employes Returning from Leave.

CULEBRA, C. Z., April 29, 1914.

HEADS OF DEPARTMENTS AND DIVISIONS:

Please destroy your supply of old form 170-1 C. E. at once and see that all employes returning from leaves of absence are reported on form PC. 465, as indicated in Circular 602-1.

By direction of the Governor.

C. A. MCILVAINE,
Executive Secretary.

◆

Termination of Service Blanks.

CULEBRA, C. Z., April 24, 1914.

HEADS OF DEPARTMENTS AND DIVISIONS:

Please destroy your supply on hand of old form No. C. E. 171-1, termination of service blank, and make requisition on Mount Hope for form PC. 171-2.

This form must be forwarded to this office in quadruplicate, and a copy furnished the Health Department.

By direction of the Governor.

C. A. MCILVAINE,
Executive Secretary.

◆

Medical Storekeeper an Accountable Official.

EMPIRE, C. Z., April 30, 1914.

CIRCULAR No. 58:

Effective as of April 1, 1914, Mr. John J. Moran, medical storekeeper, is designated an accountable official of The Panama Canal.

H. A. A. SMITH,
Auditor, Panama Canal.

Approved:
GEO. W. GOETHALS,
Governor.

◆

Changes in Schedule of Panama Railroad Steamship Line.

PANAMA RAILROAD COMPANY,
OFFICE OF SUPERINTENDENT,
COLON, R. P., May 2, 1914.

CIRCULAR No. 429:

All concerned—On account of not being able to complete overhauling of the steamship *Panama* in time to sail from New York, as scheduled, on May 9, the *Colon*, will sail on that date, the *Panama* on May 22, the *Cristobal* on June 3, the *Panama* on June 15, the *Colon* on June 27. The steamship *Colon* will lay up for overhauling from May 27 to June 27. New schedules will be forwarded from New York on the steamship *Allianca*, May 2.

F. R. BLUNT,
Acting Superintendent.

◆

Rainfall, April 1 to April 30, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	1.56	27	4.80
Balboa	1.79	2	4.94
*Miraflores	.85	30	2.69
Pedro Miguel	1.35	4	3.00
Rio Grande	.22	28	.81
Central Section—			
Culebra	.18	2	.62
*Camacho	.11	3	.49
Empire	.23	2	.50
Gamboa	1.11	2	1.38
*Juan Mina	.44	3 & 25	1.01
Alhajuela	1.42	25	1.68
*El Vigia	1.07	26	2 05
Frijoles	1.46	3	2 95
Trinidad	1.63	4	3 16
*Monte Lirio	1.50	3	4 44
Atlantic Section—			
Gatun	.84	26	3 26
*Brazos Brook	2 04	26	7.33
Colon	1.25	27	4.12
†Porto Bello	.61	30	2 66

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight.

◆

Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes for the week ending midnight, Saturday, May 2, 1914. All heights are in feet above mean sea level:

DAY AND DATE.	STATIONS. Vigia.	Alhajuela	Gamboa.	Gatun Lake.	Miraflores Lake.
Sun., April 26	124.9	91.4	84.8	84.8	45.0
Mon., April 27	125.1	91.5	84.8	84.9	44.9
Tues., April 28	125.6	92.1	84.9	85.0	45.8
Wed., April 29	125.2	91.8	84.9	85.0	45.8
Thurs., April 30	126.2	92.8	84.9	85.0	47.6
Fri., May 1	125.2	92.8	84.8	84.9	48.8
Sat., May 2	124.9	91.4	84.8	84.8	50.0
Height of low water to nearest foot	125.0	91.0			

Settling Estates.

The following estates of deceased employes of The Panama Canal or Panama Railroad Company are now in process of settlement by the office of the Administrator of Estates, Ancon, C. Z., and any claims against these estates, or any information which may lead to the location of heirs, or to the recovery of property, bank deposits, postal savings, or postal money order deposits, or any other moneys due them, should be presented at that office at once, in order that the estate may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once:

Name.	*M. C. No.*	*Native of*	*Isthmian residence.*	*Employed by*	*Date of death.*
C. Chally, alias Charles Yacinth	128730	Guadeloupe	Corozal	First Division	April 23.
William Ford	199901	Barbados	Paraiso	Q. M. D.	April 26.
Norman Lashley	82703	Barbados	Colon	P. R. R., Pier 11	April 26.
Tobias Norton	44172	U. S. A.	Ancon	Health Dept.	April 26.
Edward Nuñez	123341	Panama	Corozal	Fortifications	April 26.
Frederick (alias Walter) Smith	173538	Jamaica	Colon	Dredging Div.	April 30.
Cyril Williams	211931	Jamaica	Empire	First Division	April 23.

CANAL CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The Porto Bello clubhouse was closed on May 1. The equipment attached to this building will be stored by the depot quartermaster at Mount Hope until final decision is made as to disposition of the clubhouse.

The schedule for moving pictures for the week of May 11 to 16 is, as follows: Monday, Empire and Balboa; Tuesday, Culebra; Wednesday, Corozal; Thursday, Pedro Miguel; Friday, Cristobal; Saturday Gatun.

Miss MacLaren will give an imitative recital of "The misleading lady" on the following dates, at the towns indicated: Wednesday, May 13, Cristobal; Thursday, May 14, Gatun; Friday, May 15, Empire; Saturday, May 16, Culebra; Monday, May 18, Corozal; Tuesday, May 19, Pedro Miguel; Wednesday, May 20, Balboa.

The feature motion picture, "Hiawatha", in four reels, will be shown on the following dates: May 8, Corozal; May 9, Gatun; May 11, Cristobal; May 12, Pedro Miguel; May 13, Empire; May 14, Culebra. A date for Balboa will be announced later.

Messrs. Davis and Sims of the Corozal and Empire duckpin teams are tied for high average in the tournament just closed, each having an average of 95.23; this tie will be rolled off to decide the winner.

Work on the playground systems is now being actively carried on. Tennis courts are in process of construction at Cristobal and Pedro Miguel, and the preliminary grading for the baseball diamond at Pedro Miguel has been finished.

Messrs. Warr, Brittin, Kjellander, and Dwelle have been appointed to take general charge of the proposed public school athletic meet, to be held in the latter part of June.

COROZAL.

High scores in tenpins for the past week were, as follows: Parkis, 215, 207, 208, 210, 203; Thirsk, 218, 214.

In duckpins, high scores were, as follows: Thirsk, 105; McDonald, 101; Dunlop, 104; Parkis, 103; Ruggles, 100; C. Sims, 108.

The standing in the local indoor baseball league is, as follows:

	Won	*Lost*	*P. C.*
Red Sox	3	0	1.000
Naps	2	2	.500
Cubs	1	2	.333
White Sox	0	2	.000

Colored slides illustrating a lecture on the political and social world in Christ's time were shown on Sunday night, May 3. Mr. Whitehead, accompanied by Mrs. Strong, gave two violin selections.

PEDRO MIGUEL.

Interest is being manifested by the men in the local ragtime duckpin tournament. High score in doubles was made by Murray and Whiston, 587, and high in singles, by Doughterty, 118. The high scores for the past week were: Orr, 116, 111, 100; Davis, 113, 101; Murray, 102, 110, 108; Braw, 110. 101; Nicholson, 104; Vandeburgh, 104; Whiston, 100, 113.

The high scores made by the ladies in the new rubber banded duckpins were: Mrs. Landers, 123, 103, 122, 114; Mrs. Fostrom, 109, 107; Mrs. Grover, 102; Mrs. Hensecker, 102; Mrs. Thibault, 101.

In the boys' duckpin tournament, the single high score was made by Pfisterer, 109.

On Friday evening, May 1, 120 of the children from Paraiso and Pedro Miguel attended the May party. After a number of games, and a generous lunch, a May-pole dance was given by about 80 of the children.

A "Smoker" was given on Wednesday evening for the men of Paraiso and Pedro Miguel. The program included selections by Gray's orchestra; parallel bar stunts by Williams and Russell; comic songs, with guitar accompaniment, by De La Mater; magical acts, by Olms; comic songs, by Shaeffer and McMahon; illuminated club swinging. by Williams and Russell and juggling by Brennen.

CULEBRA.

High scores in duckpins for the past week were, as follows: Ellsworth, Sr., 100, 109, 121; DeCora, 107; Wood, 101; Palmer, 108; Wittman, 104. Mr. Ellsworth won the prize for high score for the month, with a score of 121, and R. Koperski won the second prize, with a score of 110.

A checker club is being organized. All interested in this game are requested to hand their names to either Mr. Rattimer, or Mr. Wilson, who will furnish information as to dates of meeting, etc. The first meeting is to be held on Wednesday night, May 6.

On Wednesday night, April 29, an entertainment of magic and illusion was given by Herr Olms and Fraulein Nelly, which was attended by 140 people. Two moving pictures were also shown.

A local tenpin tournament will begin soon. All who are interested are requested to practice.

Arrangements are being made for an anniversary celebration on May 20, 21, and 22. Moving pictures with special features. Miss MacLaren and a special anniversary and farewell program, respectively, on the dates named, will be the attractions. A souvenir program, illustrated, with a brief history of the seven years' existence of the association is being prepared for each member of record on May 12. The names of all members on this date will be included in the program, and it is requested that all who are interested enroll their names with the secretary at once. Memberships will be transferable to other clubhouses when Culebra is abandoned.

There was a good attendance at the service on Sunday night, May 3. Slides showing the religious world in Christ's time were thrown on the screen, as well as songs which were sung by the congregation. The program for next Sunday night will be announced during the week.

GATUN.

"Among the pygmies and cannibals of the Congo," will be the subject of a lecture to be given by Mr. S. P. Verner at the Gatun clubhouse on Monday evening, May 11. The lecture will be illustrated with about 100 views of the interior of Africa. The charge for admission for adults will be 25 cents; for children, 15 cents.

Mr. Carl Neiderstadt, a German medical student, who is traveling through South American countries on foot, gave a talk on first aid work to the boy members of the first aid class, on Saturday afternoon, May 2.

Mr. J. King, a private in the Tenth Infantry, will assist in the lectures which are being given each week to members of the senior first aid class. Army first aid work will be demonstrated. The first aid class meets one hour before the regular gymnasium class every Tuesday evening. Any member of the association, or the Tenth Infantry, is invited to join.

Indoor hockey is at present the most popular game among the members of the gymnasium classes.

The boys of the gymnasium class have organized two separate clubs. This has been done for the purpose of competition in basketball, baseball, hockey, and general athletics. Essex Griffith is captain of team No. 1, and Francis Loulan of team No. 2.

The "National duckpin tournament" was organized on Thursday evening, April 30. Mr. B. B. Dumville, is president, and C. V. O'Meara is secretary-scorer. The tournament began on Monday evening, May 4, and will run for a period of two weeks. Each team will play every other team twice. The first prize to be presented to the winning team will be a pennant. A pennant will also be given as a booby prize. There are four teams of six men each, as follows:

Pirates.	*Red Sox.*	*Superbas.*	*Tigers.*
Dumville	Conley,	Richardson	Coleman
Walsh	Easter	Kiger	O'Meara
Walker	Wright	Rogers	Gray
Roberts	Farley	Gilbert	Ottman
Kerruish	Jenkins	Sutliffe	Cotton
Oram	Arthur	Baxter	Smith, F.

The first man mentioned in each of the above lists of players is captain of the team.

The "Old time indoor baseball tournament" will be formed on Thursday evening, May 7. It is expected that about six teams will enter. On the same evening, those interested in handball will meet and arrange for a handball tournament.

The play, "Peg o' my heart," given by Miss Gay Zenola MacLaren on May 6 was largely attended Miss MacLaren will give a return engagement on May 14, for which reserved seats are now on sale.

Thursday evening, May 7, will be observed as "Ladies night" in the bowling alleys. There will be a contest between teams composed of men and women.

A "One week pool tournament" will be held in the near future.

Bathing suits of various sizes have been ordered from the United States and will soon be on sale.

Photographs of the various gymnasium classes have arrived and are ready for distribution.

The activities of the clubhouse have greatly increased on account of the patronage of a large proportion of the two companies of the Tenth Infantry, now stationed at Gatun. The soldiers have received a hearty welcome from the older members of the association. It is expected that they will enter several teams in the various athletic contests.

Mr. John VanDyke has been appointed instructor of the violin in the educational classes being conducted by the Gatun Y. M. C. A. Mr. VanDyke will be at the clubhouse on Thursday of each week from 1 p. m., until 10 p. m.

Former members of the Porto Bello Y. M. C. A., now living in Gatun, are invited to transfer their membership to the local association. Wives of the members who work nights are privileged to receive complimentary tickets for all entertainments.

CRISTOBAL.

Mr. A. R. Lang. superintendent of public schools, addressed the discussion club on Thursday night, April 30, on the present trend in schooling toward vocational and cooperative education. He drew attention to the Fitchburg and Beverly systems, and stated that the present trend is toward fitting studies to the future requirements of the pupils.

Owing to the crowded schedule for this week, the current event meeting will be postponed until May 14.

High duckpin scores for the week were: Gill, 128; D. Raymond, 123; Archie Gibson, 121; G. Scheid, 108; Smith, 107; Parker, 104; Russell, 102.

A local 3-men team duckpin tournament was started on Monday, May 4, and is to end the latter part of June. The teams are, as follows:

Athletics—Smith, Drew, Page; *Cubs*—Gill, Weaver, Prager; *Senators*—Pinney, Wright, Ross; *Cardinals*—C. Cotton, Nash, Levy; *Giants*—Russell, Margon, Hines; *Red Sox*—W. Scheid, M.P. Bevington, C. Scheid; *Yankees*—D. Raymond, Patterson, Bevington; *Dodgers*—Collins, J. Gibson, Aanstoos; *Tigers*—Parker, G. Butters, Robertson; *Pirates*—Steele, E. Cotton, Briggs.

The Corozal indoor baseball team defeated the Cristobal team on Saturday evening, May 2, by the score of 17 to 10.

Following is the tentative program for the Cristobal circus, which will be held on Saturday, May 16: Grand parade; free hand exercises; the snake; singing games—(*a*) I see you; (*b*) Did you ever see a lassie? (*c*) Let the feet go tramp, tramp; the sleepy tramp dumb bell drill; Luke McGluke, champion wrestler; spring board leaping; scene in a Canal Zone barber shop; athletic drill; the hunting season; military tactics; the first boat through the canal; folk dancing; electric battery; triple horse exercises; rough riders; couple barn dance; honey bee; illuminated club swinging; Maud, the wonderful trained mule; parallel bar pyramids; scene in a bachelor house; equilibrists and tumblers; blowing up of the Gamboa dike; grand final-foot races, chariot races, horse races, etc.

BALBOA.

A brass check number has been found and turned in at the desk. The one losing it can procure same on application to the secretary.

The passion play was shown at the local clubhouse on Friday, night, May 1. Music was furnished by Mr. S. C. Fagard of Panama.

Mr. A. R. Lang, superintendent of schools, will give a talk before the discussion club on Friday night, May 8. All the men of Balboa are invited to attend and hear him.

Miss Gay Zenola MacLaren will make her first appearance at the Balboa clubhouse on Monday, May 11, presenting an imitative recital of "Peg o' my heart."

Six teams have been entered in the league pool tournament so far. F. Brugge and J. Dubendorf are leading, having won two and lost none.

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Tide Table.

The following table shows the time of high and low tides at Panama for the week ending May 16, 1914:

DATE.	Low	High	Low	High	Low
	A.M.	A M.	A.M.	P.M.	P.M.
May 10	......	3 36	9.48	3.51	10.13
May 11	.....	4.22	10 36	4 37	11.00
May 12	......	5 10	11 23	5 24	11.48
			P.M.		
May 13	......	5 58	12.12	6.12	......
May 14	12.36	6 47	1.03	7 02	......
May 15	1.27	7.37	1.58	7.55	......
May 16	2.22	8.34	2.56	8 58	......

75th meridian time.

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Withdrawal of International Insurance Company from Canal Zone.

The International Insurance Company (Compañia Internacional de Seguros) of Panama, has advised the Executive Secretary of its intention to withdraw from the business of underwriting fire insurance in the Canal Zone. All persons having any claims against the company arising from policies issued by it upon property in the Canal Zone, or who hold the company's policies upon property located in the Zone, are requested to communicate with the office of the Executive Secretary, Ancon. C. Z.

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Administrator's Sale.

OFFICE OF THE ADMINISTRATOR OF ESTATES,
ANCON, C. Z., May 4, 1914.

The Administrator of Estates will sell to the highest bidders, certain diamond rings, watches, stickpins, and other jewelry, fountain pens, and safety razor blade stroppers, belonging to the estate of the late John S. Wilcox, deceased. These goods may be seen any day in this office. Bids will be accepted upon the whole lot, or upon single pieces. No bids will be received after May 20. The Administrator reserves the right to reject any or all bids.

JOHN K. BAXTER,
Administrator of Estates.

COMMISSARY DEPARTMENT.

Seats in the Commissaries.

Seats have been placed in all of the commissaries for the benefit of lady patrons waiting for their orders to be filled.

Suggestions from Commissary Patrons.

The following circular letter has been sent out by the district quartermasters to the wives of employes on the gold roll in each Canal Zone settlement, inviting them to submit suggestions relative to improvements in the commissary service:

MADAM: The Supply Department includes the former Quartermaster s Department and Commissary and Subsistence Departments. To the end that the hest service may he extended to employes, the Chief Quartermaster has directed me to request suggestions from patrons as to the best method of improving the service. It will, therefore, be considered a favor if you will kindly reply to the following questions relating to the commissary.

1. Can you suggest any improvement in the delivery service, or in the service within the Commissary?
2. What articles that you wish to purchase from the commissary are not carried in stock, or are out of stock at the present time? Have you any suggestion as to changes in varieties or brands of goods sold?
3. Is there any discrimination against or in favor of individuals; if so, in what way?
4. Have you anything else to suggest by which you think the service would be improved?

Replies may he handed to the order men, or mailed to the district quartermaster. This request is made solely for the benefit of the service, and it is hoped that patrons will respond in the same spirit.

A large number of replies have already been received, and a summary of the more important suggestions will be published in a future issue of THE CANAL RECORD.

Sale of Ice to Silver Employes.

THE PANAMA CANAL,
SUPPLY DEPARTMENT,
CULEBRA, C. Z., April 28, 1914.

To all concerned—Under the present rules, American employes on the silver roll are permitted to purchase ice. This privilege will, effective May 1, be extended to all European laborers, and to all employes on the silver roll at Cristobal and La Boca. Ice sold to silver employes will be ordered through the commissary storekeepers and must be called for at commissary platform.

R. E. WOOD,
Chief Quartermaster.

Commissary Cold Storage.

Retail prices of cold storage provisions for the week beginning May 7, 1914:

FRESH MEATS	*Price.*
Mutton—Stewing, per pound	7
Shoulder, neck trimmed off (4 pounds and over), per pound	9
Entire forequarter (not trimmed, 10 pounds and over), per pound	8
Legs (8 to 10 pounds), per pound	17
Cutlets, per pound	18
Short cut chops, per pound	20
Lamb—Stewing, per pound	8
Entire forequarter, neck trimmed off, per pound	10
Legs (5 to 8 pounds), per pound	20
Chops, per pound	24
Cutlets, per pound	24
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	17
Chops, per pound	26
Loin, for roasting, per pound	26
Cutlets, per pound	30
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	8
Plate, per pound	9
Corned, No. 1, per pound	14
Corned, No. 2, per pound	12
Chuck roast, (3 lbs., and over), per pound	12
Rib roast, second cut (not under 3½ pounds), per pound	16
Rib roast, first cut (not under 3 pounds), per pound	18
Pot roast, per pound	19
Rump roast, per pound	19
Porterhouse roast, per pound	20
Steak, chuck, per pound	12½
Round, per pound	13
Rib, per pound	18
Sirloin, per pound	19
Rump, per pound	19
Porterhouse (not less than 1½ pounds), per pound	20
Tenderloin (Western), per pound	30
Pork—Hams, fresh, per pound	§22
Loin chops or roast, per pound	19
Shoulders, fresh, per pound	§18
Spare ribs, per pound	17
Backbones, per pound	15
Pigs' feet, each	7
Pigs' heads, whole	80
Pigs' heads, ½-head	40
Sausage, home made, per pound	22
MISCELLANEOUS.	
Livers—Beef, per pound	13
Calf, each	60
Half, each	30
Steak, Hamburger, package	13
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	12
Devonshire Farm, per pound	22
Sweetbread, beef, per pound	27
Eggs, fresh, per dozen	25
per ½-dozen	13
Bluefish, per pound	*11
Halibut, fresh, per pound	07
Salmon, per pound	09
Shad roes, per pair	40
Oysters, per quart	28
POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, large, each	1.40
Fancy roasting, milk fed, med., each	1.10
Fancy roasting, corn fed, about 5½ pounds, each	1.25
Fancy roasting, corn fed, about 4½ pounds, each	1.00
Fowls, each ††66, 77, 88, 99, and	1.10
Ducks, Western (about 4½ pounds), each	1.10
Capons, about 8½ pounds, each	3.00
Broilers, milk fed, each	75
Broilers, corn fed, each	60
Turkeys, per pound	28
Squabs, each	50
Ducks, Teal, each	40
Partridges, per pair	1.30
Grouse, per pair	1 30
Pheasants, per pair	1 30
CURED AND PICKLED MEATS.	
Ham—Real York and Cumberland, per pound	37
Genuine Westphalia, per pound	40
Sugar cured, per pound	20
Sliced, per pound	22
Half (for boiling), per pound	21
Boiled, per pound	28
Hocks, per pound	‡8
Beef, salt, family, per pound	12
Bacon, breakfast, whole piece, per pound	25
Sliced, per pound	26
Ham, lunch, per pound	32
Pork, salt, family, per pound	14
Ox tongue, each	1.10
Pigs' feet, per pound	7
Tongue, per pound	18
DAIRY PRODUCTS.	
Butter—Creamery special, per pound	32
Sheffield Farms, extra fancy, per pound	46
Cheese—Philadelphia cream, cake	10
Roquefort, per pound	35
Young America, per pound	24
Swiss, per pound	27
Edam, each	75
Edam, tin	25
Parmesan, per pound	35
Gouda, per pound	30
Snappy, per cake	*9
Milk (certified), per bottle	**20
Fer-mil-lac, per bottle	**20
Ice cream, quart	‡25
½-gallon	‡50
Cream (certified), per pint bottle	45
VEGETABLES AND FRUITS.	
Beets, per pound	3½
Celery, per head	9
Cabbage, per pound	*2½
Carrots, per pound	3
Green onions, per pound	8
Lettuce, per pound	7
Onions, per pound	5
Potatoes, white, per pound	3
Potatoes, sweet, tropical, per pound	2
Yams, per pound	2½
Parsley, per bunch	2½
Parsnips, per pound	4
Squash, per pound	6
Turnips, per pound	2½
Tomatoes, per pound	†10
Spinach, per pound	*6
Apples, per pound	9
Grape fruit, American, each	9
Tropical, each	4
Lemons, per dozen	*13
Pineapples, Cuban, each	13
Oranges, Jamaican, per dozen	16

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*Indicates reduction from last list.

**Indicates five cents allowed for return of bottle.

†Indicates advance on last list.

††Fowls weigh each, about, as follows: 3, 3½, 4, 4½, and 5 pounds. Prices are based accordingly; when size ordered is not in stock, next lightest weight is supplied and refund note sent for difference.

‡Sold only from commissaries; no orders taken for delivery.

§Not less than half of a fresh ham or shoulder will be sold.

MOVEMENTS OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

		Sails.	*Arrives.*
NEW YORK TO CRISTOBAL.			
*Allianca	P. R. R.	May 2	May 8
*Panama	P. R. R.	May 9	May 15
*Advance	P. R. R.	May 16	May 23
*Colon	P. R. R.	May 22	May 28
*Allianca	P. R. R.	May 28	June 3
*Panama	P. R. R.	June 3	June 9
CRISTOBAL TO NEW YORK.			
†Ancon	P. R. R.	May 7	May 14
†Advance	P. R. R.	May 7	May 14
†Allianca	P. R. R.	May 15	May 21
†Panama	P. R. R.	May 21	May 27
†Advance	P. R. R.	May 28	June 4
Colon	P. R. R.	June 3	June 9
Allianca	P. R. R.	June 9	June 15
NEW YORK TO COLON.			
*Zacapa	U. F. C.	April 29	May 6
Calamares	U. F. C.	May 2	May 9
Prinz Sigismund	H.-A.	May 2	May 12
*Almirante	U. F. C.	May 6	May 13
Trent	R. M.	May 9	May 17
Pastores	U. F. C.	May 9	May 16
Prinz Joachim	H.-A.	May 9	May 18
*Santa Marta	U. F. C.	May 13	May 20
Tenadores	U. F. C.	May 16	May 23
Prinz Eitel Friedrich	H.-A.	May 16	May 26
*Metapan	U. F. C.	May 20	May 27
*Calamares	U. F. C.	May 23	May 30
Orotava	R. M.	May 23	May 31
Prinz August Wilhelm	H.-A.	May 23	June 1
Zacapa	U. F. C.	May 27	June 3
*Pastores	U. F. C.	May 30	June 5
COLON TO NEW YORK.			
Metapan	U. F. C.	May 7	May 15
Prinz August Wilhelm	H.-A.	May 12	May 20
Orotava	R. M.	May 12	May 20
†Calamares	U. F. C.	May 13	May 20
Zacapa	U. F. C.	May 14	May 22
Prinz Sigismund	H.-A.	May 18	May 27
†Pastores	U. F. C.	May 20	May 27
Almirante	U. F. C.	May 21	May 29
Prinz Joachim	H.-A.	May 26	June 3
Danube	R. M.	May 26	June 3
†Tenadores	U. F. C.	May 27	June 1
NEW ORLEANS TO COLON.			
Cartago	U. F. C.	April 29	May 6
*Abangarez	U. F. C.	May 2	May 7
Heredia	U. F. C.	May 6	May 13
*Atenas	U. F. C.	May 9	May 14
COLON TO NEW ORLEANS.			
‡Turrialba	U. F. C.	May 7	May 12
Cartago	U. F. C.	May 7	May 15
‡Abangarez	U. F. C.	May 14	May 19
Heredia	U. F. C.	May 14	May 22

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Piers 8, 9, and 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 2 p. m.; for Southampton, on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays at 3 p.m.; for New Orleans, via Bocas del Toro and Havana, on Thursdays at 4 p.m.; ships for New York, via Kingston, on Thursdays, at 2 p. m.; for New York direct, on Wednesdays at 2 p. m.; for Limon and Bocas del Toro on Saturdays at 4 p. m. and for Bocas del Toro direct, on Thursdays at 4 p. m. The Boston-Colon service has been discontinued.

The Hamburg-American steamers *Prinz Eitel Friedrich* and *Prinz Sigismund* sail for New York, via Kingston and Fortune Island, on Mondays at 10 a.m.; the *Prinz August Wilhelm* and *Prinz Jouchim* sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays at 10 a. m.

Movements of Vessels, Port of Balboa.

The following ships arrived at, or departed from, the port of Balboa, during the week ending May 2,:

Arrivals—April 4, *Rupanco*, from intermediate ports; *Luz Blanca*, from Talara, Peru; April 27, *Ucayali*, from Callao, *Peru* (P. S. N.) from Callao; April 28, *San Juan*, from San Francisco, *Columbian*, from Honolulu; April 29, *Montcalm*, (French warship); April 30, *Nevadan*, from Honolulu; May 2, *Salvador*, from Central America.

Departures—May 27, *Pachitea*, to Callao, *Limari*, to Valparaiso, *Luz Blanca*, to Talara; May 28, *Tricolor*, to Puget Sound.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, MAY 13, 1914. No, 38.

The Canal Record

Official publication of the Panama Canal.

The Canal Record is published weekly free of charge, one copy each, to all employes of The Panama Canal and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

First Operation of Gatun Control Board.

The first test operation of the control board at Gatun was made on the morning of May 9, when the entire west locks were used, and all machines operated from the control board. The test lockage was made, however, without a vessel.

The 1,000-foot chamber was used as for the passage of a vessel of the largest size.

The water in the middle level was 28.1 feet, and the lower lock was at sealevel, at the start of operations. The upper lock was then filled to lake level by opening rising stem valves Nos. 260 and 261, each valve being opened half, and then opened to the full. At 10 05 a. m., the lock was filled to lake level, and the upper guard and operating gates were opened to the lake. The lock was then ready for the entrance of the vessel, except that the fender chains, which are not yet actually installed, are to be lowered before a vessel can enter. After the entrance of the boat the chains must again be raised before the gates can be closed.

The upper gates were closed at 10.15 a. m., after the theoretical vessel had entered the lock. The lockage was then carried on step by step, as shown on the accompanying log of operations, just as for a vessel.

One of the principal features of the control board is the system of indicators, which show at each instant the position of the machine while in operation. The miter gates were represented by leaves in miniature, which moved over a blue marble slab representing the water in the chamber. The rising stem valves were represented by a shutter moving in back of an illuminated glass screen. The water levels were shown on the control board by indicators made with a scale of one inch to the foot, as described previously in THE CANAL RECORD.

An important feature of the control board is the interlocking rack, which definitely fixes the sequence of all operatioms and prevents the operator from error of performing operations in wrong order. The operator cannot lower the fender chains until he has opened the miter gates. He cannot let water into a lock until the gates and valves at the lower end are closed, and similarly, he cannot let water out of the lock until he has closed the gates and valves at the upper end of the lock.

The time of the test lockage was one hour.

LOG OF OPERATIONS.

The record of the mimic lockage, all operations being performed from the control house, was, as follows:

Elevations before starting:

Lake, 47.7, Elevation 85.
Upper level, West, 56.6, Elevation, 71.6.
Middle level, West, 41,7, Elevation, 28.1.
Lower level, West, 42.9, Elevation, .4.

Operations:

9.42. Rising stem valve, No. 260, opened half way.
9.45. Rising stem valve No. 261, opened half way.
9.59. Rising stem valve No. 261, opened all the way.
10.01. Rising stem valve No. 260, opened all the way.
10.05. Gates Nos. 40 and 36 opened.
10.05½. Gates Nos. 39 and 35 opened.
10.14½. Gates Nos. 40 and 36 closed.
10.15. Gates Nos. 39 and 35 closed.
10.15. Rising stem valve, No. 260 closed.
10.16. Rising stem valve No. 261 closed.
10.19. Rising stem valve No. 249 opened.
10.25. Gate No. 27 opened.
10.25:30. Gate No. 28 opened.
10.25:30. Rising stem valve No. 248 opened.
Middle level equalized at 70.4, elevation, 56.8.
10.33. Gates Nos. 23 and 24 opened.
10.37. Gates Nos. 28 and 24 closed.
10.37:30. Gates Nos. 27 and 23 closed.
10.42. Rising stem valve No. 248 closed.
10.43:30. Rising stem valve No. 249 closed.
10.48. Rising stem valve No. 226 opened.
10.51. Rising stem valve No. 227, opened.
11.03. Levels equalized at 73.5, elevation, 28.2.
11.05. Gates Nos. 15 and 16 opened.
11.07. Gates Nos. 15 and 16 closed.
11.07:30. Rising stem valve No. 226, closed.
11.08:30. Rising stem valve No. 227 closed.
11.14. Rising stem valve No. 210 opened half way.
11.25. Rising stem valve Nos. 210 and 211 opened all the way.
11.35. Gates Nos. 7 and 8 opened.
11.33. Gates Nos. 7 and 8 closed.
11.41. Gates Nos. 3 and 4 closed.

◆

Suspension of Steamshovel Work at Rio Grande.

All steamshovel work in connection with the terracing of the west bank of Culebra Cut between Rio Grande and Culebra village is to be completed not later than June 15, and all construction tracks north of Rio Grande will be removed. A part of the spoil taken from this excavation is being used in making an embankment fill to the east of the Miraflores spillway channel, in order to protect the land in this vicinity which includes Corozal farm, and the village itself, from inundation in case of a sudden rise in Miraflores Lake, and an unusually heavy flow over the spillway.

◆

Porto Bello Post-office Discontinued.

The post-office at Porto Bello, known as Station A, Cristobal, was closed as of April 30. It was established as an independent office on July 1, 1911. Its record month in stamp sales was October, 1911, when the total amounted in value to $76. The largest money order business for one month was September, 1911, when the value of the orders issued aggregated $6,573.44. The amount on deposit in postal savings accounts at the time of the discontinuance of the office was $3,244. These accounts have been transferred to the Cristobal post-office, where they will be closed out.

◆

Precaution Against Plague.

Acting under the authority conferred on him by Section 129 of Decree No. 14 of 1913 of the Republic of Panama, dated March 15, 1913, the Health Officer of Panama condemned during the month of April, 129 structures in the city of Panama, and served notice on the owners to remove them or make such alterations as will cause them to conform to the building regulations. In the majority of cases, the buildings are not worth repairing. Most of them are small one and two-story dwellings, in which the menace to public health lay in their harboring rats, in the walls, or under the floors. The building regulations require single walls, and that the ground floor be of concrete, or of flooring laid directly on concrete.

In connection with these operations, the Health Officer is causing rats to be caught daily in various parts of the city, and at Balboa, and examined for infection with bubonic plague. So far, all examinations have been negative in this respect. The presence of plague at Manta, Ecuador, which is within 48 hours of Panama, makes these operations of additional importance at this time, and the authorities of Panama, as well as the property owners, are cooperating with the Health Officer very satisfactorily.

◆

Removal of Empire Suspension Bridge.

Pursuant to a circular from the office of the Governor, published on another page of this issue of THE CANAL RECORD, the suspension bridge over Culebra Cut at Empire will be taken down at once. Traffic over this bridge was suspended during the forenoon of Wednesday, May 13, and the work of dismantling it has been assigned to General Superintendent George A. Greenslade.

The erection of the structure was begun on March 11, 1909, under the supervision of A. S. Zinn, formerly resident engineer in the old Central Division, and it was formally opened to public traffic on July 31 of the same year. It was the first bridge to be constructed across Culebra Cut, and was designed not only to furnish a means of communication between the east and the west sides of the Canal, but also to carry the compressed air and water mains over the Cut. It was built with a view of being taken down before the opening of Canal navigation, as its height above the water line is only 108.5 feet, and, therefore, would not clear the masts of the larger vessels. The towers are 60 feet high, built of creosoted timbers; the cables are of 2½-inch galvanized steel, two on each side, with a combined length of 3,480 feet, and capable together of withstanding a strain of 2,480,000 pounds. The span is 600 feet, and the width of the roadway seven feet. The foundations at each end are built of reinforced concrete resting on the rock bank of the Cut, which, at this point, has always retained its compactness.

During the height of steamshovel work in the Cut at Empire, and before the depopulation of the Zone was begun, there was a large amount of traffic over the bridge. It served the Las Cascadas plantation road extending toward the eastern boundary of the Zone, and of a number of trails leading from this road into the interior. The removal of the structure will cause a diversion of what remains of this traffic north and south, north as far as Gamboa, when the new Empire-Gamboa road is opened to use, and south to Panama by way of the Canal Zone highway to Paraiso, Pedro Miguel, and Corozal.

Ancon Crusher.

Following is a statement of rock crushed at Ancon quarry during the four weeks ending May 9:

DATE.	Hours worked	Cubic yards.
April 13	7.20	2,020
April 14	8.05	1,921
April 15	8.00	1,896
April 16	7.40	2,088
April 17	7.50	2,093
April 18	8.25	2,423
Total	47.20	12,436
April 20	8.45	2,121
April 21	8.20	2,287
April 22	7.55	2,304
April 23	8.05	1,922
April 24	8.05	2,121
April 25	7.45	1,657
Total	48.55	12,412
April 27	8.15	2,129
April 28	7.35	2,280
April 29	8.30	1,808
April 30	7.40	2,037
May 1	7.00	1,397
May 2	7.10	1,834
Total	46.10	11,485
May 4	7.55	2,435
May 5	8.30	2,473
May 6	8.20	2,690
May 7	8.15	2,567
May 8	8.10	2,451
May 9	6.50	1,805
Total	47.00	14,421

Rates on United Fruit Company's Vessels.

The General Agent of the United Fruit Company advises that, effective May 1, the rate granted to Panama Canal and Panama railroad employes on direct *à la carte* steamers to New York has been reduced to $45, without meals. This rate entitles passengers to any available accommodations on the steamer, except rooms with private bath, and suites. The rate of $56.25, including meals, to employes, on the regular Thursday sailing to New York, via Kingston, remains unchanged.

Fire Protection for Oil Tanks.

A fire wall has been built around the three crude oil tanks of the Health Department, and the Division of Municipal Engineering, situated on the hillside below the old French reservoir in Ancon and opposite the connected type-18 houses Nos. 260 and 261. The work required the throwing up of an earth embankment, and the installation of drainage ditches, including 80 feet of 20-inch concrete pipe required for carrying drainage past one of the houses. Two-thirds of the cost has been charged to the Health Department and one-third to the Division of Municipal Engineering.

Interlocking Plant at Entrance to Panama Yard.

The interlocking plant at the south leg, or Panama end, of the Balboa wye was placed in service at 10 a. m., on Sunday, May 3. This plant contains a standard Saxby and Farmer improved machine, with horizontal lead out, with consists of a 24-lever frame, with 19 active levers and five spare spaces.

The territory embraced within the interlocking limits is the junction of the old single track main line from Colon with the new double track leading to Balboa. The yard lead into the Panama station is also connected to the machine. The 19 active levers handle four home signals, four dwarf signals, three switches, three facing point locks, nine detector bars, and five derails. All conflicting routes are protected by derails, and all routes are controlled by home and dwarf signals. The cabin in which the interlocking machine is installed was moved from Caimito and reerected at this point.

Boat Service to Toro Point and Porto Bello.

The boat carrying passengers from Dock 13 to Toro Point at noon on Wednesday, formerly handled by the Atlantic terminal subdivision, has been cancelled.

The boat which has been run for the convenience of passengers from Cristobal for Toro Point, at 8 o'clock Sunday mornings, and returning from Toro Point at 4.30 p. m., has also been cancelled.

No trips will be made to Porto Bello after Wednesday morning, May 13.

Settlement of an Estate.

The estate of Charles M. Ellsworth, metal check No. 55878, a native of the United States, who was employed at Culebra by the First Division, and died on May 6, is now in process of settlement by this office, and any claims against this estate, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings or postal money order deposits, or any other moneys due it, should be presented at this office at once, in order that the estate may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. This notice will be published but once.

John K. Baxter,
Administrator of Estates,

Ancon, C. Z., May 11, 1914.

Eligibility of Canal Pilots.

No applicant for the position of Canal pilot is considered eligible for examination unless he holds a master's license of unlimited tonnage for the Great Lakes or ocean going vessels; he must be under 45 years of age, and an American citizen. In an article on the method of handling applicants for the position of Canal pilot, published in The Canal Record of May 6, the words *of unlimited tonnage* were inadvertently omitted.

Pontoon Bridge Nearly Ready for Use.

The work of placing the pontoon bridge at Paraiso in readiness for operation has been prosecuted steadily since the structure was first swung into position on Tuesday, May 5. The track has been laid, and the mechanism by which the rails are connected up and kept in alignment with those on the land approaches to the bridge has been inspected and passed. Forces of the signal department of the Panama railroad are preparing to install a 12-lever interlocking plant in a cabin, which has been built to one side of the center of the bridge. One or two motor cars have already passed over the pontoon, and it is expected that the first train will go over it on Thursday, May 14. A site for the new Panama railroad station in Paraiso has been selected near the laborers' barracks, a short distance south of the Dredging Division shops.

Uniforms for Canal Pilots.

Canal pilots will be required to wear uniforms when on duty. The material selected is cream colored Palm Beach cloth, plain, without stripes or figures. The caps are to be stiff, after the pattern of those worn by the petty officers of the United States Navy, and will be of the same color as the uniforms. They will have a device in front consisting of a partly closed wreath containing the word "Pilot." The coat will be a plain blouse, without braid, with stiff, standing collar, fastened by hooks and eyes, and will be provided with two upper pockets with button flaps. It will be fastened down the front with five buttons, all buttons to be of brass with the letters "C. P." on their face, removable, and held in place by lugs. The trousers are to be plain. The Chief Quartermaster has been requested to take steps to supply the material, and arrange, to have the uniforms made, either on the Isthmus, or by contract in the United States, after the pilots have been measured.

Work Begun on Balboa Substation.

Excavation for the foundation of the proposed substation at Balboa, in connection with the 44,000-volt transisthmian transmission line, was begun on Friday, May 1. One steamshovel is at work, and the requisite excavation is estimated at approximately [illegible],000 cubic yards. The site selected is at the base of Sosa Hill, on the east side, near the present Balboa dispensary and opposite building No. 9—the galvanizing plant of the Balboa shops. The substation is to be situated between the highway and the hill, and this necessitates cutting back into the base of the hill to give the desired clearance.

This site was adopted on the recommendation of a committee consisting of Edward Schildhauer, chairman; D. C. Nutting, Jr., Frank Holmes, W. H. Rose, and F. H. Cooke, appointed by the Governor on April 2. The committee considered the plan of installing the substation equipment and an air compressor plant in the same structure, but voted unanimously against it. The building to be erected will be like the substations now in course of erection at Gatun, Cristobal, and Miraflores. The foundation and building will be constructed by the Supply Department, except the steel, which will be erected by the United States Steel Products Company. The electrical installation will be performed by the Division of Erection.

Order of Isthmian Conductors.

The next regular meeting of the Order of Isthmian Conductors will be held in Ancon lodge hall on Sunday, May 17, at 9.30 a. m.

◆

The Pedro Miguel dancing club will hold a dance in the clubhouse on Saturday evening, May 16.

SOCIAL LIFE OF THE ZONE.

Church Work.

Sunday, May 10, was celebrated as Children's Day in the Union Sunday school at Empire. The school met at the usual hour, 9.30 a. m., and a suitable program was given. In spite of the changes at Empire, the attendance at the sessions of the Sunday school continues to be high; 92 persons were present at the meeting on Sunday, May 3.

The adult Bible class at Las Cascadas celebrated Mother's Day on May 10, with a suitable program. The members of this class, which consists of 85 enlisted men of the Tenth Infantry, wore white carnations in honor of the day. The class was organized in January, 1914, and, in addition to its regular sessions in the Government chapel at Las Cascadas on Sunday mornings, holds a business meeting on the first Thursday evening, and a social meeting on the third Thursday evening, in each month. The class director is Mrs. E. H. Ash of Empire. The international lessons are used, but the work of the class in session consists mainly in discussion of the practical ideas presented in the lessons.

The ladies' auxiliary to the Empire Union church held its final meeting in the chapel on Friday, May 1, when the study of the book, *The New America*, was completed. It was decided to hold meetings at the homes of members, and the next will be on June 5, at the home of the president, Mrs. Phil Kelly, in Paraiso. Although the Empire Christian Endeavor Society has formally ceased to exist, meetings are held under the late officers in the chapel on Sunday mornings. These meetings are attended by many of the Empire residents.

At the meeting in the Cristobal Union Church on Sunday evening, May 10, Mrs. D. E. Fulton delivered a lecture on temperance. The Sunday school of the church is preparing to celebrate Children's Day on the first Sunday in June. The officers of the church are arranging to have a bazaar in the Cristobal clubhouse in June, the proceeds to be used for the purchase of new books for the library. Further details, including the date of the bazaar, will be given later. On Sunday evening, May 31, the church will celebrate Memorial Day with appropriate exercises. An address will be made by Judge Thomas E. Brown, Jr.

The Gatun Sunday school is preparing a program for Children's Day, June 7. There will be a musical program with recitations, and Mrs. A. C. Arthur is rehearsing the children in the music. Since its reorganization, the Sunday school has prospered; the present enrollment is 100, and the average attendance is 80. There are nine teachers and four substitute teachers. The school has six officers in charge of its various departments. These are arranging for an old-fashioned Sunday school party, to be held in the clubhouse in the near future. The hour of the sessions has been changed from 9.30 to 10 a. m.

At the moving picture entertainment in Gatun on Saturday, May 9, when the story of Hiawatha was shown, special features were added, in which the pupils of the public school took part. Miss Maud Cheatham recited the opening stanza of Longfellow's poem at the beginning of the entertainment. Indian songs were sung, and Indian dances were given in costume. The stage setting showed a wigwam in a forest, with groups of Indians seated about.

The Gatun girls' basketball and indoor hockey team is practicing in the clubhouse on Tuesday and Thursday afternoons. The team will challenge other basketball teams in the Canal Zone within a few weeks.

Washington Cotillion Club.

Capt. F. O. Whitlock has been elected president of the Washington Cotillion Club, vice Lieut.-Col. W. V. Judson, resigned. The other officers of the club are: First vice-president, D. W. MacCormack; second vice-president and treasurer, J. S. McCarthy; third vice-president, Edward Schildhauer; governors, Geo. L. Hughes and O. J. Kirch.

Formation of a Masonic Club.

A meeting to organize a new Masonic club, or reorganize the old Masonic club of Empire, will be held in the Canal clubhouse at Balboa on Thursday evening, May 14, at 8.15 o'clock. All master masons are invited to attend.

Results in Singles, Tennis Tournament.

Tbe following are the results of the singles tournament in tennis, held at Culebra on May 3:

Preliminaries—Pedro Miguel (Bartholomew) defeated Camp Otis (Stewart), 7–5, 7–5; Pacific (Fechtig) defeated Empire (Newbold), 6–2, 6–3.

Second round—Culebra defeated Corozal by default. Pedro Miguel defated Gatun (Wells), 4–6, 6–3, default; Pacific defeated Ancon Hospital (Fessler), 6–2, 4–6, 7–5; Colon (Wechsler) defeated Tivoli (Poltrino), 1–6, 9–7, 6–3.

Semifinals—Pedro Miguel defeated Culebra (Van Zandt), 6–1, 8–6; Pacific defeated Colon, 6–0, 6–2.

Finals—Pacific defeated Pedro Miguel, 6–1, 6–2.

The next Isthmian Tennis Association's tournament will be the "Free for all singles," at Ancon on May 30-31. Any member of a club affiliated with the association may enter on the payment of $1 entrance fee, which should be in the hands of Mr. E. F. Ohlson, secretary-treasurer, Ancon, not later than May 27, when drawing will be made.

Drowned in the Canal.

Charles M. Ellsworth, an employe of the Division of Erection, living at Culebra, was drowned on Wednesday, May 6, while swimming in the Canal, near Station 1745. He was born at Raleigh, N. C., in 1895, was unmarried, and had been on the Isthmus 22 months. His father, Charles B. Ellsworth, resides at Culebra. The funeral services took place on Sunday afternoon, May 10, at St. Luke's Hospital chapel, Ancon.

Obituary.

Carl J. Isgren, father-in-law of M. J. Duey, residing at Ancon, died at Ancon Hospital on Thursday, May 7. He was 60 years of age, married, and had been on the Isthmus two months.

Mrs. Margaret V. French, wife of M. A. French, residing on the corner of Fifth and G streets, Colon, died at her home on Friday, May 8. She was a native of the United States, and was 28 years of age.

Missing Men.

Any one having information concerning the whereabouts of C. P. Burke of Bridgeport, Conn., a machinist, supposed to be on the Isthmus, is requested to communicate with THE CANAL RECORD.

Any one having information regarding the present whereabouts of Mr. John J. Kelly, who left The Panama Canal service on August 13, 1908, is requested to communicate with his brother, Mr. Hugh Kelly, 941 West Van Buren Street, Chicago, Ill.

Any one having information regarding the whereabouts of Thomas H. Dagley who, it is thought, may be on the Isthmus of Panama, is requested to communicate with Mrs. T. M. Dagley, 458 West Pine Street, Canton, Ill.

PERSONAL.

Capt. L. P. Williamson, formerly superintendent of Colon Hospital, will sail for New Orleans on the United Fruit Company's steamer *Abangarez* on Thursday, May 14, and from thence will proceed to Galveston, Texas, and report at Evacuation Hospital No. 1.

Mr. Edward Schildhauer, accompanied by Mrs. Schildhauer, will sail for New Orleans on the *Abangarez*, on Thursday, May 14, on leave of absence. While in the United States he will attend the annual convention of the National Electric Light Association, which meets in Philadelphia, June 1 to 5.

Postal Savings Transactions.

A statement of postal savings transactions at Canal Zone post-offices for the month of April, follows:

OFFICE.	Amount issued.	Amount paid.
Ancon	$18,690	$18,943
Balboa	28,341	34.678
Corozal	31,633	34,759
Cristobal	14,560	13.204
Culebra	12,311	10,150
Empire	6,255	39,689
Gatun	12,587	12,277
Las Cascadas	2,000	1,873
Paraiso	11,807	12,687
Pedro Miguel	9,479	7,786
Cristobal, Sta. "A"	220	2,412
Cristobal, Sta. "B"	1.217	5,363
Total	$149,100	$193,821
Balance on hand April 1, 1914	$599,748	
Deposited during month.	149,100	
Withdrawn during month.		$193,821
Balance on hand April 30, 1914		555,027
	$748,848	$748,848

Red Cross Finances.

The financial statement of the Canal Zone Chapter, American National Red Cross, for the month of April is, as follows:

	RECEIPTS.		
April 1,	Balance on hand	$4,208.52	
April 8,	Membership dues	1.00	
	Total receipts		$4,209.52
	DISBURSEMENTS.		
April 4,	Relief of a stranded American	10.00	
April 6,	Postage, chairman	2.00	
April 9,	Relief of a former employe and family	100.00	
April 13,	Relief of a stranded American	1.00	
April 26,	Payment to purser, steamship *Colon* for relief of former employe	55.00	
April 30,	Collector, The Panama Canal, printing	11.42	
	Total disbursements		$179.42
April 30,	Balance on hand		$4,030.01

T. L. CLEAR,
Treasurer.

Approved:
EDW. SCHILDHAUER,
Chairman.

CANO SADDLE DIKE.

Work of Raising Section of Gatun Lake Rim has been Completed by Contractors.

The construction of the dike at Caño saddle, No. 4, along a ridge on the Gatun Lake rim, about 12 miles southwest of Gatun, was reported completed by the contractors, R. W. Hebard and Company, Incorporated, and Thomas R. Lombard, on April 27. Since then all of the equipment used on the work by the contractors has been withdrawn. The contract became effective on November 28, 1913, and expired in four and one-half months, or on April 13. Shortly before the latter date, the contractors asked for and were granted an extension of time of six weeks in which to complete the task, on the ground of delays caused by sickness among their employes, and the time lost in making extensive repairs to plant and equipment.

The dike as built is about 900 feet long, with a crown width of 19 feet (an increase of four feet from that originally planned) at elevation 105 feet above sealevel, and with a slope of one on three on each side. The contractors were required to first clear the ground of all trees and jungle growth, to pull the stumps, and fill all the holes left; it was also necessary to break the ground thoroughly for a depth of six inches between the slope stakes, and to remove such top soil as was found unfit. A base ditch for the impermeable core, four feet wide at the top, three feet at the bottom, and with a depth of three feet, was dug along the axis of the dike; the core fill was then placed and carried up to elevation 92 feet above sealevel on the water side. Some difficulty was encountered in obtaining the right kind of material for the core, as the greater part of it, which was obtained from a nearby hill, proved to be a hard lumpy clay. No material was permitted to be borrowed below the 105-foot contour.

Under the contract, the men, material, and equipment were allowed free lake transportation to the site of the work, but rent was charged for all equipment used, as well as the cost of putting it in repair. A 45-ton steamshovel, No. 56, was taken to the site, together with a quantity of narrow-gage steam equipment. The greater part of the dike was built by dumping from a trestle. In this work 4-yard dump cars, hauled by two 36-gage locomotives, were used. Later, Decauville equipment was employed to some extent. In one place a depression developed, which the contractors subsequently brought up to grade again. The laborers suffered severely from the attacks of mosquitoes, and the sick rate was high. There were other obstacles, notably the loss of a boatload of provisions, in tow of a launch, on March 27. In trying to save the cargo, Mr. Lombard and his men were thrown into the lake, but all were safely rescued shortly afterward, with the exception of one man who was compelled to spend 20 hours in a tree before help came.

Final inspection of the work has not yet been made, but an estimate of the amounts of the fill, by the Government representative, Mr. George L. Hughes, is, as follows: Yardage in dike fill, 69,642; yardage for base ditch, or core, 309; yardage for filling of stump holes, 114; extra yardage placed in sink, 2,040. Total 72,105 cubic yards, as compared with the original estimate of 71,500 cubic yards. The contract price was 68 cents a cubic yard.

Changes in Sites of Buildings.

The removal of the tuberculosis and isolation wards, situated on the west side of Ancon Hill at the extreme end of the Ancon Hospital reservation has been ordered. The tuberculosis ward will be converted into married quarters for silver employes and reerected at La Boca; the isolation ward will be reerected on the hospital garden site.

The general location of the residence of the Governor will be on the present site of the tuberculosis ward. The work of removing the present residence of the Governor at Culebra to this site will be begun about June 15.

The location of two Type-22 quarters in Block C of the new Balboa townsite has been approved.

Commutation of Annual Leave into Cash Payment.

CULEBRA, C. Z., May 7, 1914.

MR. H. A. A. SMITH,
Auditor,
EMPIRE.

SIR:

I have your letter of the 6th instant relative to the interpretation which should be placed on Section 34 of the Executive Order covering conditions of employment, the question being whether annual leave may be commuted into a cash payment at termination of service when not taken in conjunction with cumulative leave.

The intention of the paragraph in question was that commutation for annual leave should only be paid when such annual leave was added to the cumulative leave due.

As a matter of fact, it is very likely that most employes will want to use up what annual leave is due them before they leave the service. This is a matter, however, for administrative control. In meritorious cases where employes have rendered faithful service and can be granted the annual leave due them without detriment to the work, of course, the head of the department or division may approve such a request. However, if the employe's services have not been particularly satisfactory, or he is to be discharged for cause, no annual leave should be granted to him at the termination of service.

By commuting any annual leave due an employe into a cash payment, it would immediately become in his eyes a vested right, which all employes would insist upon having at the termination of their service, under all circumstances. This I wish to avoid and to keep the leave in a class where it can be controlled by the heads of departments and divisions, to be granted to the employes as a vacation only in meritorious cases.

Respectfully,
GEO. W. GOETHALS,
Governor.

Emigration in April.

The emigration from the Isthmus during the month of April showed a marked increase over the preceding month. According to the figures of the quarantine service, 3,553 persons landed from foreign ports, with the intention of remaining, as compared with 4,970 embarkations, making the net emigration for the month, 1,417, as against 397 in March. The total net emigration for nine months ending April 30, 1914, was 14,257, the greater part of which consisted of Canal employes.

The total number of steamship passengers embarking from the ports of Colon and Cristobal for foreign ports during April, was 4,450, consisting of 2,257 cabin, and 2,193 steerage passengers. The number of persons landing from foreign ports was 2,962, consisting of 1,323 cabin, and 1,609 steerage passengers. The number of persons who embarked over those who landed was 1,488. Immigration from all of Europe, in the steerage class, amounted to only 35 persons; Jamaica and the other West India islands contributed 1,161 deck passengers, Colombia, 93, Guatemala, 72; Costa Rica, 106, and the United States 37. The number of persons arriving at Atlantic ports "In transit" was 1,512, nearly all tourists, as compared with 3,211 in March.

The number of persons arriving at the ports of Panama and Ancon from foreign ports during April was 591, consisting of 449 cabin, and 142 steerage passengers. The number of persons embarking for foreign ports was 520, consisting of 364 cabin, and 156 steerage passengers. The number of those who landed over those who sailed was 71.

The total number of vessels arriving at Colon during the month of April was 98; at Ancon, 26.

CLASSIFIED EXPENDITURES—ISTHMIAN CANAL COMMISSION.

A statement of classified expenditures of the Isthmian Canal Commission to January 31, 1914, follows:

PERIODS.	Department of Civil Administration.	Department of Law.	Department of Sanitation.	Department of Construction and Engineering	General Items.	Fortifications.	Total.
Total to June 30, 1909	3,427,090.29	....	9,673,539.28	69,622,561.42	78,022,606.10	....	160,745,797.09
Total—Fiscal year, 1910	709,351.37	....	1,803,040.95	26,300,167.05	2,863,088.83	....	31,675,648.20
Total—Fiscal year, 1911	755,079.44	....	1,717,792.62	27,477,776.19	3,097,959.72	....	33,048,607.97
Total—Fiscal year, 1912	820,398.57	24,729.16	1,620,391.12	28,897,738.10	2,819,926.53	1,212,881.66	35,396,065 14
Total—Fiscal year, 1913	681,389.06	20,253.11	1,435,400.96	33,017,852.99	1,063,322.52	1,901,475.86	38,119,694 50
July, 1913	61,472.81	1,597.91	121,487.47	2,138,540.39	237,534.13	131,333.71	2,691,966.42
August, 1913	57,950.95	1,469.10	112,802.29	2,299,554.75	244,860.32	150,364.19	2,867,001 60
September, 1913	63,469.40	1,835.57	106,731.16	2,276,467.78	242,779.94	149,735.89	2,841,019.74
October, 1913	66,063.85	1,502.47	107,280.12	2,154,953.40	413,883.08	147,589.32	2,891,272.24
November, 1913	58,728.48	1,387.60	85,696.96	1,774,974.81	160,575.73	113,307.35	2,194,670.93
December. 1913	63,433.93	1,781.65	91,197.00	1,787,820.21	136,525.07	174,216.04	2,254,973.90
January, 1914	69,525.61	1,835.50	86,263.15	2,188,791.94	155,386.12	168,495.83	2,670,298.15
Grand total	6,833,953.76	56,392.07	16,961,623.08	199,937,199.03	89,458,448.09	4,149,399.85	317,397,015.88

OFFICIAL CIRCULARS.

Organization of Executive Department.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., April 29, 1914.

CIRCULAR No. 660-10:

1. The Executive Department embraces the general office business of the Governor, the work under the supervision of the Executive Secretary as given in the Executive Order of January 27, 1914, the Courts, and the offices of the Special Attorney, the District Attorney, and THE CANAL RECORD.

2. The following is the skeleton organization of the Executive Department:

(a) Executive office—
  (1) Clerical bureau.
  (2) Personnel bureau.
  (3) Timekeeping bureau.
  (4) Costkeeping bureau.
  (5) General bureau.
  (6) Bureau of clubs and playgrounds.
(b) Division of Civil Affairs.
(c) Police and Fire Division.
(d) Division of Schools.
(e) Division of Posts.
(f) Courts—
  (a) Supreme Court.
  (b) District Court.
  (c) Magistrates' Courts.
(g) Special Attorney's office.
(h) District Attorney's office.
(i) THE CANAL RECORD office.

3. The Executive Office will be in charge of the Executive Secretary, assisted by the chief clerk. He will be charged with keeping the time of employes; maintaining files, records, and libraries of The Panama Canal; all matters relating to the personnel of employes; the supervision of clubs and playgrounds, and the general office business of the Governor, under the latter's direction.

4. The Division of Civil Affairs is under the direction of a chief of division who is charged with customs inspection for the Canal Zone, and the issuance of all licenses, except those issued for the Board of Local Inspectors by the Superintendent of Transportation. The chief of division is also administrator of estates of deceased and insane employes, and shipping commissioner for the Canal Zone.

5. The Police and Fire Division is under the direction of a chief, who is charged with the maintenance of the peace and order required by the laws of the Canal Zone, the protection of life and property, and the proper care and custody of prisoners and convicts. He is coroner of the Canal Zone and warden of the penitentiary. He is charged with the duty of protecting from fire both Government and private property.

6. The Division of Schools is under the direction of a superintendent of schools, who, under the supervision of the Executive Secretary, shall select and assign the force of teachers, govern the schools, prescribe the courses of instruction, and administer the affairs of the division.

7. The Division of Posts is under the direction of a director of posts, who shall administer the affairs of the Canal Zone postal system, and transact business between that system and other postal systems.

8. The Courts of the Canal Zone, consisting of a Supreme Court, which will cease to exist after the completion of the business now pending, a District Court and two Magistrates' Courts, are charged with the adjudication of civil and criminal cases, as provided by the laws prescribing the duties and limitations of the Courts. The expenditures for the courts, except as fixed by law, shall be made by the Executive Secretary, and the Courts shall furnish to him such reports, statistics, or other data as may be required. The organizations of the Courts are extra-departmental, and are embodied herein only to indicate the method adopted for taking care of the material business needs of the courts.

9. The Special Attorney's office is under the supervision and direction of the Special Attorney, reporting to the Governor. He is charged with the purchase, under the Governor's direction, of the land within the Canal Zone necessary for the construction, maintenance, operation, sanitation, or protection of The Panama Canal, and shall represent the Government before the Joint Land Commission, or other courts or tribunal in the settlement of land or property claims, or claims against the Government for damage to or destruction of private property. He is also charged with the duty of codifying the various laws, Executive Orders, and ordinances in effect for the Canal Zone.

10. The District Attorney's office is under the supervision and direction of the District Attorney, who shall conduct all business, civil and criminal, for the Government, except that assigned to the Special Attorney, and shall advise the Governor on legal questions touching the operation of the Canal, and the administration of civil affairs.

11. THE CANAL RECORD office is under the direction of a special secretary, who shall edit and publish THE CANAL RECORD and perform such other duties as may be assigned to him by the Governor.

GEO. W. GOETHALS,
Governor.

Accounting Department.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 660-2:

AUDITOR OF THE PANAMA CANAL.

1. The Auditor of The Panama Canal is charged with the immediate direction and control of accounting, and the auditing and settlement of claims for The Panama Canal and Canal Zone and for the commissary department of the Panama railroad on the Isthmus. He has supervision and control over the acceptance of bonds, the methods of keeping records and accounts of receipts and disbursements of moneys received by all officers and agents of The Panama Canal and Canal Zone by virtue of their offices or positions, and the methods of safeguarding such moneys. He shall prescribe all forms for recording the receipt and disbursement of moneys and property, and all forms necessary for use in accounting for money and property, except as otherwise prescribed in accordance with law. He is authorized, and it shall be his duty, to examine the books, contracts, records, and accounts of money and property in the possession of all officers and agents of The Panama Canal and Canal Zone, and of the commissary department of the Panama Railroad on the Isthmus. He shall perform all the duties heretofore assigned to the Examiner of Accounts or to the Auditor of the Canal Zone Government, and the additional duties prescribed by the Executive Order of January 27, 1914.

DISBURSEMENTS—PAYMASTER.

2. The Paymaster is charged with the payment on the Isthmus of all moneys appropriated for The Panama Canal and expendable under the direction of the Governor. The Paymaster will make payments only on vouchers or pay rolls, time vouchers or pay receipts, which have been examined and audited by the Auditor. All collections made by the Paymaster on the pay rolls shall be paid by him to the Collector, upon the certificate of the Auditor specifying the amount and the source from which derived, except refundments of overpayments and amounts due the Panama Railroad Company for supplies or services rendered employes, and except other deductions authorized to be made and to be paid to other branches of the service, to contractors or other persons. All other duties performed by the Disbursing Officer of the Isthmian Canal Commission prior to April 1, 1914, to will be performed by the Collector.

RECEIPTS—COLLECTOR.

3. The Collector shall perform all duties heretofore performed by the Treasurer of the Canal Zone, and in addition, shall collect or receive all amounts due The Panama Canal and Canal Zone. He shall transfer all cash received by him and not required for the performance of his duties, to the Paymaster. For the funds of The Panama Canal, he shall take the Paymaster's receipt; for Canal Zone, money order, postal savings bank, clubhouse, and other trust funds and security deposits, he shall take the draft of the Paymaster on the Treasurer of the United States, and shall deposit same in depositories under the contracts entered into by the Secretary of War. He shall have such number of deputies or assistants as may be assigned to him. All moneys, records, and papers of the Collector of Revenues and his deputies, in so far as they relate to the collection of moneys, shall be transferred to the Collector of The Panama Canal.

4. The Collector will render an account for all public moneys of the United States received by him to the Auditor for the War Department, through the Auditor of The Panama Canal. The account will be forwarded to the Auditor of The Panama Canal within 10 days after the close of each month, and will be forwarded by the Auditor of The Panama Canal to the Auditor for the War Department within 10 days thereafter.

5. All amounts due The Panama Canal or Canal Zone will be collected by the Collector, or his deputies, whenever practicable. Bonded employes of the various departments and divisions, designated by the Auditor, may make collections for minor services or sales. In performance of their duties in connection with receiving, handling, and refunding cash, such employes shall be subject to the direction of the Auditor. Such bonded employes shall issue receipts in triplicate, giving the original to the party making deposit and sending the duplicate to the Auditor.

6. All collections for The Panama Canal or Canal Zone will be remitted to the Collector, The Panama Canal.

7. Remittances should be made to the Collector at least once each week, and when the cash on hand amounts to $50, except that the retention of a larger balance may be specifically authorized by the Auditor.

8. All funds shall be remitted by registered mail with the original copy of remittance letter, the duplicate thereof being retained by the remitter. Receipt in favor of the remitter will be issued by the Collector as soon as a remittance is received.

9. All amounts greater than $50 deposited as security for the payment of supplies or rendition of service will be deposited with the Collector or his deputies.

10. The Collector shall have the custody and issue, upon requisition approved by the Auditor, of coupon books, meal tickets, stamps, and similar money values.

11. All checks, drafts, money orders, or any form of remittance, except cash, should be made payable to "Collector, The Panama Canal," and if otherwise made payable should be endorsed in his favor.

12. Monthly abstracts covering all receipts, remittances, or refunds, in detail, will be prepared and forwarded to the Auditor of The Panama Canal promptly at the close of each month, supported by all receipts issued or taken. Forms of such abstracts have been prepared and will be furnished all collecting officers, with full information, prior to the time it is necessary to render April accounts.

RESPONSIBILITIES OF EMPLOYES.

13. All pay rolls, time vouchers, and pay receipts, and all vouchers and claims, bills, and accounts receivable of all kinds shall be examined and audited and checked against the proper records, contracts, or other authorizations in the auditing divisions of the Accounting Department, and otherwise completed with the proper papers attached, prior to submission to the Collector or Paymaster for collection or payment.

14. Two signed copies of all contracts relating to the disbursement of public moneys will be forwarded to the Auditor as soon as executed, one for his office, and one for transmittal to the Auditor for the War Department.

15. All employes of The Panama Canal who examine, check, and verify the correctness and validity of pay rolls, time vouchers, and pay receipts, vouchers and claims, bills or accounts receivable, or any paper or record authorizing or necessary to support any collection or payment, shall be financially responsible for errors of calculation and any other errors apparent upon the face of the papers examined or checked by them, and for errors that would be apparent upon investigation of the personnel or other records available to them.

16. Employes who prepare pay rolls and time vouchers, and bills and other accounts receivable in any form, shall be financially responsible for errors in preparation of such papers, due to failure to make the entry thereon correspond with the facts disclosed by time books, time rolls, rate and price authorities, stock and price cards, and other records and papers in their office, or which may be available to them for comparison and check; also, for errors in the delivery of pay receipts, time vouchers, coupon books, meal tickets, and other money values.

EMPLOYES REQUIRED TO GIVE BOND.

17. The following classes of employes on the Isthmus shall give bond to the United States for the faithful performance of their duties, in such form and in such amount as may be fixed by the Auditor, with the approval of the Governor, and with sureties satisfactory to the Auditor, except the Collector, the Paymaster, and the employes bonded to the Paymaster, and any others who may be required by law or specific instructions to give bond to the United States for the faithful performance of the same duties:

(a) All employes of The Panama Canal who collect or disburse moneys of the United States, the Canal Zone, the Panama Railroad Company, or any other moneys by virtue of the offices or positions held by them.

(b) Timekeepers who prepare time rolls, pay rolls, time vouchers, or pay receipts.

(c) Employes having custody or authority to issue commissary or hotel coupon books, or meal tickets.

(d) Storekeepers and others so acting who are the custodians of material and supplies, and property of the United States, the Canal Zone, or the Panama Railroad Company of a value in excess of a minimum amount which is held for issuance to departments.

(e) Postmasters and postal clerks.

GEO. W. GOETHALS,
Governor.

Preparation and Rendition of Bills.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., April 30, 1914.

CIRCULAR No. 659:

1. Effective May 1, 1914, bills for work performed by The Panama Canal for employes, other individuals, vessels, or their agents, the Panama Government, or other departments of the United States Government, will be rendered immediately upon completion of the work.

2. Bills against the Panama Railroad Company and

bills payable from Canal Zone funds will be rendered at the end of the month during which the work is completed.

3. The rendition of bills for work performed during any month and not completed in that month, will be discontinued, except for long continued jobs and where special request for a bill is made.

4. All bills should show the period during which the work was performed, the nature of the work, and the total charge therefor, with reference to the number of the work request or shop order, and the authority under which the work was performed.

5. The proper surcharges will be included in the total of the bill.

6. If request is made for detail of charges included within a bill, such detail shall be furnished upon payment of the cost of preparing same, plus approximately 10 per cent.

7. Bills covering sales of material and supplies will be detailed, so as to show date of sale, items sold, unit and total prices, authorized surcharge, and total of bill. This detail may be on the bill itself, or on attached papers.

8. All invoices issued to cover material and supplies sold to any branch of the United States Navy Department must be prepared, so as to show the total charges for material and supplies furnished, including the authorized surcharges.

9. The present rates and surcharges will be used until further notice for all work done for outsiders.

10. Invoices for manufacturing or construction work performed by one department or division for another shall be rendered at the end of the month during which the work is completed, except for long continued jobs, to cover which monthly bills are desired by the department or division for which the work is performed

Geo. W. Goethals,
Governor.

Boundary Monuments and Bench Marks.

The Panama Canal,
Executive Office,
Culebra, C. Z., April 1, 1914.

Circular No. 651:

CARE AND MAINTENANCE.

1. The Engineer of Maintenance shall be responsible for the care and maintenance of the monuments marking the Canal Zone boundary and the precise level bench marks, and other permanent boundary monuments and bench marks.

2. In case it becomes necessary to move or replace any of the monuments or bench marks, the Engineer of Maintenance must be notified in advance, so that a competent person may be detailed to arrange for and supervise the work of replacing.

3. Whenever any monument or bench mark shall be found to be in need of repairs or attention, the Engineer of Maintenance must be notified at once.

PENALTIES FOR INTERFERENCE.

4. Section 429 of the Penal Code of the Canal Zone provides, as follows:

> Every person who either—
>
> (*a*) Maliciously removes any monument erected for the purpose of designating any point in the boundary, or any lot or tract of land, or a place where a subaqueous telegraph cable lies; or
>
> (*b*) Maliciously defaces or alters the marks upon any such monument; or
>
> (*c*) Maliciously cuts down or removes any tree upon which any such marks have been made for such purpose, with intent to destroy such marks, is guilty of a misdemeanor.

5. Section 436 of the same Code, as amended, provides, as follows:

> Every person who wilfully injures, defaces, or removes any signal, monument, building, or appurtenance thereto, placed, erected, or used by persons engaged in the United States Coast Survey, or by the Isthmian Canal Commission, or any public service company within the Canal Zone, knowing the same to be a boundary or survey monument, is guilty of a misdemeanor.

6. Articles 908, 909, and 910 of the Penal Code of Panama, imposing a penalty on any person who removes or alters boundary monuments are, as follows:

> (*a*) Article 908. Every person who knowingly removes any monument, tree, wall, border, fence, ditch, palisade, landmark, or any other sign placed or known as a point in the boundary limit between land, field, or any other property and that belonging to some other person; and every person who removes any of the said monuments shall be liable to arrest for a period not less than six days nor more than one month, and a fine of from 10 to 80 pesos; such person being under the obligation of replacing the monument which was destroyed or removed; and in case this is not possible, he shall erect a like monument.
>
> (*b*) Article 909. Every person who knowingly commits any such offense with respect to the property of another shall be liable to a fine amounting to one-half of the abovementioned penalties.
>
> (*c*) Article 910. Every person who knowingly takes away or removes any monument erected for the purpose of designating the boundaries of a department, province, district, police district, or any other territorial division, as provided by the Constitution and by-laws, shall be liable to arrest for a period not less than 10 days nor more than two months, and to a fine of from 20 to 100 pesos.

7. The above provisions of the laws of the Canal Zone and the Republic of Panama are quoted for the information and guidance of all concerned.

Geo. W. Goethals,
Governor.

Coupon Books and Meal Tickets.

The Panama Canal,
Executive Office,
Culebra, C. Z., April 1, 1914.

Circular No. 663:

Effective April 1, 1914, the following rules and regulations shall govern the issue, use, and accounting for coupon books and meal tickets:

1. The duties in connection with the purchasing, issuing, and accounting for commissary coupon books will be transferred from the Panama Railroad Company to the Accounting Department of The Panama Canal, effective May 1, 1914.

2. All books and meal tickets will be provided by the Auditor, upon whom requisitions should be made by issuing clerks, approved by the head of the department in which employed.

3. Distribution will be made to issuing clerks and others by the Collector upon the approved requisition forwarded him by the Auditor.

4. The following denominations of coupon books and meal tickets will be issued:

Commissary books.—$5 and $15.
Hotel books.—$4.80 and $15.
Meal tickets.—27 cents and 40 cents.

5. Hotel books will be issued to all gold employes and white employes on silver rolls and such nonemployes as may be authorized by the Governor, except that $4.80 hotel books will be issued only to new employes who have not earned a sufficient amount to pay for a $15 book; to such married employes whose duties necessitate their absence from the town in which they are officially stationed, and to unmarried employes whose duties require their absence from official station, and who regularly subsist themselves by boarding by the month other than at hotels of The Panama Canal; provided, that not more than two $4.80 books shall be issued to any employe during a month. All requests for the issue of $4.80 hotel books must be approved by the head of the department or division in which the applicant is employed.

6. Commissary books will be issued to all employes and such others as may be authorized by the Governor.

7. All coupon books will be issued to employes for cash at such places as may be designated, and issued for pay roll deduction on application to the chief timekeeper. Books issued to gold employes will be stamped "Gold roll," on the front cover.

8. Books sold to other than employes must be obtained from the Collector on approved request to the Auditor.

9. The value of all books issued to silver employes will be carried to the pay rolls for collection.

10. Books will not be issued by pay roll deduction after the 25th nor before the 10th of each month, and employes are required to make one application for sufficient books to last one month. Issuing clerks are instructed to see that books are issued to employes with as little delay as possible.

11. The value of commissary books issued to a silver employe shall not exceed $50 for any one month, and no books should be issued to such employes until the full amount, in excess of any meal ticket charge, has been earned.

12. All books issued, whether for cash or pay roll deduction, shall be validated by the issuing clerk, showing date of issue, and bear the name and metal check number of the employe to whom issued. The duplicate, or issuing coupon No. 2, must be detached and forwarded to the Auditor, The Panama Canal, with the monthly report of issues.

13. Deductions should not be made for undelivered books. If delivery cannot be effected before collection reports and pay rolls are completed, the book should be cancelled.

14. Issuing clerks are held responsible for all books and meal tickets entrusted to their care and for the proper handling and accounting for the same. When, for any reason, it becomes necessary to transfer the stock of books and tickets on hand, the Auditor should be promptly notified, in order that a representative from his office may be present and officially effect the transfer.

15. When a coupon book is lost, the owner should at once notify the issuing clerk from whom the same was obtained. The issuing clerk shall issue the regular notice of loss on form provided for that purpose, sending one copy to the Auditor and one to the Assistant Chief Quartermaster. In addition to this, the issuing clerk should at once notify the commissary storekeepers or hotel stewards in the vicinity, pending the issue of regular bulletin, but it is understood that The Panama Canal or Panama Railroad Company will not reimburse the owner for the value of lost or destroyed books.

16. Employes of The Panama Canal leaving the service can have unused coupons in commissary or hotel books redeemed by presenting them to the Paymaster at time of final payment. Unused books held by employes of the Panama Railroad Company will be redeemed at termination of service by the Local Treasurer.

17. The provisions of the contract and instructions printed on the inside of the front and back cover of all coupon books, relating to the transfer of coupon books, or the misuse of hotel or commissary privileges, remain in force and effect.

18. Meal tickets of the denominations of 27 cents and 40 cents will be issued daily to colored or European laborers upon request to the foreman or timekeeper and charged on the time books on the day of issue, collection therefor being made on the monthly pay rolls. Unused meal tickets will not be redeemed.

19. On and after April 10, 1914, coupon books will be sold for cash only to those employes of The Panama Canal who present an authority card, Form A 47, properly validated and showing name and metal check number.

20. Cash sales will not be made thereafter upon identification by metal checks. All employes of The Panama Canal and Panama Railroad Company charged with the duty of selling coupon books for cash are instructed to see that identification card is presented by each employe applying for books.

21. These cards are not transferable and must be presented by the employe whose name is written thereon, or a member of his family. If presented by any other, person, the card must be taken up, cancelled, and further privileges of the commissaries denied.

22. Lost cards must be immediately reported to the Auditor, when a new one will be issued, and the issuing clerks notified not to honor the old card.

Geo. W. Goethals,
Governor.

Treatment in Hospitals and Elsewhere.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 618:

EMPLOYES.

1. Employes in case of illness and injury will receive free treatment in the hospitals, except in cases of alcoholism or venereal disease.

2. Employes will be admitted to the hospitals of The Panama Canal only upon request made by a physician in the employ of the Department of Health, or the official head of the department or division in which they are employed.

3. In sending sick employes to local physicians for treatment, request form must always be properly filled in, so as to give the physician the necessary information in case he wishes to send the employe to the hospital. The necessities of patients will always be given first consideration, and no one in urgent need of hospital care will be refused admission.

4. Officials who issue forms for admission to hospitals will see that they bear not only the brass check number, but the name of the employe as it appears on the pay roll. Special care should be used in case of foreign names, as much difficulty is experienced in identifying employes (on account of incorrect names being given). who have been sick, or who have died in hospitals.

5. A charge of $1 shall be made for each visit by a physician of the Health Department to an employe at his home or quarters; provided, that if he is unable to go to dispensary no charge will be made for the first visit to such employe. Employes living with their families in Government quarters, who, in the opinion of the visiting physician, cannot safely or conveniently report at the dispensary for treatment shall, if they so desire, be treated at their homes without charge, except when, in the opinion of the district physician, convalescence may be unduly prolonged.

6. Employes who, at their own request, are treated in a special ward shall be charged $1 per day for such treatment, and employes who, at their own request, are treated in a private room shall be charged $1.50 per day for such treatment.

7. Special nurse will be charged for at the rate of $3 per day; special servant at the rate of $1 per day.

FAMILIES OF EMPLOYES.

8. The family of an employe shall be understood to include those persons who are members of his immediate household, and dependent upon him. A male over 21 years of age will not be considered a dependent member of an employe's family.

9. The members of families of employes may consult any of the physicians of the Health Department at any of the hospitals or dispensaries, free of charge.

10. A charge of $1 shall be made for each visit of a physician to a member of an employe's family at his or her home.

11. Members of the family of an employe whose pay

is more than $50 gold per month may receive treatment in any of the hospitals for a charge of $1 per day. For families of employes receiving $50, or less, per month, the charge shall be 30 cents per day.

12. Members of the family of an employe occupying a private room in hospital, shall be charged $2.50 per day, which includes hospital treatment.

13. A charge of $15 shall be made for each obstetrical case outside of hospital for members of the family of an employe whose pay is more than $50 per month; for families of employes receiving $50 per month, or less, the charge will be $10, except that no charge will be made for such cases, other than the regular charge for hospital treatment, when such cases are treated in hospital.

ARMY, NAVY, AND MARINE CORPS.

14. Officers and enlisted men of the United States Army, Navy, and Marine Corps, stationed for duty in the Canal Zone, or cruising in waters adjacent thereto, shall be admitted to and treated in the wards of The Panama Canal hospitals at the rates provided for families of employes. The rates for special nurses, special servants, and private rooms, shall be the same as for employes of The Panama Canal. Families of the above shall be treated at the same rates as for families of Panama Canal employes.

15. Civilian employes attached to any of the above services:

(*a*) Civilian employes, salary over $50, $1 per day.
(*b*) Families of civilian employes, salary over $50, same as for families of Panama Canal employes.
(*c*) Civilian employes, salary $50 and less, 30 cents per day.

16. Treatment will consist of medical attendance, operations, when necessary, medical supplies, subsistence, and transportation on hospital car. Rates for special nurses, special servants, and private rooms shall be the same as for employes of The Panama Canal.

DIPLOMATIC AND CONSULAR CORPS.

17. Members and employes of the American diplomatic and consular corps shall be treated on the same basis as families of employes of The Panama Canal.

AMERICAN SEAMEN.

18. The charge for American seamen shall be $1 per day.

EMPLOYES OF CONTRACTORS.

19. Unless otherwise provided in the contract, employes of any corporation or firm having a contract for work to be performed on the Isthmus under The Panama Canal, receiving more than $100 gold per month, and members of families of such employes, shall be treated as pay patients. Those receiving $100 gold per month, or less, shall be treated as employes of The Panama Canal, and their families shall be treated as families of employes of The Panama Canal.

INDIGENT SICK, LEPERS, AND INSANE PERSONS.

20. The indigent sick, lepers, and insane of the Republic of Panama shall be admitted to such hospital as may be designated for their reception and shall be treated, upon request of authorized officials of the Republic. A charge of 75 cents gold per day shall be made for the medical and surgical treatment of such persons, bills being rendered against the Republic of Panama.

21. The indigent sick, insane persons, or lepers of the Canal Zone shall be admitted to such hospitals as may be designated for their reception. A charge of 30 cents per day shall be made for the treatment of any such person, bills being rendered against The Panama Canal, by the Chief Health Officer.

PERSONS WITH CONTAGIOUS OR INFECTIOUS DISEASES.

22. Persons having, or suspected of having, contagious or infectious diseases, who are sent to hospital for the protection of the public, shall receive treatment without charge.

PAY PATIENTS.

23. Pay patients shall include all persons treated by physicians of the Health Department, or admitted to the hospitals of The Panama Canal, not otherwise described above. They may be treated by Panama Canal physicians, or admitted to Panama Canal hospitals, so far as the facilities may permit, and without interfering with the treatment of employes. Charges for such patients shall be, as follows:

(*a*) Professional visit at hospital or dispensary	$3.00
(*b*) Professional call	5.00
(*c*) Consultation	5.00
(*d*) Hospital treatment in ward, per day	2.00
(*e*) Hospital treatment in private room, per day	6.00
(*f*) Special nurse, per day	3.00
(*g*) Special servant	1.00

(*h*) Cost of an operation will be determined by consultation with the Superintendent of Hospitals.

(*i*) Relatives or friends accompanying a non-employe pay patient to hospital shall be charged at the rate of $4 per day, whether cared for in a separate room, or in the same room with the patient.

(*j*) In special cases, the charges shown above may be reduced by the Chief Health Officer, with approval of the Governor.

EXCEPTIONS TO RULES.

24. In case of an emergency, and where humanity or the public good requires it, a physician may depart from these regulations, but in each case a written report shall be made immediately to the Chief Health Officer.

Geo. W. Goethals,
Governor.

Stock Reduction.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 631:

1. To avoid a large accumulation of material, it is necessary to reduce the stock carried even at the risk of occasionally running short of some article. It is not intended to embarrass the work for lack of material, but on "Nonactive" stock, substitutions and emergency requisitions will be resorted to, when necessary, to avoid accumulating a large reserve supply of material for which there is only an occasional call.

2. The Supply Department will make substitutions in filling requisitions and foreman's orders, after consultation with the interested department or division. If it is not practicable to confer with the department which places the order, the substitution is authorized with the understanding that the material may be returned if it cannot be used. Substitutions will be issued at the standard price in the price book.

3. The practice of drawing from storehouses spare parts and material for anticipated future needs, and the retention thereof either on the work or in storehouses not under the Supply Department, results in the accumulation of a larger stock of some articles than is necessary, and in the making of articles of which an adequate supply is on hand, but the existence of which is not known to the proper officials.

4. It is, therefore, directed that all such spare parts and material not required for immediate use be turned over to the nearest storehouse, and that, in future, no spare part or material shall be drawn from the Supply Department until actually required.

Geo. W. Goethals,
Governor.

Standardization of Stationery.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 664:

The stationery for use of The Panama Canal shall standardized, as follows:

SIZES FOR GENERAL FORMS.

1. The following shall be standard sizes for general reams, with special sizes permitted if necessity requires:

8 by 3½—One-third letter size.
8 by 5¼—One-half letter size.
8 by 7 —Two-thirds letter size.
8 by 10½—Letter size.
8 by 14 —One and one-third letter size.

The above sizes shall be strictly adhered to, except in such caess as come under "Special size forms."

SPECIAL SIZE FORMS.

2. Special size forms, which, for any reason, cannot be made to conform to the standard, shall be arranged for between the requisitioning official and the depot quartermaster. However, this is not intended to mean sizes varying one-eighth, one-quarter, or one-half inch from standard, unless they are to be used in card cabinets.

STOCK FOR GENERAL FORMS.

3. The following weights in white paper shall be standard for general forms. For comparative purposes only, the weights in each instance refer to a ream of 17 by 22-inch stock. The Supply Department will purchase stock in sizes which will cut and print to the best advantage the standard sizes given above, but same will equal the weight mentioned in 17 by 22-inch sheets:

32-pound—Extra heavy. Same as present daily leave order.

24-pound—Heavy. Will make about one good carbon copy.

20-pound—Same as that on which PC 292a is printed.

16-pound—For forms requiring three or four carbon copies.

13-pound—For forms requiring five to seven carbon copies.

7½ to 8-pound—Unglazed tissue.

7½ to 8-pound—Glazed tissue.

The depot quartermaster will keep in stock the best grade and a medium grade in all the above weights, except the first and last.

COLORED PAPERS.

4. The standard colored papers to be kept in stock by the depot quartermaster shall be blue, pink, and buff, in the 20 and 16-pound weights. Other colors and weights will be considered special.

STOCK FORMS.

5. All stock forms (those used in common by two or more departments or divisions) shall be approved and ordered by this office, and before any such form is reprinted copy of the same shall be submitted to this office for any necessary revision. Forms in use by two or more departments or divisions carrying but slightly different matter shall be made into stock forms, if possible, the matter to be taken up by the depot quartermaster with the requisitioning officials with this end in view, whenever he finds such forms are being ordered.

FORM NUMBERS.

6. All forms will be numbered by this office under one general series, prefixed with the letters "PC," except those departments for which provision is made in circular letter of March 27, 1914.

LETTERHEADS

7. A stock letterhead (form PC 292a for ordinary weight, form PC 292b for medium weight, and form PC 292c for glazed tissue), printed on 8 by 10½-inch stock in black ink, shall be used by all departments and divisions, except in such special cases as may be authorized by the Governor.

SECOND SHEETS.

8. The quality and weight of paper for second sheets (used for carbon copies, etc.), shall be left to the requisitioning official, to be chosen from the standard stock.

ENVELOPES.

9. The following shall be the standard sizes for envelopes:

No.	*White.*	*Inches.*
6½		3⅝ 6½
9½		4⅛ x 6½
	Manila.	
6¾		3¾ x 6¾
9½		4½ x 9½
11½		5 x 11½
12¼		9¼ x 12¼
15		10 x 15

10. One form of printing shall be used on envelopes for all departments and divisions. In the upper left hand corner will be printed:

"The Panama Canal
Canal Zone

Official Business

and in the upper right hand corner, the penalty stamp. The printing of addresses on envelopes will be permitted only after approval of the Governor

MEMORANDUM LETTERHEADS.

White.

11. All departments and divisions using memorandum letterheads shall use a stock form (PC 292d), printed on 8 by 5¼-inch paper of the same quality as the regular letterhead (PC 292a), and put up in pads of 50 sheets each.

REFERENCE SLIPS.

12. Reference slips, if used in lieu of letters of transmittal, shall conform to the standard sizes—half-letter size, two-thirds letter size, or, preferably, letter size.

TELEGRAPH BLANKS.

13. A stock telegraph blank (Form PC 202) shall be used by all departments and divisions.

COLORED INKS.

14. Copying and colored inks shall be used only when absolutely necessary.

INFORMATION TO BE GIVEN ON REQUISITIONS.

15. Requisitioning officials should state whether a form is to be used with pencil, typewriter, or pen, and the number of copies it is desired to make at one time. Title as well as form number must be stated, and a copy of the form accompany the requisition. In giving sizes of forms, always state width first; for example, eight inches by 10½ inches (meaning eight inches wide by 10½ inches long).

SPECIAL AND UNNECESSARY PRINTING.

16. Unless authorized by the Governor, the material and size of type to be used shall be determined by the depot quartermaster, having proper regard for economy, workmanship, the purposes for which the work is needed, and the requirements of the requisitioning official.

17. Requisitions for apparently unnecessary printing, or for printing, which, it is believed, wouldbe unnecessarily costly, shall be brought to the attention of the Governor.

Geo. W. Goethals,
Governor.

Electrical Division.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 25, 1914.

Circular No. 660–8:

Supplementing the provisions of Circular No. 660–1, dated April 1, 1914, the following duties are hereby assigned to the Electrical Division of the Department of Operation and Maintenance:

The operation and maintenance of the steam driven electric power plants at Gatun, Miraflores, Empire, and Balboa, and of all substations, transmission and distribution lines connected with these stations, except distribution systems in locks, spillways, and other structures which have been or may be assigned to other departments for operation and maintenance.

The operation and maintenance of the hydroelectric station at Gatun, and of all substations, transmission and distribution lines connected with the hydroelectric station, when these structures shall have been completed by the Division of Erection, Department of Operation and Maintenance. Distribution systems in locks, spillways, or other structures assigned to other divisions or departments for operation and maintenance are excepted, as in the preceding paragraph.

The operation and maintenance of the air compressor plants at Miraflores, Empire, and Balboa.

The design, construction, operation, and maintenance of lighting systems on all permanent and temporary buildings and other structures in charge of the Supply Department, and of such other departments and divisions as are not specifically authorized from time to time to do such electrical work.

The design, construction, operation, and maintenance of underground and overhead distribution lines for light and power in all towns, and of all street, yard, wharf, and pier lighting systems, unless such work is specifically assigned to some other department or division.

The operation and maintenance of the cargo handling cranes on the Panama railroad pier at Balboa.

In addition to the above duties, the Electrical Division shall take over such other work in connection with the permanent electrical system of The Panama Canal as may from time to time be directed by the Governor.

GEO. W. GOETHALS,
Governor.

Charges and Credits, Republic of Panama.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 657:

1. Charges against and credits to the Republic of Panama on account of the installation, construction, maintenance, operation, and repairs of the water and sewer systems, and pavements, of the cities of Panama and Colon shall be distributed, kept, and stated, by the Auditor, separately for each city, in accordance with contracts dated September 30, 1910, as follows:

SUMMARY OF ACCOUNTS.

2. (*a*) *Water and sewer systems*—
   1 Capital cost.
   2 Operation and maintenance.
   (*b*) *Reservoirs, pipelines, and filtration plants*—
   1 Interest on capital cost.
   2 Maintenance and operation.
   (*c*) *Pavements*—
   1 Capital cost.
   2 Repairs and maintenance.

DEFINITION OF ACCOUNTS.

3. (A) *Water and sewer systems* (1 Capital cost)—

(*a*) This account will be charged with the entire cost of the installation of water and sewer systems within the city up to June 30, 1910, and quarterly thereafter with all expenditures on account of new construction work, and with replacements costing $1,000, or more, for a job, together with one-half per cent per quarter interest on debit balances.

(*b*) This account will be credited quarterly, proportionately with account C-1, with the balance of amounts collected, after proper credits to accounts A-2, B-1, B-2, and C-2, whether such balance be more or less than the quarterly capital installments with interest, as provided in the contracts.

(*c*) (2 Operation and maintenance)—

This account will be charged quarterly with all expenditures during the quarter on account of operation and maintenance of the water and sewer systems. This account will be credited quarterly with an amount equal to the total expenses.

4. (B) *Reservoirs, pipelines, and filtration plants* (1 Interest on capital cost)—

(*a*) This account will be charged quarterly with such proportion on the quarterly interest at one-half per cent on the entire cost of reservoirs, pipelines, and filtration plants as the amount of water consumed in the city during the quarter bears to the total consumption from the reservoir, or total amount of water filtered.

(*b*) This account will be credited with collections for water rentals quarterly by an amount equal to the interest charge.

(*c*) (2 Maintenance and operation)—

(*d*) This account will be charged quarterly with such proportion of the expenditures during the quarter, for the operation and maintenance of the reservoirs, pipelines, and filtration plants as the amount of water consumed in the city during the quarter bears to the total consumption from the reservoir, or to the total amount of water filtered.

(*e*) This account will be credited quarterly with an amount equal to the total charges.

5. (C) *Pavements*, (1 Capital cost)—

(*a*) This account will be charged with the entire cost of paving up to June 30, 1910, and quarterly thereafter with all expenditures during the quarter for new construction work, and with replacements costing $1,000 or more, for a job, together with one-half per cent per quarter interest on debit balances.

(*b*) This account will be credited quarterly proportionately with account A-1 with the balance of amounts collected, after proper credits to accounts A-2, B-1, B-2, and C-2, whether such balance be more or less than the quarterly installments with interest, as provided in the contracts.

(*c*) (2 Maintenance and repairs)—

(*d*) This account will be charged quarterly with all expenditures during the quarter on account of maintenance and repairs of pavements.

(*e*) This account will be credited with collections from water rentals with an amount equal to the total charges.

6. The collections made on account of water rentals will be credited in the following order:

(*a*) First: To account A-2, maintenance and operation; B-1, interest on capital cost; B-2, maintenance and operation; C-2, repairs and maintenance. Amounts equal to the total expenditures.

(*b*) Second: To account A-1, capital cost; C-1, capital cost.

(*c*) Amounts equal to their proportion of balance of collections remaining after credits to accounts A-2, B-1, B-2, and C-2.

7. The contracts between the United States of America and the Republic of Panama, dated September 30, 1910, contemplate a quarterly statement of the accounts on water works, sewers, and pavements; that operating expenses, interest, and one-fourth of the year's capital cost shall be settled from collections, and a new capital cost determined each quarter, beginning July 1, October 1, January 1, and April 1, of each year.

GEO W. GOETHALS,
Governor.

Hotel, Mess, and Commissary Accounting.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 662:

Effective April 1, 1914, the Auditor of The Panama Canal will have charge of the hotel and mess accounting which has heretofore been in charge of the Subsistence Department, and will also have charge of the accounting division of the Panama railroad commissary department, which has been under the direction of the Examiner of Accounts. These duties will be performed by the commissary accountant, under the direction of the Auditor, in building No. 2, Cristobal.

All correspondence, reports, and papers pertaining to matters of accounting from storekeepers and warehouses of the commissary department, and from stewards of all hotels and messes of the Subsistence Department, will be addressed to the commissary accountant. This will include daily reports, invoices, transfers, debit and credit sheets, sale slips, reports of sale, and such accompanying papers from the commissary branches, warehouses, and manufacturing plants. It will also include daily reports, abstracts of issues, and other similar reports, and papers from the hotels and messes, formerly addressed to the Subsistence Officer.

Hotel and mess stewards will continue to send the same daily reports of coupons, cash, etc., to the Auditor's office at Empire that they formerly sent to the Examiner of Accounts.

Correspondence and inquiries by individuals and companies, or by other departments and divisions of The Panama Canal or The Panama Railroad Company regarding the commissary department's accounts receivable and accounts payable, will be addressed to the commissary accountant.

The Auditor is authorized to modify the above instructions as circumstances may require.

GEO. W. GOETHALS,
Governor.

Field Accounting of Property.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 656:

1. Foremen's orders, requisitions, inspection calls, or other evidences of debits against accountable officers; also, credits to accountable officers' accounts, will be given voucher numbers.

2. In all cases where debits are received by an accountable officer, the property clerk will immediately make an abstract of the charges on form PC 395 and transmit the same to the responsible officer in duplicate. The responsible officer will, in turn, sign and return one copy of this receipt to the accountable officer, if the property has been received as invoiced, retaining one copy as an initial charge against his responsibility. These forms PC 395 will be numbered from one upward, and on the division of accountability sheets maintained by property clerks, voucher numbers and serial numbers assigned to each form will be shown, so that ready reference can be had to all papers for inspection. Accountable officers will attach the signed forms to the particular vouchers to which same refer, and maintain a complete file of vouchers with the forms attached thereto.

3. Responsible officers, on receipt of property, will take receipt for same on form PC 401 from the employe actually having the property in his possession. All employes to whom property is entrusted must be furnished with books form PC 401, which books must show what property is actually charged to the employe, the yellow copies to be retained in the books, and the white copies to be retained by responsible officers as a charge against each employe. White slips covering all debits and credits must be maintained for each employe, and new receipts taken from each employe at least semiannually.

4. As regards property in shops of the Mechanical Division, the foregoing instructions will not be applicable. The accountable officer of the Mechanical Division will take receipts (form PC 395) from tool room foreman, who, in turn, will issue tools on metal checks as at present, except in cases where gangs are on detached service, when form PC 401 must be secured, as covered by Paragraph 3.

5. Property in use by families will be held on memorandum receipt given district quartermasters, and district quartermasters will not use form PC 401, except where property is issued to foremen, sanitary inspectors, and others, in which cases, the same procedure will be followed as provided for in Paragraphs 2 and 3.

6. No employe leaving the service or entering on leave will be paid off unless a release from property is furnished. As regards employes to whom property is actually entrusted, releases will be issued by responsible officers; releases to responsible officers will be issued by accountable officers, and releases for accountable officers will be issued by the Auditor after audit of his property accounts is completed, or complete transfer effected to his predecessor in office.

GEO. W. GOETHALS,
Governor, The Panama Canal,
President, Panama Railroad Company.

Official Correspondence.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 616:

Officials and employes will be guided by the following in the preparation and handling of official correspondence.

SUBJECT.

1. The subject shall be stated in each communication, either in the body thereof, or near the top of the first page; and no communication shall embrace more than one subject unless absolutely necessary, as in the case of a general report.

NAMES.

2. Names of persons shall be stated in full, or with initials, at least once in each communication concerning them.

DATES.

3. All correspondence, statements, reports, etc., shall bear dates, to facilitate filing and recording.

ENCLOSURES.

4. When enclosures accompany a communication, a notation setting forth the number shall appear at the end of the communication. Thus: "3 encls.". If, however, the enclosures are not definitely described in the text of the letter, they shall be listed at the end of the communication. Thus:

Mr. Cole's letter 10/6/13.
Duplicate of this letter.
Work request C. E. 1231.
Blue print 6625.
Etc.

5. Enclosures shall not be separated from communications of which they form a part unless absolutely necessary. When detached, they shall bear a notation with date of the communication to which they belong, and the communication itself shall likewise bear some notation concerning the disposition of the detached enclosures.

ENDORSEMENTS.

6. Endorsements shall not be written on the back of official correspondence, but may be noted on or pasted upon the face thereof.

PREVIOUS CORRESPONDENCE.

7. When there has been previous correspondence from an office concerning a particular subject, reference shall be made thereto by stating the date of the communication under reply, as well as the file number, if given. The file number may be written near the top on the left hand side of the letter. Thus: "Your file No. 23-36." A space with the words "Refer to file No." is provided on the opposite side of official letterheads for the file number of the sending office.

REFERRED OUT.

8. Papers referred to other offices for notation shall be returned promptly to the office to which they belong, properly noted.

SIGNATURES.

9. Heads of departments and divisions shall not delegate to minor officials the signing of official corre-

spondence between departments and divisions without first securing the approval of the Governor.

IMPORTANT MATTERS.

10. There are many minor transactions among departments in which the Office of the Governor is interested only to the extent of knowing that they are being attended to methodically, but matters affecting the physical condition of Panama Canal property shall pass through the Office of the Governor. The head of each department, however, is directed to exercise careful discrimination in the use of authority affecting such matters.

WITH REPUBLIC OF PANAMA.

11. Correspondence of The Panama Canal with the Republic of Panama will be handled through or by the Executive Office, except that routine matters between officials of the Republic of Panama and The Panama Canal may be handled direct by such subordinate officials as the Governor may designate.

REQUISITIONS.

12. Correspondence with the Purchasing Department, or with contractors relative to requisitions covering purchases in the United States, shall be conducted through the Supply Department. Copies of communications of this nature which pass between the office of the Governor and the Purchasing Department direct will be furnished the Supply Department.

UNNECESSARY CORRESPONDENCE.

13. (*a*) The number and length of letters shall be minimized as much as practicable.

(*b*) Unimportant matters, which require no record, should preferably be handled by telephone.

(*c*) Letters which merely acknowledge receipt of communications are unnecessary.

(*d*) Letters of transmittal will be used only when necessary, and must refer only to the matter transmitted. They are not required with requisitions, work requests, form letters, or periodical reports.

(*e*) Whenever information of the same substance is to be conveyed to more than one person, carbon copies, joint letters, or circulars will be used.

REPLIES.

14. Communications requiring replies shall receive prompt attention, and it should not be necessary for the sending office to remind the office addressed of its failure or delay in replying to a letter. Each communication shall be replied to separately.

COPIES.

15. Letters prepared for the signature of the Governor, or submitted through the office of the Governor, shall be accompanied by duplicates, in order that proper record may be kept. A carbon copy shall also be forwarded with the original of any communication, if there is reason to assume that the information contained therein is to be transmitted by the official receiving it to some other department or division.

GEO. W. GOETHALS,
Governor.

Removal of Empire Suspension Bridge.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., May 11, 1914.

All concerned—Notice is hereby given that arrangements are being made to take down the Empire suspension bridge, and all traffic on this bridge will be stopped within the next few days.

GEO. W. GOETHALS,
Governor.

Volunteer Fire Drills.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 652:

Members of volunteer fire companies shall be excused by their immediate superiors, not exceeding two 1-hour periods per month, for the purpose of attending fire drill, except in cases of emergency, or where their absence would seriously interfere with work, and shall be paid their regular pay while attending such drills.

GEO. W. GOETHALS,
Governor.

Appointment.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 24, 1914.

CIRCULAR No. 661-7:

The appointment by the President of Mr. William K. Jackson, Jr., as District Attorney for the Canal Zone, is announced, the duties of the position having been assumed by Mr. Jackson on April 8, 1914.

GEO. W. GOETHALS,
Governor.

Leave Regulations.

THE PANAMA CANAL,
EXECUTIVE OFFICE.
CULEBRA, C. Z., April 25, 1914.

CIRCULAR No. 602-5:

RELIEF DAYS—SILVER EMPLOYES.

1. A silver employe on a monthly pay basis who works on Sundays and holidays may be granted one-half day off with pay for each Sunday or holiday he works, provided the work on which he is engaged will not suffer thereby and no increase of force will be necessary. This time off is not cumulative and not more than two days shall be granted in any month.

2. Heads of departments or divisions are authorized to use their discretion in granting this leave.

GEO. W. GOETHALS,
Governor.

Publication of Circulars.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 17, 1914.

CIRCULAR No. 614-1:

1. The series of circulars for the permanent organization has been started with No. 600, to avoid confusion with old series.

2. Subjects will be indicated for each circular, and a subsequent circular on the same subject will bear the same number, with a series number, thus: Leave regulations 602, 602-1, 602-2, etc.

3. All Acts of Congress relating to The Panama Canal approved after April 1, 1914, and those relating specifically to the permanent organization approved prior to that date, will be published by this office hereafter, under circular series 600.

4. All Executive Orders relating to The Panama Canal promulgated on or after April 1, 1914, and those applying specifically to the permanent organization promulgated before that date, will be published by this office under circular series 601.

5. Circulars are perforated to be bound in stiff covers, a limited number of which, for the initial distribution, will be furnished by this office. Additional covers, if necessary, may be obtained from the Supply Department.

6. An index to circulars will be published in the near future, with blank spaces for additions, and the index should be kept up to date by indexing each future circular received. The index is to be bound with the circulars.

GEO. W. GOETHALS,
Governor.

Coal.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 634:

Coal will be purchased by the Supply Department, the weights to be certified by that department's weighmaster, and accepted as final by all concerned. The Supply Department will invoice coal to the various departments and divisions the same as other material and supplies.

GEO. W. GOETHALS,
Governor.

Charge of Cristobal Coaling Plant Construction.

CULEBRA, C. Z., April 28, 1914.

To all concerned—Effective at the close of business May 2, Assistant Engineer F. C. Stanton will, in addition to his other duties, assume local charge of construction work in connection with the Cristobal coaling plant, Atlantic terminals, vice Mr. R. B. Tinsley, resigned.

H. H. ROUSSEAU,
Engineer of Terminal Construction.

Approved:
GEO. W. GOETHALS, *Governor.*

"Radio Station" Changed to "Darien."

PANAMA RAILROAD COMPANY,
OFFICE OF SUPERINTENDENT,
COLON, R. P., April 29, 1914.

CIRCULAR No. 427:

All concerned—Effective at once, the station on the Panama railroad, now known as "Radio station," is changed to "Darien," in accordance with the designation given by the Navy Department to the wireless installation at that point.

F. R. BLUNT,
Acting Superintendent.

Appointments.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., May 5, 1914.

CIRCULAR No. 661-8:

The appointment is announced of Com. D. E. Dismukes, U. S. N., as captain of the port of Cristobal, and Lieut.-Com. H. V. Butler, U. S. N., as captain of the port of Balboa.

GEO. W. GOETHALS,
Governor.

Quarters for Gold Employes.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 627:

APPLICATIONS.

1. A list showing all applications on file for each district will be posted in the office of the district quartermaster and will be open to inspection. District quartermasters will furnish copies of these lists on the first of every month to the Chief Quartermaster.

2. Applications will be placed on file, as follows:

(*a*) *List No. 1.* Applications from employes who entered the service prior to January 1, 1908, and whose services have been continuous so far as quarters are concerned.

(*b*) *List No. 2.* Applications from employes who entered the service subsequent to January 1, 1908. No assignments will be made from List No. 2 until all applicants on List No. 1 have been assigned.

PREFERRED LIST.

3. An employe tendered quarters on an original application from the list must accept or reject the tender, in writing, within 10 days after date of tender. If he declines the assignment, he will be carried on the "Preferred list" for 30 days, provided he makes written application requesting such action. At the end of 30 days, he will again be offered quarters of his class, provided they are available. If quarters are not available at the end of 30 days, he will again be offered the first available quarters, and if he refuses, he must file a new application and take his place at the foot of the list.

TRANSFERS OF QUARTERS OR APPLICATIONS THEREFOR.

4. Applications for family quarters from employes who are transferred to another district, either after tender of assignment or occupancy of quarters, will be placed above all applications on the waiting list. Applications on the transfer list will be filed according to date of transfer.

5. Unassigned applicants, transferred from one district to another, will take rank on the list at point of transfer according to date of original application.

6. Transfer of quarters must be requested by the head of the department in which the applicant is employed, and will be made only for the benefit of the service.

7. An employe may file an application at or transfer his application to a point other than that at which he is employed, provided—

(*a*) This is requested by the head of the department.

(*b*) That he will not be entitled to quarters in the district from which transferred until applications antedating his own have been taken care of.

HOLDING QUARTERS.

8. Family quarters may be held for nine weeks during the absence either of an employe to whom they are assigned or his family, or of both simultaneously, provided that this privilege shall not be granted for more than one period of nine weeks in any service year. If vacated a second time during the service year, either by the employe, his family, or both simultaneously, quarters will be held for not more than 30 days.

9. An employe whose service is terminated will be required to vacate family quarters within 10 days after termination of service.

ASSIGNMENTS.

10. No new assignment of family quarters shall be made to an employe within 15 days after the quarters previously assigned are forfeited or released.

FAMILY QUARTERS SURRENDERED THROUGH INJURY OR DISEASE CONTRACTED IN LINE OF DUTY.

11. As it is at times necessary for employes, in order to hasten recovery from injury or disease contracted in line of duty, to return temporarily to the United States, and by reason of such absence to surrender family quarters, the application of such employes may be placed at the head of the list for assignment to the first quarters vacated after their return to duty, provided their sojourn in the United States was upon recommendation of the Medical Examining Board.

GEO. W. GOETHALS,
Governor.

Retention of Family Quarters During Leave of Absence.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., May 8, 1914.

All concerned—Circular No. 627, dated April 1, 1914, "Quarters for gold employes," provides that "Family quarters may be held for nine weeks during the absence of either an employe to whom they are assigned or his family, or of both simultaneously, provided that this privilege shall not be granted for more than one period of nine weeks in any service year."

As the above circular was issued some time after April 1, a number of transportation requests have been issued to employes and their families occupying quarters, which provide for the retention of quarters for only 56 days. The time limit on all such requests is automatically extended to cover the period of nine weeks provided for in Circular No. 627, and the Washington Office of The Panama Canal will be so instructed, in order that return transportation may be arranged accordingly.

GEO. W. GOETHALS,
Governor.

Increase of Force Papers, Army and Navy Officers.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., May 7, 1914.

All concerned—Attention is called to the fact that when Army and Navy officers detailed for duty on the Isthmus report in fulfillment of their orders, increase of force papers should be put through and forwarded to this office, showing position occupied, rate of pay, and effective date of employment. Such papers are necessary for personnel and pay roll purposes.

GEO. W. GOETHALS,
Governor.

Submitting Work Requests.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., May 1, 1914.

HEADS OF DEPARTMENTS AND DIVISIONS:

WORK REQUESTS.

The number of copies of work requests submitted to this office for approval does not in all instances conform to the requirements of circular letters of October 15 and 21, 1913. It is necessary that the prescribed number of copies be furnished, in order that the customary distribution may be made by this office after approval.

For your information there is listed below the number of copies required, as well as the distribution thereof.

Number required.

Original and 10 copies when the Panama railroad is to perform the work.

Original and five copies when any other department is to perform the work.

Distribution by this office after approval.

Original and six copies to the Panama railroad when that department performs the work.

Original and one copy to any other department performing the work.

One copy to the department requesting the work.
*One copy to the Accounting Department.
One copy to the Costkeeping Bureau.
One copy for Executive Office files.

*When the cost of the job is not stated on the work request, the copy for the Accounting Department will be forwarded through the department performing the work, in order that the estimated cost may be inserted in accordance with circular letter of October 21, 1913.

For other information refer to Circular No. 642.

GEO. W. GOETHALS,
Governor.

Circular No. 666 Withdrawn.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., May 12, 1914.

HEADS OF DEPARTMENTS AND DIVISIONS:

Circular No. 666 is hereby withdrawn. A revision of the circular, with some additional ratings, will be issued in a few days to go into effect June 1, 1914.

GEO. W. GOETHALS,
Governor.

Lock Superintendence.

CULEBRA, C. Z., May 11, 1914.

To all concerned—Effective May 12, 1914. Mr. F. C. Clark, Superintendent of Pacific Locks, will be in local charge in connection with the construction and operation of the Pedro Miguel Lock, Miraflores Locks, and Miraflores Spillway, reporting to Mr. Ernest E. Lee, Superintendent of Erection. The electrical supervisor, mechanical supervisor, and testing engineer will report to the Superintendent of the Pacific Locks.

Effective May 12, 1914, Captain W. F. Endress Superintendent of Gatun Locks, will be in local charge in connection with the construction and operation of the Gatun Locks, reporting to Mr. Ernest E. Lee, Superintendent of Erection. The electrical supervisor, mechanical supervisor, and testing engineer will report to the Superintendent of Gatun Locks,

The testing of the hydroelectric station, which is now in progress, will continue with the same men until turned over to the Electrical Division for operation.

Effective May 12, 1914, Mr. George F. Guynn, inspector, reporting to Mr. Ernest E. Lee, Superintendent of Erection, will be in charge of the inspection of all lock gates, spillway gates, all valves and fixed irons, and shall give special attention to the selection and application of preservative coatings for maintenance, overseeing the application of such coating, whether the work is done by contract, or by the force of the Superintendent of Locks.

The completion of the painting of the hydroelectric station equipment will continue under the present arrangement.

EDW. SCHILDHAUER,
Electrical and Mechanical Engineer.

Approved:
H. F. HODGES,
Engineer of Maintenance.

Examinations by Board of Local Inspectors.

THE PANAMA CANAL,
BOARD OF LOCAL INSPECTORS,
ANCON, C. Z., May 9, 1914.

The Board of Local Inspectors will conduct examinations at the Administration Building, Ancon, on Wednesday, May 20, 1914, beginning promptly at 2 p. m., for persons desiring the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for licenses must procure from the office of the Board, Ancon, forms of application and information respecting the filling out of same, not later than the day previous to the examination. In addition, all persons desiring chauffeurs' licenses must provide themselves with automobiles with which to demonstrate their ability to properly operate the same.

NOTE—The demonstration test for applicants for chauffeurs' licenses will be given on Tuesday, the day preceding the regular examination, at 2 p. m., at the Administration Building, Ancon; on Wednesday, the day of the regular examination, for out-of-town applicants, at 2 p. m. at the Administration Building, Ancon. No demonstration will be given at Cristobal, except by appointment.

D. E. DISMUKES,
Chairman, Board of Local Inspectors.

Sailing of the "Cristobal"

PANAMA RAILROAD COMPANY,
OFFICE OF GENERAL SUPERINTENDENT,
COLON, R. P., May 12, 1914.

CIRCULAR NO. 430:

All concerned—The sailing date of the steamship *Cristobal* has been set for Monday, May 18, at 3 p. m., from pier No. 8 (old number 17), Cristobal, C. Z.

F. R. BLUNT,
Acting Superintendent.

Rainfall, May 1 to May 9, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	.17	9	.18
Balboa	.41	9	.41
*Miraflores	.05	6	.05
Pedro Miguel	.74	6	.77
Rio Grande	.86	6	.91
Central Section—			
Culebra	1 37	6	1 47
*Camacho	1 56	6	1 66
Empire	1.22	6	1.29
Gamboa	.24	6	.30
*Juan Mina	1.48	6	1.79
Alhajuela	.15	7	.20
*El Vigia	.32	7	36
Frijoles	.69	8	1 04
Trinidad	......	......	......
*Monte Lirio	.66	6	1.06
Atlantic Section—			
Gatun	.81	6	1 57
*Brazos Brook	1 75	7	2.95
Colon	4 91	7	7.92
†Porto Bello	.51	9	1 53

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight. †To 5 p. m., May 9.

Administrator's Sale.

OFFICE OF THE ADMINISTRATOR OF ESTATES,
ANCON, C. Z., May 4, 1914.

The Administrator of Estates will sell to the highest bidders, certain diamond rings, watches, stickpins, and other jewelry, fountain pens, and safety razor blade stroppers, belonging to the estate of the late John S. Wilcox, deceased. These goods may be seen any day in this office. Bids will be accepted upon the whole lot, or upon single pieces. No bids will be received after May 20. The Administrator reserves the right to reject any or all bids.

JOHN K. BAXTER,
Administrator of Estates.

Tide Table.

DATE.	High	Low	High	Low	High
	A. M.	A. M.	A. M.	P.M.	P.M.
May 17	......	3.22	9.36	4 01	10.07
May 18	......	4.25	10.43	5.08	11.22
May 19	......	5.29	11 47	6.10	......
			P.M.		
May 20	12.30	6.27	12.44	7.04	......
May 21	1.26	7 19	1 31	7.49	......
May 22	2.10	8.04	2.10	8.30	......
May 23	2.46	8.45	2.46	9.08	......

75th meridian time.

Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes for the week ending midnight, Saturday, May 9, 1914. All heights are in feet above mean sealevel:

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela	Gamboa.	Gatun Lake.	Miraflores Lake.
Sun., May 3	124.8	91.2	84 8	84.8	51.0
Mon., May 4	124.6	91.1	84 8	84.8	51 5
Tues., May 5	124.6	91 0	84.8	84.8	51.8
Wed., May 6	125.2	91.7	84.8	84.9	51.9
Thurs., May 7	128.0	94.2	84.8	84 9	51.8
Fri., May 8	126.4	92.3	84 9	84.9	51 6
Sat., May 9	125.1	91.7	84.9	84.9	51.5
Height of low water to nearest foot	125.0	91.0			

April Rainfall for Three Years.

STATIONS.	1912	1913	1914	Station Av.	Years of record	Rainydays, '14
Pacific Section—						
Ancon	2.68	.03	4.80	2.72	16	9
Balboa	2.88	.06	4.94	3.89	16	9
Miraflores	4.79	.79	2.69	3.10	6	8
Pedro Miguel	4,23	1.04	3.00	3.17	7	9
Rio Grande	3.03	1.12	.83	3.01	10	8
Central Section—						
Culebra	3 14	.71	.62	3.54	24	7
Camacho	2 44	2.52	.49	3.02	8	7
Empire	2 64	90	.50	2.99	10	5
Gamboa	.77	1.07	1 38	3.40	33	10
Juan Mina	.86	.54	1 01	1.48	4	10
Alhajuela	.20	.72	1.68	2.95	15	10
El Vigia	.37	.98	2.05	1 91	6	9
Frijoles	1 19	2.44	2.95	2.19	3	11
Trinidad	3.03	2.52	3.16	4.53	7	15
Monte Lirio	1.29	3.54	4.44	4.62	7	12
Atlantic Section—						
Gatun	4 18	5.38	3 26	4.11	10	17
Brazos Brook	.85	5.23	7.33	3.94	8	17
Colon	.75	2.69	4.12	4.05	44	18
Porto Bello	.54	2.34	2.66	5.40	7	16

WEATHER CONDITIONS, CANAL ZONE, APRIL, 1914.

Rainfall for the month of April was above the station averages at six stations and deficient at 13 stations The precipitation was generally above normal along the Atlantic and Pacific coasts, but deficient at the interior stations. The monthly totals ranged from .49 inch at Camacho to 7.33 inches at Brazos Brook. The maximum precipitation recorded in one day was 2.04 inches at Brazos Brook, on the 26th. Heavy showers occurred on the 2d, 3d, 25th, 26th, and 27th of the month.

The average air temperatures at the various stations were from 1° F. to 2° F. above normal. The daytime cloudiness was generally deficient, while the relative humidity, air pressure, and wind movement were approximately normal.

No fogs were observed at either coast station, and few at the interior stations. Of the fogs observed, 61 per cent were dissipated by 6.30 a. m., 78 per cent by 7,30 a. m., and 100 per cent by 8.30 a. m.

Elevations of Gatun Lake in feet above sealevel, were: Mean for month, 84.82; maximum, 84.89, on the 30th; minimum, 84.77, on the 14th. Evaporation from the lake surface amounted to 6.688 inches.

The following table summarizes the weather conditions for the month:

STATION.	Press're (reduc'd to mean of 24 hours).	Temperature.					Mean relative humidity	Precipitation.			Wind.				
		Mean.	Maximum.	Date.	Minimum.	Date.		Total inches.	Station average.	Days of .01 inch or more	Total movement (miles)	Prevailing direction.	Max. velocity (in miles).	Direction.	Date.
Colon	29.869	81.4	88	Apr. 9	73	Apr.27	83	4 12	4.05	18	9,450	N.	30	N.W.	Apr. 28
Culebra	29 856	82.3	96	Apr. 9	71	Apr.28	82	.62	3.54	7	6,669	N.W.	26	N.	Apr. 24
Ancon	29.832	82.6	95	Apr. 1	72	Apr. 6	79	4.80	2.72	9	6,465	N.W.	24	N.W.	Apr. 1

CANAL CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The schedule for moving pictures for the week May 18 to 23 is, as follows: Monday, Cristobal; Tuesday, Gatun; Wednesday, Culebra; Thursday, Pedro Miguel; Friday, Empire and Balboa; Saturday, Corozal.

Transfer of the Empire clubhouse to Balboa has been approved. It is probable that a basement of concrete will be constructed to support the building, thus giving the clubhouse a more substantial appearance and adding considerably to the space in the building.

The transfer of the Porto Bello clubhouse to LaBoca, and its reerection for the use of the colored employes at that place, have been approved.

Miss MacLaren's dates are, as follows: Thursday, May 21, Culebra; Friday, Gatun; Saturday, Cristobal; Tuesday, May 26, Corozal; Wednesday, Pedro Miguel; Thursday, Empire; Friday, Culebra. She will give the "Misleading lady" at all of these performances, except at Culebra on the 21st; on this date, she will give "The man from home." This date will mark the anniversary of the opening of the Culebra clubhouse, and will also be Miss MacLaren's one hundredth appearance in imitative recitals in the Canal Zone. During the week May 13 to 20, Miss MacLaren gives "The auctioneer" instead of "The misleading lady," as previously announced.

The committee on games of the public school athletic league met on May 7 and decided to hold an indoor telephone athletic meet on Friday evening, June 19, at 7.30, in the various clubhouses. Events will be, as follows:

Boys—Seventy-five pounds and under—Standing broad jump, 10-yard dash, potato race (*4); *90 pounds and under*—Standing broad jump, 15-yard dash, potato race (5); *110 pounds and under*—Running broad jump, 15-yard dash, potato race (5); *140 pounds and under*—Running broad jump, 15-yard dash, potato race (8).

Girls—Seventy-five pounds and under—Standing broad jump, 10-yard dash, potato race (4); *90 pounds and under*—Standing broad jump, 15-yard dash, potato race (4); *110 pounds and under*—Standing broad jump, 15-yard dash, potato race (5); *110 pounds and under*—Standing broad jump, 15-yard dash, potato race (6).

*The figures in parentheses indicate the number of potatoes to be used in the event.

COROZAL.

The bowling activities resulted in the following high scores for the week ending May 9: *Tenpins*—Parkis, 229; Thirsk, 221, 213; Edwards, 212, 203. *Duckpins*—McDonald, 108, Ruggles, 105, Phillips, 100. *Baltimore duckpins*—C. Sims, 100.

A suitable float for bathing in the Canal opposite Corozal has been authorized, with an approach walk leading to it from the old railroad embankment. This work is to be performed by the Quartermaster's Department, at private expense. Local persons interested in swimming are contributing to carry on the necessary construction, having pledged $80 so far. The list for donations is open at the clubhouse, and all those expecting to use these facilities are invited to share in paying for the expense. One hundred and sixty dollars remain to be collected. A committee, consisting of F. W. Hatten, Arthur Hanson, and A. R. Mitchell, is receiving contributions.

The standing of the local league indoor teams is, as follows:

Teams.	*Won.*	*Lost.*	*P. C.*
Red Sox	3	1	.750
Naps	3	2	.600
White Sox	1	2	.333
Cubs	1	3	.250

PEDRO MIGUEL.

Davis and Sims rolled off the tie in duckpins on the edro Miguel alleys on Saturday night, Sims winning y 16 pins. The score by games was:

Davis, 84, 89, 91—264.

Sims, 87, 105, 88—280.

A beginners' class in Spanish was started on Monday ight.

A gymnasium class for men will be started on Wednesday night. This class will meet twice a week.

During the absence of Mr. C. B. Russell on vacation, Mr. P. T. Woolworth will act as secretary of the Pedro Miguel clubhouse.

CULEBRA.

The old Culebra checker club was reorganized on May 6, under the auspices of the Culebra Y. M. C. A., with the following enrollment: Lieut. A. H. Acher, Dr. Dunn, J. F. Warner, A. E. McClure, C. C McColley, A. Wilson, W. R. Armitage, P. C. vanRosmalen, V. S. Kundriotis, B. A. Armstrong, and W. H. Rattiner. Dr. Dunn was elected president, and Mr. Rattiner, secretary. Challenges will soon be sent out to the other Y. M. C. A. checker clubs.

On Sunday evening, May 17, a set of slides on Switzerland will be shown. All are invited to attend.

EMPIRE.

Mr. Sims of Empire and Mr. Davis of Corozal, who were tied for first place in the Isthmian duckpin league have rolled the tie off, and Mr. Sims won by eight pins. Three games were rolled on the Corozal alleys, three, at Empire, and three at Pedro Miguel. Mr. Sims receives the medal for the highest average for the Isthmian duckpin league.

On Tuesday evening, May 5, a duckpin match was bowled between a team composed of married men and one of single men. The single men won two out of three games.

Mr. King, who has been in charge of the bowling alleys part of the time for the last year, has resigned, and sailed for the United States. Mr. Drake will take his place on the alleys.

GATUN.

Interest in the game of bowling has been stimulated by the duckpin tournament recently organized. At present the "Tigers" are leading, with the "Pirates" a close second, the "Red Sox" third, and the "Superbas," fourth.

"Ladies' night" was observed on the bowling alleys on Thursday evening, May 7, when a ragtime tournament was held. The prize for high score was won by a team composed of Mr. Coleman and Mrs. Conley.

Some of the high scores in rubber band duckpins among the women for the week ending May 9 were: Mrs. Tricker, 151, 143, 133, 116, 112; Mrs. Conley, 136 128, 119, 117; Mrs. Walsh, 119, 112; Mrs. Crosscup, 136, 133; Mrs. Logan, 107, 106.

The *American Year Book* has been added to the library.

The "Old time handball tournament" was formed on Thursday evening, May 7. Following are the officials: President, Laurence Wright; secretary-scorer, John Loulan; official referee. Nat Gilbert; committee on schedule and rules, Perry Twitchell, A. N. Kjellander. The entrance fee is 10 cents, and the prize a pair of gymnasium shoes. Any member of the association may enter. The following have already done so: Heslop, Wright, Sutliffe, Smith, F., Peters, Godwin, Lailor, Dustheimer, Feehan, Twitchell.

Five members of the clubhouse have, so far, started the course in violin instruction begun recently, with Prof. Van Dyke as teacher. Seven of the members are taking piano lessons under the supervision of Mrs. E. T. Gilbert and Mrs. D. R. Walker.

CRISTOBAL.

The following new magazines will be found in the reading room: *National Geographic Magazine, Country Gentleman, Independent, London Illustrated News, Country Life In America*; also, the following daily papers: Baltimore *Sun*, Cincinnati *Enquirer*, Columbus *State Journal*, Cleveland *Plain Dealer*, Detroit *Free Press*, and Philadelphia *North American*.

The C. A. C. team was defeated by the C. T. C. boys' team in a dual athletic meet on Saturday, May 9. The score was 44 to 36. Following were the events: Standing broad jump relay; running hop, step, and jump; running broad jump; 5-boy medley relay, and modified street Marathon.

The single folks' bowling tournament will be held on Monday night, May 18.

There will be an invitation duckpin tournament on the Cristobal alleys on May 30, Decoration Day, to which all Y M. C. A. bowlers in the Zone are invited.

Misdirected Letters.

ANCON, C. Z., May 11, 1914.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be procured upon request of the addressees:

Bazeman, Herman R.
Camp, E. S.
Crawford, F. W.
Carr, Elmer E.
DeCosta, Walter M.
Feltman, Richard
Jablonski, John (2)
Miles, John
Miller, Alexander
Mott, G. P.
Nogueira & Co., Gouvea
Ross, R. P.
Ussen, J.
Vollmer, Rudolph
Webb, Albert B.
Wick, Rosalie, Mrs.
Wood, Elsie, Miss.

LETTERS UNCALLED FOR MAY 4, 1914.

Arensen, Chris.
Black, Charles
Caldwell, J. L.
Croistobel, Mrs.
Davies, John M.
Dickson, Stanley
Ellis, Edw. E. (2)
Ford, Robert N.
Gittens, Louis,
General Mgr., Gourney Foundry Company.
General Mgr., Gourney Massey Company.
Houston, Robt. H.
Huber, Miss Florence
Kimball, C. P.
Meontoya, Felipe
Nixon, Mrs. Julia Campbell
Schench, S. B.
Sovensen, Chris.
Spickelmeier, V.
White, Mary D.

LOST—Black leather billbook, containing $60 in United States paper money. Reward for return to G. R. Jasper, Balboa shops.

COMMISSARY DEPARTMENT.

New Commissary Storehouse.

The erection of a new storehouse and warehouse for the use of the commissary division of the Supply Department at Cristobal has been authorized. It will be of fireproof construction, 60 by 200 feet in plan, and its estimated cost, including foundations, is $70,000. It will be situated to the south of warehouse No. 2, which is in the building housing the cold storage plant, and upon its completion, will take care of the stores now housed in the building adjacent to the present Cristobal commissary.

Sale of Corozal Farm Products at the Commissaries.

Attention is called to the fact that fresh eggs from the Corozal farm are now on sale at the commissaries at 60 cents per dozen. Other produce on sale from the farm consist of lettuce, papaya, radishes, and mangoes. Roses, grown on the farm, are sold at 50 cents a dozen. The announcement is made that horses and cattle can be pastured at the farm at the rate of $2 a head per month.

Sales of Gasoline to Employes.

Hereafter, gasoline will be sold to employes of the Canal through the retail commissaries. Deliveries will be made by district quartermasters.

Fresh Fruit and Fish.

THE PANAMA CANAL,
SUPPLY DEPARTMENT,
CULEBRA, C. Z., May 11, 1914.

CIRCULAR No. 67:

All district quartermasters and all commissary storekeepers—It it desired that the retail stores carry an assortment of all fresh fruits and vegetables for which there is any demand.

Fresh fish must be stocked on and Friday, and every day, if warranted by the demand. Special orders for fresh fish placed with you by any of the commissary patrons will be filled by the local buyer at Panama, as follows:

Orders received by the local buyer before 9 a. m., will be shipped on train No. 6, leaving Panama at 11 a. m., and arriving at Colon at 12.50 p. m., or train No. 44, leaving Panama at 12.15 p. m., and arriving at Bas Obispo at 1.15 p. m.

Orders received by the local buyer before 11 a. m., will be shipped on train No. 46, leaving Panama at 2.45 p. m., and arriving at Bas Obispo at 3.40 p. m.

Orders received by the local buyer before 4 p. m., will be shipped the following morning on train No. 4, leaving Panama at 7.30 a. m., and arriving at Colon at 9.20 a. m., or train No. 42, leaving Panama at 8.40 a. m., and arriving at Bas Obispo at 9.40 a. m.

Fish arriving after departure of cold storage wagon may be sent out with grocery delivery at customer's risk.

To facilitate placing orders, the local buyer will call each commissary in turn immediately after the storekeepers have telephoned their daily cold storage orders to Cristobal.

Storekeepers will arrange to dispose of all perishable fruits and vegetables each night, as provided in circular No. 52, dated May 2, 1914.

R. E. WOOD,
Chief Quartermaster.

Change in Name of "Retail Stores."

CRISTOBAL, C. Z., May 4, 1914.

CIRCULAR No. 45:

All concerned—Effective May 1, the designation of "Retail stores," Cristobal, in changed to Cristobal commissary, and the term "Retail stores" will be used to designate the retail stores as a whole. The initials of Cristobal commissary will be "C.C.", instead of "R.S.," as formerly.

R. E. WOOD,
Chief Quartermaster.

Commissary Purchases by Servants.

SUPPLY DEPARTMENT,
OFFICE OF THE CHIEF QUARTERMASTER,
CULEBRA, C. Z., May 6, 1914.

CIRCULAR No. 62:

All district quartermasters and all commissary storekeepers—There is occasional complaint that the servants of gold employes are not promptly waited on; that errors are made in putting up their orders, and that too many coupons are taken from their books.

Usually, the first is due to their not announcing who sent them, the second to their forgetting what they were sent for, and the third to their making unauthorized purchases.

Patrons may insure prompt service and assist in preventing mistakes and unauthorized purchases by giving servants a note to present to storekeeper, specifying what is wanted. The note will be O. Kd. by storekeeper, and each item crossed off as filled, and the note taken up by last sales person handling.

R. E. Wood,
Chief Quartermaster.

Commissary Cold Storage.

Retail prices of cold storage provisions for the week beginning May 14, 1914:

FRESH MEATS.

	Price.
Mutton—Stewing, per pound	7
Shoulder, neck trimmed off (4 pounds and over), per pound	9
Entire, forequarter (not trimmed, 10 pounds and over), per pound	8
Legs (8 to 10 pounds), per pound	17
Cutlets, per pound	18
Short cut chops, per pound	20
Lamb—Stewing per pound	8
Entire forequarter, neck trimmed off, per pound	10
Legs (5 to 8 pounds), per pound	20
Chops, per pound	24
Cutlets, per pound	24
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
—Chops, shoulder, per pound	17
Chops, per pound	26
Loin, for roasting, per pound	26
Cutlets, per pound	30
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	8
Plate, per pound	9
Corned, No. 1, per pound	14
Corned, No. 2, per pound	12
Chuck roast, 3 lbs., and over, per pound.	12
Rib roast, second cut (not under 3½ pounds), per pound	16
Rib roast, first cut (not under 3 pounds), per pound	18
Pot roast, per pound	19
Rump roast, per pound	19
Porterhouse roast, per pound	20
Steak, Chuck, per pound	12½
Round, per pound	13
Rib, per pound	18
Sirloin, per pound	19
Rump, per pound	19
Porterhouse (not less than 1½ pounds), per pound	20
Tenderloin (Western), per pound.	30
Pork—Hams, fresh, per pound	§22
Loin chops or roast, per pound	19
Shoulders, fresh, per pound	§18
Spare ribs, per pound	17
Backbones, per pound	15
Pigs' feet, each	7
Pigs' heads, whole	80
Pigs' head, ½-head	40
Sausage, homemade, per pound	22

MISCELLANEOUS.

Livers—Beef, per pound	13
Calf, each	60
Half, each	30
Steak, Hamburger, package	13
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	12
Devonshire Farm, per pound	22
Sweetbread, beef, per pound	27
Eggs, fresh, per dozen	25
per ½-dozen	13
Bluefish, per pound	11
Halibut, fresh, per pound	*06
Salmon, per pound	*07
Shad roes, per pair	40
Oysters, per quart	28

POULTRY AND GAME.

Chickens—Fancy roasting, milk fed, large each	1.40
Fancy roasting, milk fed, med., each.	1.10
Fancy roasting, corn fed, about 5½ pounds, each	1.25
Fancy roasting, corn fed, about 4½ pounds each	1.00
Fowls, each	††66, 77, 88, 99, and 1.10
Ducks, Western (about 4½ pounds), each	†1.25
Capons, each	3.00
Broilers, milk fed, each	75
Broilers, corn fed, each	60
Turkeys, per pound	28
Squabs, each	50
Ducks, teal, each	40
Partridges, pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30

CURED AND PICKLED MEATS.

	Price.
Ham—Real York and Cumberland, per pound	37
Genuine Westphalia, per pound	40
Sugar cured, per pound	20
Sliced, per pound	22
Half, for boiling, per pound	21
Boiled, per pound	28
Hocks, per pound	‡8
Beef, salt, family, per pound	12
Bacon—Breakfast, whole piece, per pound	25
Sliced, per pound	26
Ham, lunch, per pound	†40
Pork, salt, family, per pound	14
Ox tongues, each	1.10
Pigs' feet, per pound	7
Tongues, per pound	18

DAIRY PRODUCTS.

Butter—Creamery, special, per pound	32
Sheffield Farms, extra fancy, per lb	46
Cheese—Philadelphia cream, cake	10
Cheese—Roquefort, per pound	35
Young America, per pound	24
Swiss, per pound	27
Edam, each	75
Edam, tin	†28
Parmesan, per pound	35
Gouda, per pound	30
Snappy, per cake	9
Milk (certified), bottle	**.20
Fer-mil-lac, bottle	**.20
Ice cream, quart	‡25
½-gallon	‡50

VEGETABLES AND FRUITS.

Beets, per pound	3½
Celery, per head	9
Cabbage, per pound	*2
Carrots, per pound	3
Lettuce, per pound	7
Onions, per pound	*4
Potatoes, white, per pound	3
sweet, tropical, per pound	2
Yams, per pound	2½
Parsley, per bunch	2½
Parsnips, per pound	4
Turnips, per pound	2½
Tomatoes, per pound	†11
Spinach, per pound	6
Grape fruit, American, each	*8
Tropical each	4
Lemons, per dozen	13
Oranges, Jamaican, per dozen	16

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*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on list.

††Fowls weight each, about as follows: 3, 3½, 4, 4½, and 5 pounds. Prices are based accordingly; when size ordered is not in stock, next lightest weight is supplied and refund note sent for difference.

‡Sold only from commissaries; no orders taken for delivery.

§Not less than half of a fresh ham or shoulder will be sold.

Supplies for the Canal.

The following steamers with supplies for the Panama Canal and Panama Railroad Company arrived at the ports of Colon and Cristobal during the week ending May 2:

Prinz Eitel Friedrich, April 28, from New York, with 54 pieces steel rods, for Pacific terminals; 164 packages bolts, for stock.

Ancon, April 27, from New York, with 416 crates roofing tile, 10,500 pieces hollow tile, 200 bundles reinforcing bars, steel, 117 bundles steel bars, for permanent buildings; 100 crates roofing tile, nine reels insulated wire, four towing locomotives, for First Division; 38 packages drugs and medical supplies, for Health Department; 93 packages pipe and fittings, for Division of Municipal Engineering; 362 packages structural steel, for Second Division; one dredge boom, for Dredging Division; 137,100 pounds coke, 40 bales excelsior, 58,160 bags cement, 30 cases hardware, 75 rolls wire cloth and fencing, 53 bales rubber hose, 100 crates buckets, 20 cases lampblack in oil, 210 pieces steel plate, 100 bundles coal baskets, 423 bags oats, for stock; and a miscellaneous cargo, the whole consisting of 60,160 packages, weighing 3,976 tons.

Metapan, April 29, from New York, with 21 packages window glass, for permanent buildings; 150 crates iron valves, 65 pieces cast iron pipe and fittings, for Division of Municipal Engineering; 29 packages chain fender material, 62 packages electric material, for First Division; three packages electric material, for Mechanical Division; 500 kegs track spikes, 172 bundles galvanized pipe, 1,276 pieces galvanized pipe, for stock.

Parismina, April 29, from New Orleans, with 48 pieces untreated yellow pine piling, 302 pieces cast iron pipe-fittings, for stock.

Turrialba, April 30, from New Orleans, with 57 boxes marble, for permanent buildings; 393 barrels paving brick, for Division of Municipal Engineering; 490 bags feed, 146 rolls cotton duck, 137 pieces untreated yellow pine piling, 25,799, board feet, yellow pine ceiling, 767 pieces sewer pipe, 25 bundles cypress doors, for stock.

Tenadores, May 1, from New York, with 63 packages chain fender material, for First Division; 82 packages valves and fittings, for Division of Municipal Engineering; nine packages structural material, for fortifications; 10 barrels castor oil, 50 cases caustic soda, 10 barrels pitch, 14 cases rubber packing, 150 cases putty, 400 bundles steel bars, 300 pieces steel plates, for stock.

MOVEMENTS OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.

		Sails.	*Arrives.*
*Advance	P. R. R.	May 16	May 23
*Colon	P. R. R.	May 9	May 15
*Panama	P. R. R.	May 22	May 28
*Allianca	P. R. R.	May 28	June 3
*Cristobal	P. R. R.	June 3	June 10
*Advance	P. R. R.	June 9	June 16
*Panama	P. R. R.	June 15	June 21
*Allianca	P. R. R.	June 20	June 26
*Colon	P. R. R.	June 27	July 3

CRISTOBAL TO NEW YORK.

†Allianca	P. R. R.	May 15	May 21
†Colon	P. R. R.	May 21	May 27
†Advance	P. R. R.	May 28	June 4
†Panama	P. R. R.	June 3	June 9
†Allianca	P. R. R.	June 9	June 15
†Cristobal	P. R. R.	June 18	June 25
†Advance	P. R. R.	June 22	June 29
†Panama	P. R. R.	June 28	July 4

NEW YORK TO COLON.

*Almirante	U. F. C.	May 6	May 13
Trent	R. M.	May 9	May 17
Pastores	U. F. C.	May 9	May 16
Prinz Joachim	H.-A.	May 9	May 18
*Santa Marta	U. F. C.	May 13	May 20
Tenadores	U. F. C.	May 16	May 23
Prinz Eitel Friedrich	H.-A.	May 16	May 26
*Metapan	U. F. C.	May 20	May 27
*Calamares	U. F. C.	May 23	May 30
Orotava	R. M.	May 23	May 31
Prinz August Wilhelm	H.-A.	May 23	June 1
Zacapa	U. F. C.	May 27	June 3
*Pastores	U. F. C.	May 30	June 5
Prinz Sigismund	H.-A.	May 30	June 9
Almirante	U. F. C.	June 3	June 10

COLON TO NEW YORK.

†Calamares	U. F. C.	May 13	May 20
Zacapa	U. F. C.	May 14	May 22
Prinz Sigismund	H.-A.	May 18	May 27
†Pastores	U. F. C.	May 20	May 27
Almirante	U. F. C.	May 21	May 29
Prinz Joachim	H.-A.	May 26	June 3
Danube	R. M.	May 26	June 3
†Tenadores	U. F. C.	May 27	June 1
Santa Marta	U. F. C.	May 28	June 3
Prinz Eitel Friedrich	H.-A.	June 1	June 10
†Calamares	U. F. C.	June 3	June 10
Metapan	U. F. C.	June 4	June 12

NEW ORLEANS TO COLON.

Heredia	U. F. C.	May 6	May 13
*Atenas	U. F. C.	May 9	May 14

COLON TO NEW ORLEANS.

‡Abangarez	U. F. C.	May 14	May 19
Heredia	U. F. C.	May 14	May 22

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Piers 8, 9, and 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 2 p. m.; for Southampton, on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays at 3 p.m.; for New Orleans, via Bocas del Toro and Havana, on Thursdays at 4 p.m.; ships for New York, via Kingston, on Thursdays, at 2 p. m.; for New York direct, on Wednesdays at 2 p. m.; for Limon and Bocas del Toro on Saturdays at 4 p. m.; and for Bocas del Toro direct, on Thursdays at 4 p. m.

The Hamburg-American steamers *Prinz Eitel Friedrich* and *Prinz Sigismund* sail for New York, via Kingston and Fortune Island, on Mondays at 10 a.m.; the *Prinz August Wilhelm* and *Prinz Joachim* sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays at 10 a. m.

Withdrawal of International Insurance Company from Canal Zone.

The International Insurance Company (Compañia Internacional de Seguros) of Panama, has advised the Executive Secretary of its intention to withdraw from the business of underwriting fire insurance in the Canal Zone. All persons having any claims against the company arising from policies issued by it upon property in the Canal Zone, or who hold the company's policies upon property located in the Zone, are requested to communicate with the office of the Executive Secretary, Ancon, C. Z.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, MAY 20, 1914. No. 39.

The Canal Record

Official publication of The Panama Canal.

The Canal Record is published weekly free of charge, one copy each, to all employes of The Panama Canal and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Towing Ship's Cargo through the Canal.

The tug *Mariner*, towing barges *No. 11* and *No. 15*, left Cristobal at 6 a. m., Tuesday, May 19, and arrived at Balboa at 6.40 p. m. the same day. This is the first direct voyage of vessels from ocean to ocean, by way of the Canal. These barges are to be loaded with sugar transferred to them from the steamship *Alaskan* at Balboa, and towed back to Cristobal.

Three other barges, so loaded, started through the Canal to Cristobal at 2.40 o'clock in the afternoon of Monday, May 18. They reached Pedro Miguel Lock at 6.25 p. m., and tied up for the night. They were locked through next morning, leaving the upper end of the lock at 9 o'clock. They passed Caimito at noon, and reached Gatun Locks at 4 p. m. They were locked through, and reached Cristobal at 9 p. m. The barges were towed by the tug *La Boca* from Balboa to Gatun Locks, and by the *Porto Bello* from Gatun Locks to Cristobal.

A second loaded tow will probably be ready in the afternoon of May 20, and the *Mariner* will take it through direct.

The *Alaskan* is a vessel of the American-Hawaiian Steamship Company, diverted to the Isthmus in consequence of the interruption of traffic on the Tehuantepec railway. It arrived at Balboa on May 7, loaded with 12,100 tons of sugar and 200 tons of canned pineapples. On account of the heavy shipments already at hand from vessels regularly making the port, the project of lightering the *Alaskan's* cargo through the Canal was adopted. Seven barges have been diverted to this service, and it is hoped that five more can be spared from the Atlantic entrance. The discharge of the cargo began on Sunday, May 17, and has advanced at the rate of between 1,000 and 1,200 tons per day; the rate will depend on the availability of barges, and the degree of interference by rain.

The Panama Railroad Company, as agent for the American-Hawaiian Company, is in charge of the stevedoring, and has between 45 and 50 men regularly engaged in unloading the *Alaskan*. When the *Columbian*, of the same line, was at Balboa, its cargo was unloaded on to the concrete wharf at a rate as high as 1,800 tons a day.

Operating Force Takes Charge of Gatun Spillway.

Effective Saturday, May 16, the operation of the Gatun Spillway was turned over to the Electrical Division by the Division of Erection. This is the first of the spillways or locks to be completed and placed in charge of the permanent operating organization.

Final Test Operation of Gatun Locks.

The first trial test of the control board of Gatun Locks, which consisted of a test lockage, was made on May 9, 1914, and was described in THE CANAL RECORD of last week.

As a final test of the control board and lock equipment, an actual lockage was made on Monday, May 11. Two vessels, the floating crane *A. La Valley* and the tug *Exotic*, were locked up from the sea to the lake. All operations were made from the control board. The time of the lockage was one hour and 12 minutes. The facility of operation showed the advantage of the system of remote control.

In the above lockage, the boats were under the motive power of the floating crane. On Tuesday, May 12, a lockage was made using the control board and towing the vessels by means of the towing locomotives. The vessels were a derrick barge and a scow, which were lashed together for towing, and were towed by locomotives Nos. 641, 642, 643, and 644. The lockage, which was from the lake to the sea, was completed in one hour and six minutes. This operation was not the first in which the locomotives were used, but was the first in which both the control board and the locomotives were used. The operation employed all the essential features of the system of towing and lock operation to be used at the locks and demonstrated the effectiveness of the system.

Operations of the Dredges in Culebra Cut.

Excavation in the Canal channel at Cucaracha slide is being carried on by pipeline suction dredge *No. 86*, in the center of the channel, near the south end of the slide; the dipper dredge *Gamboa*, working approximately opposite the center of the slide; and the dipper dredges *Cardenas*, *Chagres*, and *Mindi*, working on the north side of the slide. On Tuesday May 19, the channel at the slide had a minimum width of 140 feet, and a minimum depth of 30 feet, the surface of the water in the Cut being slightly below 85 feet above sealevel.

Ladder dredge *No. 5* is excavating at the base of the east Culebra slide, north of Gold Hill, and the ladder dredge *Corozal* is maintaining and deepening the channel at a point off Hagan's slide, approximately opposite the Culebra passenger station.

TEN YEARS OF CANAL WORK.

Tenth Year Closes with Practical Completion of the Canal, and Marks the Beginning of Use.

Ten years of American occupation of the Canal Zone were completed on May 4, 1914, the transfer of Canal property from the second French company to the United States having been effected on May 4, 1904. The three first years of the American occupation were devoted principally to preparation. Excavation in the Culebra Cut section, continued from the first with such equipment as was available, was not well under way on the American plan until the first part of 1907; and the only dredge at work up to May 20, 1907, was the old French ladder dredge *Mole*, maintaining the channel between the ocean and the steel wharf at Balboa.

The decade has seen the virtual completion of the Canal, and the beginnings of its commercial and naval use. During the past year, the sealevel channels have been opened to Gatun and Miraflores Locks; Gatun and Miraflores Lakes have been filled to normal height; Culebra Cut has been flooded; all of the locks have been operated repeatedly; and a number of vessels in the Canal service, as well as several rafts of piles under tow, have passed from ocean to ocean through the Canal.

Atlantic Entrance.

In the Atlantic entrance, a year ago, a barrier lay across the channel, about 1,000 feet north of Gatun Locks, to support a railway track connecting the west side of Gatun Locks, and Gatun Dam, with the east, or Panama railroad, side of the Canal. The track across this dike was taken up on September 2, 1913, and the pipeline suction dredges completed its excavation in October. Construction excavation in the Atlantic entrance channel was completed in December, and subsequent excavation in that section has been for maintenance, in the removal of silt.

Pacific Entrance.

Two dikes across the Pacific entrance channel were separating the sea from Miraflores Locks, a year ago. One of these, about a mile and a half south of the locks, was blown up on May 18, and the dredges proceeded to clear the channel to the second, which was about 5,000 feet south of the locks. The second dike was blown up on August 31, opening the channel to the lower guard gates of the locks, which had been closed on August 20. Dredges proceeded with the removal of the spoil, and on May 1, 1914, the Pacific channel was at full depth through all of its 8¼-mile length, with the exception of 8,000 feet. The excavation remaining to be done in this part of the channel, on May 1, 1914, included 511,444 cubic yards of rock and 1,535,048 cubic yards of earth.

Gatun Lake.

Filling Gatun Lake to final level began on June 27, by the closing of the sluice gates in the ogee of the spillway dam, by which the surface had been regulated around an elevation of 50 feet above sealevel. The surface was at that time 48.25 feet above sealevel. On August 1, it was at 54.4; September 1st, 60.6; October 1st, 66.2; November 1st, 72.6; December 1st, 82.2. On December 29, when the surface had attained an elevation of 84.8, one of the 14 gates of the spillway was opened to lower it to 84 feet, to prevent danger of overflowing at Caño saddle, No. 4, where the natural rim of the basin was as low as 87.4 feet above sealevel. The work of raising the saddle to 105 feet, by means of an earth embankment, was let to contractors, who began the task in December and have now practically completed it. Forces of the Canal Commission had completed in November a dike at the headwaters of Las Gauchas creek, half a mile east of Gatun, which was the only other point in the perimeter of the basin, exclusive of the site of Gatun Dam, which required raising. The surface of the lake has been maintained around 85 feet above sealevel since December.

Miraflores Lake.

Dry excavation of the channel between Pedro Miguel and Miraflores Locks was completed in September, and the formation of Miraflores Lake began on October 1, when the drainage culvert left in the ogee of the spillway dam during its construction was closed. The dam was built across a part of the Rio Grande subject to tidal inundation, and the culvert was closed when the water stood at about five feet above mean tide. On November 1, the surface of the lake was at 45.4 feet. On November 20, the surface had risen to 51.4 feet. Since that date, it has been controlled around a level of 50 feet, by letting water out through Miraflores Locks when necessary. This was resorted to in lieu of discharging at the spillway, on account of excavation in progress in the spillway discharge channel, which was completed in the latter part of April, 1914. On May 1st, 328,872 cubic yards remained to be dredged from the Canal channel in the lake.

Flooding Culebra Cut.

The flooding of Culebra Cut began on Octobr 1, when the pumping station at its north end, adjoining the dike at Gamboa, which had kept the waters of the Chagres River out of the Cut, was closed down, and water was admitted through the six 24-inch discharge pipes, formerly used for pumping drainage water out of the Cut. On October 10, when the surface of the water in the Cut had risen to 61.7 feet above sealevel, which was about six feet lower than the surface of Gatun Lake, the dike was blown up and the Cut became, hydrographically, a part of Gatun Lake. At this time the channel was blocked by the base of Cucaracha slide. Water was passed to the south end of the Cut by ditching, sluicing, and pumping, and even level on both sides of the slide was attained on October 28, at elevation 71.92 feet.

Excavation in Culebra Cut.

Steamshovel excavation in the lower levels of Culebra Cut ceased on September 11, the last shovel working at the base of Cucaracha slide to keep the tracks clear while equipment, used in other parts of the Cut to September 10, was withdrawn. Eleven shovels were then engaged for a while on the higher levels of the sides of the Cut. After the completion of minor tasks, four remained at the top of the east Culebra slide, and two on the west Culebra slide. One was withdrawn from the east side in November, the three others working there to April 1. Two shovels were operated on the west Culebra slide until the middle of December. They were withdrawn, but two others resumed excavation there on April 1, and are now at work. Total steamshovel excavation in the Culebra district in the year ending May 1, 1914, amounted to 4,771,411 cubic yards.

Dredge excavation in Culebra Cut began on October 23, at the bases of the east and west Culebra slides. Dredging at the base of Cucaracha slide began on October 26, and the principal work of the dredges since those dates has been in connection with these three slides. About nine dredges have regularly been employed in the Cut. Up to May 1, 1914, they had excavated 1,688,278 cubic yards from Cucaracha slide, and a total of 2,428,229 cubic yards from all parts of the Cut.

Hydraulic monitors, supplied with water pumped from Lirio Lagoon, which was formed by damming the upper Obispo River at a point near New Culebra station on the relocated Panama railroad, began excavating near the top of the east Culebra slide on June 17. A relay station on the east slope of Gold Hill, at elevation 425 feet above sealevel, was placed in service on November 6, to supply monitors which began cutting their way into the top of Cucaracha slide. These began the removal of material actually involved in the slide, in December. Up to May 1, 1914, the monitors of this plant had excavated a total of 1,251,494 cubic yards.

The following table summarizes the total excavation in the Culebra Cut section, by years:

May 1 to May 1	*Cubic Yards.*
1904-05	648,911
1905-06	1,250,570
1906-07	4,861,895
1907-08	11,285,217
1908-09	13,955,753
1909-10	14,886,427
1910-11	15,925,976
1911-12	16,448,513
1912-13	13,762,255
1913-14	8,451,144
Total	101,476,661

Lockages.

The first passage of a vessel through any of the Canal locks was effected at Gatun, by the passage of the tug *Gatun*, on September 26, 1913. The first passage of a vessel through Miraflores Locks was made on October 14, and the first passage through Pedro Miguel Lock on October 24. On these dates, only one side of each set of locks was in readiness for use—the west flight at Gatun and Miraflores, and the east flight at Pedro Miguel. The other flights have been completed since, and all have been used, interchangeably, for the passage of vessels.

The following table summarizes the lockages made to May 1, 1914:

Month	*Gatun*	*Pedro Miguel*	*Miraflores*
September	2	0	0
October	6	3	4
November	5	4	2
December	11	2	4
January	9	4	8
February	7	2	2
March	11	2	2
April	7	6	9
Total	58	23	31

One lockage was made at Pedro Miguel on May 3, bringing the total number, for all locks, to May 4, 1914, to 113.

The first passage of a selfpropelling vessel through the Canal from ocean to ocean was effected on January 7, by the derrick barge *Alex. La Valley*. Several barges, handled from place to place in the excavation, had been passed from ocean to ocean before this. To May 4, no vessel had gone directly through, in uninterrupted passage. The tug *Reliance*, which reached the Atlantic entrance on February 1, and had previously sailed from Colon to Balboa, via the Strait of Magellan, is the first vessel to have sailed entirely around the continent of South America by way of the Canal.

An auxiliary service separate from the primary function of a lock has been exacted from Gatun Locks, by dry docking in the upper level vessels which could not be handled conveniently at the Mount Hope dry dock, and for which the new and larger dry docks are not ready. Five submarine vessels were docked in the upper east chamber on March 9, and the ladder dredge *Corozal* was placed in the same chamber with them on March 17. The vessels were locked up to Gatun Lake on April 11.

Lock Construction.

The mass masonry for all the locks was practically completed in May, 1913. The concrete placed since that time has been reinforced, and principally in connection with the installation of operating machinery. The work at the locks, with the exception of backfilling and grading, was transferred to the First Division on October 15. The total amounts of concrete in the locks on May 1, 1914, were, as follows: Gatun, 2,068,830 cubic yards; Pedro Miguel, 928,267 cubic yards, Miraflores, 1,507,765 cubic yards. Following the completion of the heavy work, the mixing and handling plants were dismantled; at Gatun, one of the four cableways was left until January 26, for handling material to the west side of the locks after railway connection was broken; and at Miraflores, one berm crane was continued in service in the building of the spillway, and one other was left standing for general service in handling materials. It is now unloading Chamé sand, from barges towed to the southeast wing wall.

Lock gates—A year ago, the gates at Gatun and Pedro Miguel were about 95 per cent completed, and those at Miraflores, 78 per cent. All gates were completed at Gatun on January 19, 1914; at Pedro Miguel, on January 3; and at Miraflores, on January 17. On January 23, the McClintic-Marshall Construction Company, contractor for the fabrication and erection of the gates, shipped to the United States the last of its Isthmian equipment which had not been purchased by the Canal Commission.

Gate operating machinery—Of the 92 miter gate moving machines, six had been installed at Gatun, and two at Pedro Miguel, on May 1, 1913. During the past year, all the mechanical and 98 per cent of the electrical installation on these machines was completed. One miter gate forcing machine was in place a year ago; the remaining 45 have since been completely installed.

Water control valves—All of the 116 rising stem gate valves, of which 86 had been placed a year ago, have been completely installed, tested, and accepted; and the same is true of the 120 cylindrical valves and 12 auxiliary culvert valves, of which 109 and nine, respectively, were in place a year ago.

Emergency dams—Of the six emergency

dams, the first was swung across the east approach at Gatun Locks, for test, on May 3, 1913. The last one, on the west side at Miraflores, was accepted in January, and the organization for the supervision of this work was discontinued on January 31. The emergency dams contain a total of approximately 14,000 tons of steel.

Chain fenders—Of the 24 chain fenders, one had been installed a year ago, at Gatun. On May 1, 1914, 10 machines for Gatun Locks, 10 for Pedro Miguel, and four for Miraflores, with parts of other machines, had been received. At Gatun, mechanical installation is about 50 per cent complete; at Pedro Miguel, 47 per cent; at Miraflores, 24 per cent. Of the 24 chains, two have been delivered to date.

Towing locomotives—Tests were conducted on the sample towing locomotive No. 640, between February and May, 1913.

The contractor presented an alternative design when tenders were originally called for, but thorough investigation showed that there were many requirements of the service that were not covered by this design, and, therefore, the award for the sample machine was made on the Canal Commission's design. After the test of this sample locomotive, it was found desirable to incorporate several features that were not in the original design of the Commission or in the design as presented originally by the contractor. The Commission engineers, with an engineer of the contractor, worked up these changes on the Isthmus, based on experience in testing the trial locomotive, and contract was made accordingly. The first of the accepted type, No. 641, arrived on the Isthmus on January 27, 1914, and was installed on the west side of the center wall at Gatun Locks. To May 1. six were in place at Gatun, three at Pedro Miguel, and four at Miraflores, leaving ten to be placed at Gatun, five at Pedro Miguel, and 16 at Miraflores. The first use of the locomotives in handling vessels through the locks, was made on April 1, at Gatun. On April 9, three were used for the first time at Pedro Miguel, in towing a raft of piles. Track installation, with and without rack, is about 99 per cent completed at Gatun, Pedro Miguel, and Miraflores.

Transformer rooms—The installation of transformers in the transformer rooms of all locks has been completed. Of 2,618,241 linear feet of cable ordered for the galley ducts of the locks, about 99 per cent had been delivered to May 1, 1914. Of the above cable, 1,082,187 feet had been pulled into the ducts at Gatun, and 1,119,923 at Pedro Miguel and Miraflores. The total cable pulled at all locks, hydroelectric station, spillway, Pedro Miguel and Miraflores transmission line, and Gatun duct line is 2,202,110 feet, or about 85 per cent of the quantity ordered.

Lamp posts—Of the 208 lamp posts at Gatun Locks, all but one are in place, 83 having been placed during the past year. All of the 130 posts at Pedro Miguel are in place, all having been erected since May 1, 1913. At Miraflores, out of a total of 168, of which none had been erected a year ago, the following is the status: 101 with single arms, and 60 with double arms have been erected, leaving seven double arm posts to be erected. Material has been ordered for a telephone system by which talking connections may be made from any lamp post to the control house, at each lock.

Control houses—The erection of the concrete control houses, situated on the center walls, was begun at Gatun and Pedro Miguel in June, and at Miraflores in July. 1913. The houses at Gatun and Pedro Miguel have been completely finished except the placing of windows, doors, and monitors, and that at Miraflores except placing tile roof, windows, doors, and monitors. A test of lock operation under the remote control was made at Pedro Miguel on March 28, and the system for Gatun Locks was about ready for test early in May. At Miraflores, the instruments and switches are in place, and the work of erecting and connecting the main control board is about 70 per cent completed.

Dams and Spillways.

Dams—Dry filling on Gatun Dam, for which the hydraulic fill had been completed in September, 1912, was finished on December 15, 1913, having been in progress since 1907. Additional dry fill has since been placed for grading the surface; the total fill on May 1, 1914, was: Wet, 10,728,965 cubic yards, dry, 12,195,017 cubic yards, a grand total of 22,923,982 cubic yards. The fill for Pedro Miguel Dam, all dry, was completed in August, 1913, a total of 695,938 cubic yards having been placed. Dry fill for Miraflores Dam was completed in February, 1914, and amounts to 1,758,423 cubic yards; the wet fill, 661,048 cubic yards, had been completed in December, 1911.

Spillways—On May 1, 1913, concrete work for the Gatun Spillway was 97.3 per cent completed, and one spillway gate had been installed. Mechanical installation of the 14 gates and their operating mechanism was completed on September 25, and their operation under remote control, from a switchboard in the hydroelectric station, was tested satisfactorily in February. Work of raising the crest of the levee along the east side of the discharge channel, reaching to the Mindi Hills, and of riprapping its water side, was begun in December, and occupied several months.

Concrete for the Miraflores Spillway, of which one-fourth had been placed a year ago, was completed on August 27, and on August 30 the last of the eight gates was lifted into place above the ogee, ready for adjustment to the bearings between the piers. Mechanical installation of the gates was finished in September, and electrical installation is now about 85 per cent completed. The spillway gate nearest the locks was opened early in April. A new pile trestle, about 600 feet long, over the discharge channel, for the track connecting the east side of Miraflores Locks with the Panama railroad, was completed on March 30; the work of grading the approaches to this trestle is still in progress.

Electrical Supply.

The hydroelectric station at Gatun, excavation for the foundations of which was about half done a year ago, and for which 2,730 cubic yards of concrete had then been laid, is now practically finished, only odds and ends of final work remaining to be done. The turbogenerators are undergoing tests, and it is expected that the station will be placed in service this month, relieving the steam plant at Gatun.

Excavation for the substations at Gatun and Miraflores was begun in November. Foundation work for the Cristobal substation, on a fill made for the purpose, began in March, and 600 timber piles were driven. Excavation for the Balboa substation began on May 1, 1914. The steel framework for the buildings at Gatun, Miraflores, and Cristobal has been completed, and the erection of the walls, of hollow concrete blocks, is under way at Gatun and Miraflores. Approximately 80 per cent of the electrical equipment for the four stations has been received from the United States, and installation at Gatun will begin shortly.

For the transmission line of this system, construction of foundations began approximately one year ago, at New Culebra. The delivery of anchor bolts began in July, and at about the same time forces of the United States Steel Products Company began the assembly of the track-span bridges, in a shop at Gatun. The five first assembled bridges were delivered to the Canal Commission forces on September 22, and erection began on the same day; 161 foundations had been placed to that date. To May 1, 1914, all but 11 of the 917 bridges, weighing approximately 5,000 tons, had been placed, and the three conductors and one ground wire on each side were strung between Mount Hope and a point opposite the former settlement of Diablo. The part of the line on the west side of the railroad between Gatun and Mount Hope was placed in service at 6,600 volts on March 29, and the corresponding section on the east side, at 2,200 volts, on April 15. A section between the Miraflores power plant and Paraiso was placed in service in April, connecting with the Gold Hill line.

The laying of underground duct lines, for local distribution in this system, was begun in April, with the line between the Hotel Tivoli and the new administration building.

Aids to Navigation.

From May 1, 1913, to May 1, 1914, the following work was done by the lighthouse division:

Atlantic section—The caisson foundation for the west breakwater light was towed from the inner end of Limon Bay, where it had been temporarily sunk, to the west breakwater, where it was sunk on its permanent site. When the caisson was practically sunk in position, the riprap foundation under it failed, and it slid into deep water. Work of raising the caisson has been in progress.

Four gas buoys were placed temporarily to mark the channel in the Atlantic entrance, and one was placed on the 22-foot shoal in the Colon harbor approach. All of these are in operation and show flashing acetylene lights.

Beacons Nos. 1, 2, 3, and 4, marking the channel from Limon Bay to Gatun Locks, were completed and are ready for the permanent light installations.

Electric pole lines were constructed from Gatun Locks to Limon Bay on the east side of the Canal, and from Mindi P. I., to Limon Bay on the west side; and from the Panama railroad to beacon No. 3.

Gatun Lake section—Range towers Nos. 4, 6, 8, 10, 12, 22, 27, and 28 were practically completed, thus completing all the 32 range towers to be used in the system of lighting the Canal.

Beacon No. 28, lake section, was completed, and the foundation for beacon No. 11 was constructed.

Acetylene gas lighting apparatuses were installed in range towers Nos. 7, 8, 9, 10, 11, 12, 17, 18, 21, 24, and 25, and certain of these were put in operation for the use of the dredging fleet. Electric pole lines were constructed from the transmission line, at Gamboa, to range towers Nos. 25 and 28.

Nineteen of the gas buoys, which will mark the channel through the lake region, were placed on their stations.

Culebra Cut section—Beacons Nos. 1, 2, 3, 4, 5, 6. 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 25, 27, 28, 29, and 30, were completed, and the foundations for Nos. 8 and 24 constructed. These beacons will be electrically lighted and for that purpose a pole line has been constructed from a point opposite Bas Obispo to Pedro Miguel, on the east side of the Canal, and the line to extend from Pedro Miguel to Bas Obispo, on the west side, was completed from Pedro Miguel to Contractor's Hill.

A trench containing four ducts embedded in concrete, to carry electric transmission lines across the bottom of the Cut at Bas Obispo, was constructed and one cable was pulled.

Pacific section—Six gas buoys were placed on their stations, and put in operation, to mark the channel in the Pacific entrance.

An electric cable was laid from the Miraflores power station to range towers Nos. 12 and 13, and temporary lights put in operation for the use of the dredging fleet.

Material for completing the gas generating and compressing plant at Balboa, in order that gas accumulators (tanks) may be charged at that plant, for range towers, beacons, and buoys, was installed.

Office—A sailing chart, on a scale of 1/20,000 in two sections, known as Charts Nos. 1 and 2, of the Panama Canal, each section measuring 56 inches by 72 inches over the border, and containing all the principal features embodied in standard navigation charts, was prepared and sent to the United States, where it is being photolithographed and printed in colors, on a scale of 1/40,000.

Floating Caissons.

The floating caisson for the Miraflores Spillway was completed on May 31, 1913. That for the spillway of Gatun Dam had been completed in the preceding February. Both were erected by the McClintic-Marshall Construction Company.

The keel for the first lock entrance caisson was laid on February 5, 1914, at the yards of the contractor, the Union Iron Works, of San Francisco. Since that time, the assembly of about 40 per cent of the 1,100,000 pounds of steel, and the riveting of about 30 per cent of the structure have been completed; over 55,000 rivets have been driven. Of the 115 drawings covering all the structural work and fittings, 105 have been checked and approved. Delivery of this caisson at the Pacific entrance is expected in September of this year.

Breakwaters.

Filling on the Naos Island breakwater and the west breakwater in Limon Bay, the trestles for which were finished in the latter part of 1912, has continued throughout the past year. The first quarter-mile of the Naos Island breakwater, from the fill off East Balboa, kept sinking and slipping, and on October 7 the dumping of large rock along this part was begun, from a quarry at Sosa Hill. This method was effective in making the fill stable. Sufficient large rock being available from the excavation for the dry docks of the Balboa terminals, the Sosa Hill quarry was closed on March 16, and one of the steamshovels formerly engaged in it was then transferred to the dry dock site, where four others were at work. To date, over 2,000,000 cubic yards of spoil have been dumped on this breakwater, and it is now at approximately final grade and elevation.

On the west, or Toro Point, breakwater in Limon Bay, the total fill to May 1, 1914, was 1,944,285 cubic yards. Practically all of the work done on this breakwater in the past year has been in armoring. This has been so far advanced that the quarry at Porto Bello was closed on April 30, 1914. The quarry will be left in such shape that it may be reopened later, if necessary.

Construction on the east breakwater began in October, 1913. Work has been delayed by late arrival of piles, one cargo of which was burned at sea in November. The steamship *Thor* arrived at Balboa on March 22 with a second cargo, most of which has been towed in rafts through the Canal and across Limon Bay to Coco Solo Point. These piles are now being driven, under double shifts. A considerable amount of preparatory work, including the excavation of a small harbor at Coco Solo, the erection of small shops and storehouses, and the laying of yard tracks and track connections with the Panama railroad at Mount Hope, has been accomplished, and it is expected to begin the dumping of rock in June. The first rock will be taken from the Sosa Hill quarry. A test run of 21 loaded dump cars from Balboa to Cristobal, was made on April 6; 630 Lidgerwood flat cars, retired from Canal excavation, will be overhauled for use in this service. The repairs will be made at Balboa shops.

Terminal Facilities.

Award for the machinery for the coaling plants at both ends of the Canal was made on August 22, and a 700-foot extension of the previously proposed plant for the Atlantic entrance was authorized at the same time.

Farms for fuel oil storage tanks have been surveyed in available areas at both entrances; studies have been made of the type, size, and arrangement of equipment to be adopted; specifications have been prepared for the fuel oil pumping plants; and preliminary study has been made of a gasoline storage plant. Two 40,000-barrel tanks for the Government were completed at each entrance. Construction of the fire walls was begun in April. Numerous applications from private organizations for fuel oil and coal storage concessions have been received.

Atlantic end—The 1,000-foot steel and concrete pier No. 8 of the Panama railroad, a part of the permanent terminals at Cristobal, was placed in commercial use in February; the concrete wharf, No. 9, flanking Roosevelt avenue, had been in part service since January, 1913. The outer end of this wharf, and the wharf, No. 10, connecting it with the old Pier 11, have been practically completed. The Panama Railroad Company cancelled on March 5 the contract of the Central American Construction Company, Limited, dated June 30, 1913, for the erection of the steel sheds on Nos. 9 and 10. This work had been begun by the contractor in October. The construction of an additional pier, generally similar to No. 8, to be situated about 300 feet beyond the latter, and known as pier No. 7, was authorized on December 22, and borings on the proposed site for it began immediately afterward. The dredge *Caribbean* removed 173,538 cubic yards of spoil from the proposed slip between these piers and from the site of pier No. 7 during the month of April. The mole from which the piers project has been extended 873 feet, making its total length of 4,958 feet.

Preparations of the coaling plant site have included dredge excavation, and wet and dry filling, at the north end of Mindi Island, across the French canal from Cristobal. Piles to support the superstructure of the plant have been stored on the island, close to the site. Construction of a steel swing bridge over the French canal, half a mile south of the dry dock, for rail connection with the plant, was begun in January, with the driving of foundation piles. The superstructure and operating mechanism are to be installed by the American Bridge Company.

Pacific end—The sinking of caissons for the landward extension of the quay wall, from the inner end of the 656-foot portion, known as the lumber wharf, which was completed on February 6. 1912, and placed in commercial service on July 13 of the same year, was advanced to the outer toe of the abandoned Sosa Dam in June, 1913. The superstructure of this extension, to the head of the slip, was completed in December, and that of the 300-foot section, at right angles to this and reaching to the land end of Pier No. 1, has been completed, with the exception of the brick paving. The laying of concrete in the superstructure of Pier No. 1, the only new pier authorized under present plans, began in March. The timber sand wharf, at the outer end of the lumber wharf, was demolished in February, and the sinking of caissons for an extension of the quay wall over this area is in progress.

Excavation for the dry docks and entrance basin, and coaling plant, which began on January 1, 1913, was eight per cent completed a year ago, the total excavation to that time having been 111,246 cubic yards. During the past year, steamshovels have removed from the site 913,421 cubic yards, bringing the excavation to 73 per cent of completion, and leaving 373,324 cubic yards yet to be removed. This is in addition to the future wet excavation of the cofferdam, which was built alongside the site in July, August, and September. Excavation for the coaling pocket was carried to grade in March, and the placing of concrete for the side walls was begun in February. Part of the material was delivered for two steel gates, 55 feet high by 65 feet long, for the dry dock No. 1, contract for which was let in October, 1912, to the McClintic-Marshall Construction Company.

Shops.

A year ago, the superstructure of only one of the 28 buildings of the permanent shops at Balboa had been begun. This was for building No. 8, the planing mill, work on the foundations for which had begun in November, 1912. The first of the cement tile roofing was laid on this building, beginning June 18. On July 7, the planing mill at Gorgona shops was closed and the moving of its machines to the new building at Balboa was begun; the new mill was in active operation before the end of the month. The shipment of roofing to the terminals from the manufacturing plant at Paraiso was finished on December 22. Erection of the last of the mill-type buildings to be completed, building No. 9, the galvanizing plant, was completed in March. The only buildings yet to be erected are two small toilet houses and No. 28, the office building, which will be built of hollow concrete blocks. Foundations for this building were completed on March 5, and the erection of its steel framework is now practically completed. Standard-gage track connections have been laid throughout the shop area.

With the rise of Gatun Lake, the closing and removal of the shops at Gorgona was made necessary. The moving began on July 7 and was completed in the last part of August. The planing mill and foundry were transferred direct to Balboa, and the other work was distributed between the shops at Empire and Cristobal. The first "Blow" of steel at Balboa was made on September 5. The Empire shops resumed their former activity from September 1 to February 1, when the transfer of men and machines to Balboa was begun. The office of the superintendent and the clerical, drafting, and planning forces were transferred to Balboa on February 24. The transfer of Canal car and locomotive repair work began on March 15, and of the instrument repair shop early in May, both being now completely installed at Balboa. The only work now in progress at Empire shops, with the exception of the operation of the electric and air compressor plant, and the hostling of a few locomotives, is a slight amount of steamshovel dismantling, and the completion of the moving of the Quartermaster's store.

The transfer of Panama railroad car and locomotive repair work to Balboa began in March and was completed the same month. The Mechanical Division took charge of the roundhouse at Cristobal, and the engine house in the Panama yard, on April 1.

The transfer of the former dredging division shops at Balboa to Balboa shops was completed on January 2, and the shipways have been demolished.

The shops at Paraiso were reopened on November 1, for service in connection with the dredging operations. Two air compressors, for local use, were transferred there from Miraflores Locks, and placed in operation on April 20.

Buildings.

With the abandonment of Gorgona and Matachin, the buildings in serviceable condition were transferred to other villages, notably Corozal, Ancon, and Balboa. The transfer of quarters from these villages began in March, 1913, and was completed in August. About 600 natives living in the vicinity were transferred, through the cooperation of the Canal Commission, the Panama railroad, and the Government of Panama, to a site about 40 miles down the Bay of Panama, which was formally dedicated as *Gorgona Nueva* (New Gorgona) on December 30.

In line with the completion of work in the vicinity, and the general movement of activities toward the south end of the Canal, some of the quarters in Bas Obispo and Las Cascadas have been transferred to the villages at the Pacific end. The assignment of family quarters in Bas Obispo and Las Cascadas was discontinued in September, but the Chief Quartermaster has allowed employes of the Dredging Division to occupy quarters at Bas Obispo, without the usual privileges. Camp Elliott, occupied by a battalion of the United States Marine Corps, most of which sailed for Mexico on January 21, and the remainder on March 27, has been consolidated with the village of Bas Obispo.

Instructions were issued on January 27 to cease the assignment of family quarters at Culebra and Empire, and the transfer of quarters from these villages, and also Gatun, to the south end of the Canal is under way.

The settlement at Diablo, with the exception of two privately owned houses, was demolished in February, the buildings being transferred to La Boca.

All quarters of United States employes in Colon and Cristobal were consolidated under one district on August 1, and general repair of the Panama railroad quarters was begun.

Erection of the first quarters of the permanent type, with walls of hollow concrete blocks, was begun at the new town of Balboa on January 5, with 20 4-family houses, which are now nearing completion. Authority was granted early in April for the erection of 10 additional 4-family, 30 2-family quarters, and two buildings of the permanent type for bachelors' quarters, and the foundation work for these has been begun.

A permanent town for silver employes, to be known as La Boca, situated on the fill between Sosa Hill and the Canal, was laid out in July, and its occupation began in December.

Municipal work for the permanent village of Pedro Miguel was begun in November and completed in the latter part of April. The commissary, clubhouse, and fire and police stations of Gorgona were transferred to Pedro Miguel.

The manufacture of hollow concrete blocks for use in the walls of permanent buildings was begun at Corozal on November 10, a plant containing 12 machines for the process having been installed in the west side of the cement storage shed. The plant has been turning out blocks of several sizes at the rate of about 2,300 in every 8-hour shift; a day and a night shift are employed. The total output of blocks to May 1, 1914, was 580,000.

The erection of the steel framework for the permanent administration building, overlooking the new townsite of Balboa, was begun in June, 1913. The laying of the roof was begun on February 10, and the building is now nearing completion.

Water Supply.

The new rapid mechanical gravity filtration plant for Colon and Cristobal was placed in use on February 24. It has a capacity of from 6,000,000 to 7,000,000 gallons daily. A 20-inch pipeline from the Brazos Brook reservoir to this plant had been completed in September. All work on the tunnel through the Quebrancha divide, for furnishing an auxiliary supply to the reservoir from Gatun Lake, was completed in June, and the valves were first opened on November 17.

Work was begun in August on a plant for pumping and purifying water from Miraflores Lake, and for a system of distribution along the south end of the Canal. The transfer of pumps from the Cocoli reservoir to the temporary pumping station on the edge of Miraflores Lake was completed on October 18, and the use of lake water, in conjunction with the supply from the Rio Grande reservoir, was begun on October 19. The 300,000-gallon wash tank for the new filtration plant was completed in February, and the filter building is now about 25 per cent completed. A new high pressure reservoir on Ancon Hill was begun in August, 1913, and completed on April 20, 1914. This gives a storage of 2,500,000 gallons. The laying of a new 30 inch main from the purification plant to the foot of Ancon Hill has been practically completed, and the construction of a new pumping station, at the foot of the hill, near the new administration building, is in progress and is 60 per cent completed.

The pumping station at the south end of the Chagres River bridge of the Panama railroad, for supplying water to Bas Obispo, Las Cascadas, and Empire, was continued in operation. The rise of Gatun Lake made necessary its being moved to a higher elevation.

Panama Railroad.

The rise of Gatun Lake necessitated the removal of the old main line of the Panama railroad between Gorgona and Bas Obispo, which was completed in the early part of October. The permanent main line on the east side of the Canal between Gamboa and Pedro Miguel was placed in service for Colon-Panama passenger trains on September 2; it had been used by through freight trains since May 25, 1912. The final grading of the embankments across the Brazos and Quebrancha bottoms, in the Gatun River valley, was begun early in August and completed on October 30. The installation of the bascule bridge over the Gatun River was completed in November. Erection of a steel wagon bridge alongside the Chagres River bridge was begun in February and is now practically complete. Excavation of a bank between mileposts 37 and 38, liable to slide, was carried on by task work, throughout the year. The embankment through Miraflores Lake was riprapped with large rock in March. A new route south of Diablo, by which trains are to run to Balboa before reaching Panama, has been surveyed and is now undergoing final grading. A connecting double track was laid from Panama to the proposed site of the Balboa passenger station.

A branch line service has been maintained since September 2 between Panama and Bas Obispo. A pontoon barge for a permanent crossing of the Canal, built by Canal forces, was constructed alongside the French canal at Mount Hope, and launched on March 25. It was towed to Paraiso on March 27, and the erection of the trestle was begun on April 2. Final adjustments for service were begun on May 4.

Automatic signals were placed in service between Caimito and Pedro Miguel on April 15, giving continuous service between the latter station and Colon. The laying of a transisthmian 4-way duct line, for telegraph and telephone cables, was begun on April 14, at Gamboa, and is now in progress.

The new passenger station at Panama was placed in regular service, for both first and second-class passengers, on November 16. The demolition of the old station had been completed on September 27. Sites have been selected for new stations at Balboa and Paraiso. The stop at Diablo was abolished on January 17, and Miraflores was made a flag station in March.

Radio Stations.

Erection of a temporary radio station at Balboa, begun by forces of the Marine Corps on February 10, was completed by them in June. This station, like the Colon station, was opened to commercial service, both having wire connections with the Panama railroad telegraph. The location of the new permanent stations at both Balboa and Colon, to use 300-foot masts, has been decided, and the construction of the foundations is under way.

Bids for the erection and equipment of the high power station at Caimito, now known as Darien, were opened on May 10, 1913. Contract for furnishing the equipment was awarded to the Federal Telegraph Company, and that for the erection of the 600-foot towers to the Penn Bridge Company The locations for the buildings were staked out in October, and the operators' quarters have been completed. The first shipment of steel for the towers is expected to arrive in the near future, and erection is to begin immediately afterward.

New Equipment.

Contract for two floating cranes of 270-tons capacity was awarded in May, 1913, to the Deutsche Maschinenfabrik Actiengesellschaft, of Duisburg, Germany. The pontoons for both cranes were completed in April, and the erection of the steel above deck is well under way. Delivery of the cranes at the Atlantic entrance is expected by January 1, 1915.

The first of two new 15-cubic yard dipper dredges, ordered from the Bucyrus Company, of South Milwaukee, Wis., in January, 1913, sailed from Port Richmond, N. Y., on February 17, 1914, under tow, and arrived at Colon on March 15. This dredge, the *Gamboa*, was placed in work at Culebra Cut on April 3, its assembly having been completed alongside the wharf at Paraiso. The second dredge, the *Paraiso*, sailed from Port Richmond on April 26 and is now at sea.

Contract for six steel dump barges, each of 1,000-cubic yards capacity, to be used in connection with the large dipper dredges, was let in May, 1913, to the Maryland Steel Company, of Sparrows Point, Md. Two of the barges arrived at Colon on December 18, two on January 30, and two on March 25.

Bids for four, and for two, steel tugboats, for service in handling and docking vessels at the entrances to the Canal, were opened at the Washington office on March 23. The bids were forwarded to the Isthmus for recommendation; to May 4, award had not been made.

Two colliers, authorized in an Act of Congress dated June 23, 1913, were contracted for in April from the Maryland Steel Company. These vessels, each to have a capacity of 12,000 tons of coal, will be used to haul coal from the United States to the Canal coaling plants.

Depopulation of the Zone.

The work of removing the inhabitants from the Canal Zone, and of acquiring title in the United States to all lands in the Zone, in accordance with Articles VI and XV of the Treaty of February 26, 1904, between the United States and Panama, has been continued throughout the past year. During this period, the entire native towns at Gorgona, Matachin, Gamboa, Santa Cruz, Cruces, Juan Mina, Bas Obispo, Las Cascadas, Cerro Gordo, Cerro Salado, Cartagenita, Spanishtown (at Paraiso), Mandingo Llano, Pedro Miguel, and Miraflores have been removed. The native settlements yet remaining in the Canal Zone are at Mount Hope, Majagual, New Gatun, Empire, Culebra, and a small settlement, Sweetwater, on the west side of Limon Bay, near Toro Point. Outside of the townsites named, and with the exception of several special cases, the west side of the Canal has been cleared between the Atlantic entrance and the Cocoli River, which is approximately opposite Miraflores Locks, and on the east side, the clearing is complete beween Gatun and a point opposite Empire. In addition, the watersheds of the Caimitillo, Cameron, and Dominica Rivers, on the east side of the Canal and tributary to Miraflores Lake, have been cleared of inhabitants during the past year.

In the year ending May 1, 1914, the Department of Law settled 1,928 claims, for $147,978.50. These are in addition to the settlements made by the Joint Land Commission.

Division of Operation.

Since April 1, 1914, a Division of Operation has been making ready for the active commercial operation of the Canal. A Board of Admeasurement has been formed, and measurers are being trained for the calculation of tonnage of vessels, according to the rules prescribed in the Proclamation by the President, of November 21, 1913. Examinations for pilots have been held, and two pilots to be stationed at the Atlantic end, and one for the Pacific end, have been appointed; and a list of applicants is on file, in readiness for an increase of the force as soon as desirable. Captains of the ports of Cristobal and Balboa, appointed on April 1, have been assuming the control of navigation at the ports, and preparing systems of signals, etc., to be used when the Canal is opened to operation. Plans for operating the Canal, including a system of signals, have been devised for keeping track of vessels in transit through the Canal, and for controlling their movements. The first signal station will probably be built in the near future at Gamboa.

Organization.

Changes have been made in the organization during the past year in accord with the advance of the work toward completion. A Division of Municipal Engineering was created on July 16, 1913, to take over all municipal engineering work of the Department of Civil Administration, and of the Atlantic, Central, and Fifth Divisions, with the exception of the pumps and pipelines used in construction work in Culebra Cut. The Central Division, whose greatest work was the excavation of Culebra Cut, was abolished on October 10. The remaining steamshovel work was transferred to the resident engineer formerly in charge of the division, and the transportation was assigned to the Second Division. The Atlantic and Fifth Divisions were abolished on February 1, their remaining work being divided between the Second and Fourth Divisions. Beginning February 1, the former Sixth Division has been designated the Dredging Division.

The Isthmian Canal Commission ceased to exist on April 1, in conformance with provisions of the Panama Canal Act of August 24, 1912; an Executive Order placing the law in effect on April 1, was signed on January 27, 1914. The Canal Commission was succeeded by The Panama Canal, and all employes, except the relatively few whose service was terminated on April 1, were transferred directly to the new organization. The Panama Canal comprises a Department of Operation and Maintenance, a Purchasing Department, a Supply Department, a Health Department, an Executive Office, and a Washington Office. These departments will exist in the permanent organization.

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The District Attorney has been directed to take steps to cause the removal of the native inhabitants in the vicinity of the Palo Seco leper asylum. This action is taken in order to prevent mosquito breeding around the shacks they now occupy.

PORTO BELLO QUARRY CLOSED.

Operations Began in 1907.—Crusher Closed Two Years Ago.

The closing down of American operations at Porto Bello was completed on May 13, when the tug *Mariner* brought to Cristobal the last of the employes returning to the Canal Zone. Silver laborers to the number of about 100 were residents of the native town, and they will remain there, taking up some local means of subsistence. As the *Mariner* passed out of the historic harbor, a line of signal flags strung between its masts spelled, in the international code, "The last of Porto Bello." A gasoline launch, harboring at the native town, dipped the flag of Panama flying at its stern, and with its return salute the *Mariner* signalized the end of the American occupation.

The Canal clubhouse and several quarters, and laborers' barracks will be demolished at once and transferred to La Boca. The quarry equipment and the remainder of the buildings will be left, in the care of watchmen, pending the possibility of the resumption of operations in the quarry, in connection with the building of the east breakwater in Limon Bay. The radio station equipment, in service since December 31, 1909, sent its last message on May 13, and was left intact for possible future use.

The preliminary work for the establishment of the quarry at Porto Bello was begun in 1907. Sanitary work began on March 2, 1908, and the 27,000,000-gallon reservoir for the settlement was completed in May of that year. The actual opening of the quarry began in April, 1908. Ten 42-inch gage, 40-ton locomotives were delivered there in November, 1908, and the crushing of rock, by eight crushers, with a capacity of 2,400 cubic yards a day, was begun on March 2, 1909. When the barge service to Gatun was well established, the crushers were operated 16 hours a day; but upon the installation of an additional crusher, capable of handling large rock, on September 6, 1909, the output was so increased that the working time was reduced to 12 hours. In January, 1911, the day was cut to 10 hours, and on February 16, to eight, at which it remained until the closing of the crusher plant, on April 30, 1912. The crusher plant made its best 8-hour record, 3,737 cubic yards, on March 15, 1911. Its maximum monthly output was 87,109 cubic yards, in March, 1911; an average of 403.3 cubic yards per hour of total time.

When the crusher was closed, it had crushed approximately 2,000,000 cubic yards, used in the locks and spillway at Gatun, and in auxiliary concrete and municipal work in the Atlantic section. At that time, 170,000 cubic yards of rock were stored in the stock pile on the west side of Gatun Locks. This was cleaned out in the early months of 1914.

During the height of operations, seven steamshovels were used at the quarry, and the employes numbered about 900, of whom approximately 140 were white men.

Since the closing of the crusher, the quarry was worked exactly two years, to supply large rock for armoring the fill at the Toro Point breakwater. During that time, 456,652 cubic yards of armor rock were towed to Limon Bay and placed by locomotive cranes and derrick barges. The total output of rock from the quarry has been 2,378,231 cubic yards.

SOCIAL LIFE OF THE ZONE.

Ladies' Aid Society Suspends Activities.—General Notes.

The Ladies' Aid Society of the Union Church, Cristobal, held its final meeting for the year in the church on Tuesday afternoon, May 12. The program feature for the day was an informal address by Mrs. Martha S. Gielow, founder and vice-president of the Southern Industrial Education Association, who told of the association's work among the children of the Southern Appalachian Mountains and the remote rural districts of the South. At the close of this address, the Ladies' Aid voted $10 to the association for its work. The ladies' aid society entered into three months' vacation with this meeting, the officers holding over until the resumption of meetings in September. A program committee was appointed to outline the work for the coming year and to present such outline at the first meeting in September. This meeting marked the close of the fifth year of the society, the organization having been formed on May 6, 1909. The meetings have been held monthly from May to September in each year. Missionary studies have been pursued, and papers have been read on work in various missionary fields in Alaska, Korea, Costa Rica, Cuba, China, Hawaii, and the Philippines. Among the speakers for the past year have been Miss Annie Coope, missionary to the San Blas Indians, Mrs. Thomas Edwin Brown, Jr., Mrs. Numa Nunn, Mrs. Charles A. Hearne, Mrs. Carl H. Elliott, Mrs. Stephen Witt. Miss Mum, a nurse of the Colon Hospital staff, gave a first aid talk with practical demonstrations of emergency bandaging. Mrs. Grimes of the Salvation Army Institute in Colon spoke on the work of the army at the present time. The society has twice prepared and sent garments for babies to the city missions of New York City, and donations of money have been made for missionary work in the aid of individual missionaries. At the close of the year, there were 42 names on the society roll.

Junior Clubs in Colon.

Six junior clubs have been formed in Colon with a total enrollment of 72 boys and girls. There are four clubs of girls and two of boys. The object of these organizations is to further the spirit of social intercourse in the right way among the neighborhood boys and girls, and to hold competitive games, and debates and discussions on current events. Each club has its own officers, a president and a secretary-treasurer. Meetings are held in the Cristobal clubhouse twice a month. The clubs are designated by initial letters, the names of the organizations being kept secret, and members pledged not to disclose them. Each club has its own pennant and pin. The membership of each organization is limited to 13. Since the organization of these clubs in March, the activities have been 12 bowling contests, farewell lunches and suppers, given by the girls to department members, and debates. Two debates now in the course of preparation are on the following subjects: 1. Resolved, That winter is better than summer. 2. That iron is more valuable than gold.

The library of the Ancon Study club has been removed to the residence of Mrs. T. C. McDonald, house No. 248, Tivoli district, where members and subscribers may draw books in accordance with the rules of the library. There will be a Memorial Day program at the meeting of the club on Thursday afternoon, May 28, at the Hotel Tivoli, after which the club will enter upon a short recess.

The Pedro Miguel Dancing Club will hold its regular dance at the clubhouse on Saturday evening, May 23, instead of May 16, as announced in THE CANAL RECORD of last week.

A special meeting of St. Luke's Altar Guild will be held at the home of Mrs. Charles F. Mason on Tuesday morning, May 26, beginning at 9 o'clock. The next regular meeting will be held at the residence of Mrs. Joseph Bucklin Bishop on Tuesday morning, June 2, at 9.30 o'clock.

The junior auxiliary of St. Luke's Hospital chapel, Ancon, is meeting weekly. On the first and third Wednesdays in each month, the mission study class meets in the Sunday school room in the chapel from 4.30 to 5.30 p. m., and on the second and fourth Wednesday afternoons in each month the club meets in Ancon hall at 4.30 o'clock for practice in physicial culture. Miss Louise Dexter has been elected president of the auxiliary, vice Miss Hazel Cummings, who has left the Isthmus. The club has three committees: Outlook, visiting, and house. Study books have been sent for and a set of books suitable for mission study or reading for adults will soon be placed in the Sunday school library. Miss Julia Heald has been appointed librarian in the place of Mrs. Luce, who has removed from Ancon.

Changes in Sightseeing Service.

Effective Sunday, May 24, the sightseeing train of the Panama railroad, which was put into operation on February 5, 1912, will be discontinued.

Effective Monday, May 25, the Panama railroad will operate the launch *Louise* through Culebra Cut. For the next 10 days, the *Louise* will start from the launch landing just north of the pontoon bridge at Paraiso. Later, it is to start always from Pedro Miguel Lock.

The *Louise* will leave Paraiso daily, except Sunday, at 9.20 a. m., running through the Cut and up the Chagres River a short distance, landing passengers at Gamboa, at 11.30 a. m.

On any afternoon or Sunday, the *Louise* may be chartered for trips to any part of Gatun Lake. Rates covering these special trips will be announced next week.

Sightseeing Barge Returned to Freight Service.

The sightseeing superstructure on the steel barge *No. 14* was removed at Gamboa last week in order to make the barge available for service in towing cargo through the Canal. The material and equipment removed have been stored at Mount Hope. Accommodations for seating 300 people were built on the barge in January, and the vessel was transferred to Gatun Lake on January 18.

Remittances with Requests for Reservations.

The Acting Superintendent of the Panama Railroad Company calls attention to the fact that employes are constantly requesting the steamship ticket agent to make reservations on Panama railroad steamers in advance of the issuance of regular transportation request by the Governor's office.

The steamship ticket agent has no authority to make reservations under such circumstances, and employes are informed that no reservations will be made on Panama railroad steamers until the official transportation request and remittance to cover are in the hands of the ticket agent.

Pontoon Bridge in Service.

The pontoon railway bridge at Paraiso was placed in regular service in the morning of Thursday, May 14, for all trains crossing the Canal. The installation of the system of central control for the operations of opening and closing the bridge, and for the signals with derails protecting the approaches, is in progress, to supersede the present temporary arrangement of local manipulation.

The removal of the pile trestle across the Canal, bridge No. 57½, was begun on May 14, as soon as the operations under actual running conditions had demonstrated the effectiveness of the pontoon bridge. The 60-foot plate girder span in the center was first removed, being lifted on to the trestle barge which was built for this service, and towed aside. Rails and ties were then removed from the west half of the trestle, and the removal of the pile bents was begun. The bents are pulled up by means of a hawser, attached to locomotive No. 661, moving along on the east half of the bridge. The piles and timbers are then towed to the east bank of the Canal, and lifted out and piled alongside the track by locomotive crane No. 62. On the morning of May 20, the demolition of the west half was nearly finished, and it was estimated that it will require about a week longer to complete the removal of the trestle.

New Dredge "Paraiso" Due.

To noon, May 20, the new 15-cubic yard dipper dredge *Paraiso* had not arrived at Colon. It is expected at any time, having, to date, been 25 days out of port. The voyage of the *Gamboa*, twin of the *Paraiso*, over the same route occupied 26 days.

Theft of Dynamite from Mindi Magazine.

Thieves broke into the Canal magazine for the storage of explosives at Mindi in the night of May 14–15, and stole 40 cases of dynamite, each containing 50 pounds. Fifty pounds, lost from cartons, were recovered at the side of the Mount Hope-Gatun road, making the actual loss 1,950 pounds.

PERSONAL.

Notice has been received of the promotion of Mr. R. Budd, at one time chief engineer of the Panama railroad, from the position of chief engineer of the Great Northern Railway Company, to that of Assistant to the President, with office in St. Paul, Minn.

A ruling has been made by the Attorney General of the United States to the effect that Judge William H. Jackson may continue to sit as a member of the Canal Zone Supreme Court, even after taking his seat as District Judge, provided he serves on the Supreme Court bench without compensation.

The sailing of the steamship *Cristobal* of the Panama Railroad Steamship Line, was delayed from 3 p. m., Monday, May 18, to 7 a. m., Tuesday, May 19, for the purpose of taking on freight. The *Cristobal* sailed with a cargo of approximately 7,100 tons.

The cement shed at Gatun will be dismantled. It was built in 1909, and had a capacity of about 100,000 barrels of cement.

OFFICIAL CIRCULARS.

Reimbursement for Personal Expenditures.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR NO. 658.

1. Effective April 1, 1914, the following regulations will govern in preparation and rendition of reimbursement vouchers covering additional expenses incurred by officers and employes of The Panama Canal while traveling on official business, under proper orders, on the Isthmus. These regulations do not apply when the order requires travel which begins beyond, or extends beyond, the Isthmus.

2. Reimbursement for expenses incurred by an employe while on duty away from his official station will be allowed only when such expenses are in addition to the ordinary daily living expenses of the employe at home and are necessitated by the performance of the duty required.

3. Expense accounts should be presented immediately after the close of each month and should cover all expenses for that month.

4. Accounts must be rendered on the prescribed form and instructions on back of the same must be followed.

MEALS.

5. In order to avoid confusion resulting by reason of various designations, meals must be described as "Morning meal," "Noon meal," or "Evening meal." The place where meal is taken must be stated.

6. (*a*) Employes who board at a Panama Canal hotel when at their official stations, are not entitled to reimbursement if detailed for duty at a place where there is a Panama Canal hotel.

(*b*) If detailed for duty at a place where no Panama Canal hotel is available, they will be reimbursed for the actual and reasonable cost of meals, less 30 cents.

7. (*a*) Employes who do not board at a Panama Canal hotel, but keep house or board at a monthly rate when at their official stations, are entitled to reimbursement of 30 cents per meal when detailed to a place where there is a Panama Canal hotel.

(*b*) If detailed for duty at a place where there is no Panama Canal hotel, they will be reimbursed for the actual and reasonable cost of meals.

8. (*a*) Whenever it is necessary for employes to leave their regular stations before 7 a. m., for travel on special official business, or to remain away from official station over night, allowance of 30 cents for the morning meal will be made for those who do not board at but are convenient to a Panama Canal hotel. At stations where there is no Panama Canal hotel or mess, the actual and reasonable cost of morning meal will be allowed.

(*b*) If, while away from his official station on official business, it is necessary for an employe who boards at a monthly rate or keeps house, to remain over night, or, if returning, it is impossible to reach his official station before 6.30 p.m., allowance of 30 cents for evening meal, if taken before returning and a Panama Canal hotel is accessible, will be allowed. If a Panama Canal hotel is not accessible, the actual and reasonable cost of the evening meal will be allowed.

(*c*) The necessity of incurring expense for either morning or evening meals must be explained in accordance with foregoing paragraphs.

9. The Panama Canal hotel at Ancon is to be considered accessible to employes detailed to duty at Ancon or Panama. The Panama Canal hotel at Cristobal is to be considered accessible to employes detailed to duty at Cristobal or Colon.

10. Employes who do not use hotel books for their daily subsistence, and who are frequently detailed on official business away from their regular station, may procure a 16-coupon meal book for use on such trips, and thereby avoid the necessity of paying the cash rate of 50 cents per meal at Panama Canal hotels and the disadvantage of being reimbursed for only 30 cents.

11. The limitation to reimbursement at Panama Canal hotel rates does not apply to meals taken outside of regular hours, but the necessity for taking such meals must be explained.

12. No tips of any kind will be allowed while traveling on the Isthmus.

13. Sunday and holiday expenses incurred while under oral orders require specific explanation by the officer giving such orders.

TRANSPORTATION.

14. No reimbursement will be made for transportation paid to the Panama Railroad Company.

15. Should it be necessary at any time for an employe of The Panama Canal to pay for transportation either for himself, his assistants, or necessary equipment, while carrying out official orders, he should secure receipt of the agent to whom payment is made, and present claim for reimbursement to the Panama Railroad Company.

16. Reimbursement for cab or street car fare will be made only when the incurring of such expense has been previously authorized by the Governor of The Panama Canal. The starting point and destination must be shown, as "Panama railroad station to Administration building, Ancon," and tariff rates must not be exceeded.

SPECIAL REGULATIONS.

17. There are certain special regulations that will govern the expense accounts of policemen and others detailed to plain clothes duty. These men may be allowed the actual cost of meals taken, even though in excess of 30 cents and when there is a Panama Canal hotel accessible, provided in each case the voucher is accompanied by a special certificate stating "That to have availed themselves of the Panama Canal hotel rate would have revealed their identity and nullified efforts in investigations."

GEO. W. GOETHALS,
Governor.

Employes' Rates on Various Steamship Lines.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR NO. 611:

The reduced rates quoted below will be accorded employes of The Panama Canal, and dependent members of their families, by the steamship lines indicated, upon regular requests issued by this office.

It will be understood, of course, that the reduced rates quoted are granted as a matter of courtesy on the part of the steamship companies, and are subject to change or cancellation at any time.

STEAMSHIP COMPANY AND PORTS.	FIRST CLASS.		SECOND CLASS.	
	Tariff Rate.	Reduced Rate.	Tariff Rate.	Reduced Rate.
United Fruit Company.				
Between Colon and New Orleans—one way—direct	$50.00	$40.00		
Between Colon and New Orleans—round trip—direct	95.00	75.00		
Between Colon and New Orleans—via Havana	55.00	45.00		
Children between eight and 12 years—half fare; between three and eight years—one way, $12.50; round trip, $23.75; one child under three years, not occupying seat at table or berth in stateroom—free; each additional child under three years, one way, $12.50; round trip, $23.75				
Between Colon and New York	75.00	56.25		
Between Colon and Boston	75.00	56.25		
Between Colon and Havana (including meals on New Orleans steamers)	35.00	35.00		
Between Colon and Havana (Meals not included on S. S. *Pastores*, *Tenadores*, and *Calamares*)	42.00	42.00		
Between Colon and Limon	12.00	9.00		
Between Colon and Kingston, Jamaica	25.00	18.75		

Stopovers allowed at all ports on all one way and round trip tickets.
Sailings from Colon for New Orleans, direct, every Thursday at 3 p. m.
Sailings from New Orleans for Colon, direct, every Saturday at 11 a. m.
Sailings from Colon for New Orleans, via Havana, every Thursday at 4 p. m.
Sailings from New Orleans for Colon, via Havana, every Wednesday at 11 a. m.
Sailings from Colon for New York, via Kingston, every Thursday at 2 p. m.
Sailings from Colon for New York, via Limon and Havana, every Sunday at 5 p. m. (*á la carte* service.)
Sailings from Colon for Boston, via Port Antonio, Jamaica, every Sunday at 1 p. m.

Hamburg-American Line				
Between Colon and New York—one way	$75.00	$56.25	$45.00	$33.75
Between Colon and Kingston	25.00	18.75	15.00	11.25
Between Colon and Santiago de Cuba	40.00	30.00	25.00	18.75
Between Colon and Bocas del Toro	10.00	7.50	....	....
Between Colon and Limon	12.00	9.00	9.00	6.75

Children over 12 years of age, full fare.
Children from eight to 12 years of age, half fare.
From three to eight years of age, quarter fare.

One child under three years of age free in each family when occupying berth with parent or guardian and not occupying a seat at table. Additional children under three years of age will be charged quarter fare.

Royal Mail Steam Packet Company.				
Between Colon and New York	$75.00	$56.25	$45.00	$33.75
Between Colon and Kingston	25.00	18.75	15.00	11.25
Between Colon and Antilla, Cuba	40.00	30.00	24.00	18.00

Children: Same as Hamburg-American Line.

Leyland Line.				
Between Colon and United States Gulf ports	$40.00	$32.00	....	....
Between Colon and Limon	10.00	10.00	....	....

Children: Same as Hamburg-American Line.

Pacific Mail Steamship Company.				
Between Balboa and San Francisco—one way	$120.00	$85.00	....	....

No reduction for round trip. Children between five and 12 years, half fare; between two and five years, quarter fare; one child under two years free. No reduced rates to intermediate points between Balboa and San Francisco. Sailing approximately once a week.

National Navigation Company.				
Between Panama and Pedregal—one way	$15.00	$13.50	....	....
Between Panama and Pedregal—round trip	30.00	22.50	....	....

Round trip for family of four, occupying one stateroom of four berths, $20 each. Children between eight and 12 years, half fare; between four and eight, quarter fare; under four, free. Sailings approximately three times a month.

Compagnie Générale Transatlantique.

Between Colon and Bordeaux, France, via Martinique and way ports, and between Colon and Saint Nazaire, France, via Martinique and way ports, sailings each Friday, alternately, at 10 a. m.; 25 per cent reduction from tariff rates allowed employes of The Panama Canal and dependent members of their families.

Compañia Trasatlantica de Barcelona.

Between Colon and Canary Islands, Cadiz, Barcelona, Marseilles, and Genoa, 25 per cent discount from first and second-class, and 12½ per cent discount from third-class, for employes of The Panama Canal and dependent members of their families.

GEO. W. GOETHALS,
Governor.

Reemployments.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., May 1, 1914.

CIRCULAR No. 603-2:

1. All applications for reemployment received by heads of departments and divisions will be forwarded to this office, with recommendation.

2. All such applications received from persons in the United States will be forwarded by the Executive Secretary to the Washington Office and the order of preference shall be, as follows:

(*a*) *First list.* Persons discharged on account of reduction of force, whose general workmanship was rated "Excellent," or "Very good," and who apply for reemployment within three months after discharge.

(*b*) *Second list.* Persons discharged on account of reduction of force who apply for reemployment more than three months after discharge, and persons who resign, whose general workmanship was rated "Excellent," or "Very good."

(*c*) *Third list.* The names of persons whose general workmanship was rated "Good" may, in the discretion of the Governor, be placed on the eligible list with those of new applicants, in the order of receipt.

3. No person will be reemployed who is discharged for cause, or whose general workmanship or general conduct is rated "Mediocre," or "Poor" upon termination of service.

4. This circular modifies and will take the place of Paragraph 4 (*b*) of Circular No. 603.

GEO. W. GOETHALS,
Governor.

Duties of Traveling Engineer.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 648:

GENERAL.

1. The traveling engineer will be attached to the Mechanical Division, but will act in an advisory capacity to the trainmaster of the Panama railroad and all other officials in charge of transportation, and perform such other duties as may be assigned to him.

FUEL AND LUBRICANTS.

2. The traveling engineer will make regular inspection of fuel and lubricant consumption on all stationary, rolling, and marine equipment (except vessels plying between Cristobal and New York). This inspection to include all containers, tools, etc., in connection therewith.

3. He will instruct all concerned in the proper and economical use of fuels and lubricants, and of containers, tools, etc., therefor.

LOCOMOTIVES.

4. He will examine applicants for the position of locomotive engineer and decide whether their qualifications and experience, from a mechanical standpoint, are sufficient to warrant their appointment.

5. He will, as far as possible, provide firemen and hostlers for all divisions, hostlers to be selected with a view of obtaining men capable of eventually being promoted to engineers.

6 He will instruct engineers, firemen, and hostlers on all matters pertaining to the proper handling and operation of locomotives, riding in cabs for this purpose whenever possible.

7. He will examine locomotives he rides upon and will call the engineer's attention to any defects, ascertaining from him whether such defects have been reported.

8. He will visit all engine houses and consult with the foreman of the same, relative to running repairs of locomotives, checking the work reports turned over by engineers.

9. He will promptly notify the division concerned of any improper handling or abuse of locomotives, or occurrences by which they have been damaged, stating all facts leading up to and connected therewith, thus assisting the division, so far as he may be able, in placing the responsibility therefor, which report shall, except in cases of extreme emergency, be sent through the Superintendent of the Mechanical Division.

10. He will recommend to the Superintendent of the Mechanical Division when locomotives should be taken out of service for general repairs. In making this recommendation, the work in the shops and the urgency of the repairs needed shall be considered.

11. He will make careful inspection of all locomotives turned in for repairs and will submit report relative to their condition and the amount of work to be done.

12. When casualties to locomotives have occurred, or any investigations are held relative to the handling of locomotives, the traveling engineer shall be present at such investigations and submit any evidence pertinent thereto which may be called for.

13. He will keep in close touch with repair work on locomotives and of the general condition of locomotives in service, rendering such reports as may, in his opinion, be necessary, or desirable, to insure that a sufficient number of locomotives are always ready for service, and that the cost of maintenance and upkeep is as small as possible.

14. He will make careful inspection of all locomotives coming out of the shop, riding on the same whenever possible during the first few days of operation, and will submit a report relative to all defects in material or workmanship that he may discover.

RESPONSIBILITY WHEN RIDING LOCOMOTIVES.

15. (*a*). When the traveling engineer is merely running on locomotive to demonstrate a higher efficiency to the engineer, he will be responsible only for the proper and safe handling of locomotive and train, the engineer to continue responsible for the observance of rules, rights, and matters pertaining to train movement.

(*b*). When the traveling engineer relieves an engineer, there shall be an official transfer of all orders and instructions pertaining to the train movement, the same as in exchange of locomotives by engineers, and in this case, the traveling engineer assumes all responsibility.

REPORTS.

16. He will submit monthly reports covering inspection; instruction of crews in the use of fuels and lubricants, including tabulation of the amounts used; instruction of crews in the handling of locomotives; number of examinations held; investigations attended, and general results accomplished.

GEO. W. GOETHALS,
Governor.

Act of Congress—Disposition of Money Received, Sale of Surplus Equipment, Etc.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 600-1:

The extract quoted below from an Act of Congress is published for the information of all concerned:

GEO. W. GOETHALS,
Governor.

AN ACT Making appropriations for certain expenses incident to the First Session of the Sixty-third Congress, and for other purposes.

1. *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the following sums are appropriated, out of any money in the Treasury not otherwise appropriated, namely:

* * * * * * * *

THE PANAMA CANAL.

2. SECTION 2. That during the fiscal year nineteen hundred and fourteen, all moneys received by the Isthmian Canal Commission, or the Governor of The Panama Canal, from any services rendered or materials and supplies furnished employes, the Panama Railroad Company, the Canal Zone Government, the Panama Government, and other departments of the United States Government, from hotel and hospital supplies and services: from rentals, wharfage, and so forth; from labor, materials, and supplies, and other services furnished vessels and to those unable to obtain similar labor, materials, supplies, and services elsewhere, shall be credited to the appropriation from which payments for the materials, supplies, labor, or other services were originally made, except that moneys received from the sale of material and equipment purchased and used for construction purposes, and as a reimbursement for the expenditures incurred in constructing water works, sewers, and pavements in the cities of Panama and Colon, including interest on such expenditures, excluding payments on account of the expenses for maintenance of such water works, sewers, and pavements incurred under agreement with the Panama Government, and otherwise herein disposed of, shall be covered into the Treasury as miscellaneous receipts; and except that after the Canal is opened for use and operation the net profits accruing from the operations herein authorized shall annually be covered into the Treasury of the United States, as provided for the profits accruing from the business authorized in Section 6 of The Panama Canal Act.

3. That until the close of the fiscal year nineteen hundred and fourteen, when any material, supplies, and equipment heretofore or hereafter purchased or acquired for the construction of The Panama Canal is no longer needed, or is no longer serviceable, it may be sold in such manner as the President may direct, and without advertising in such classes of cases as may be authorized by him.

* * * * * * * * *

Approved, May 1, 1913.

Requests for Work.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 642:

1. Requests for work to be performed, made between departments and divisions of The Panama Canal, or between The Panama Canal and the Panama Railroad Company, covering manufacture, repairs, alterations, and special services which cannot conveniently be executed by the department making the request, or which are specific functions of the department on which the request is made, will be submitted on Form PC 159.

2. This form is intended to obviate requests or recommendations being made by letter covering work to be performed by another department or division, but, in addition, it will take the place of requests for special authority when the work is to be performed by the department or division making the request.

3. When the estimated cost of the work does not exceed $50 for ordinary jobs, or $500 for steamshovel repairs, or $200 for repairs to unloaders, spreaders, etc., the request may be made direct without the approval of the Governor, in which case, two copies of form PC 159 will be forwarded to the department or division performing the work and two copies to the Executive Office. This shall not be construed, however, as giving authority to divide up work that would otherwise fall naturally under Paragraph 4 of this circular, into separate items.

4. When the estimated cost exceeds $50 for ordinary jobs, or $500 for steamshovel repairs, or $200 for repairs to unloaders, spreaders, etc., the work must be authorized by the Governor, whether it be performed by the department or division making the request, or by another department or division. In this case, five copies of the request will be forwarded to the Executive Office.

5. Estimates will be prepared and charges rendered in accordance with directions contained in the circular covering percentages and surcharges, or as it may be modified from time to time.

6. Commencing April 1, 1914, or as soon thereafter as practicable, work requests will be numbered consecutively, beginning with one, in the upper right hand corner, and the following prefixes will be used to indicate the department or division submitting the request:

Accounting Department	A-1, A-2, etc.
Department of Operation and Maintenance	OM-1.
Mechanical Division	M-1.
Panama railroad	P-1.
Executive Office	E-1.
Health Department	H-1.
Supply Department	S-1.

No other prefixes will be used, except those assigned by this office, upon request.

7. Correspondence relating to any particular request shall give the number and date of same.

8. Ordinary repairs to the plumbing, painting, metal, and woodwork of buildings may be made without work request, except when the estimated cost of the work is over $500, when authority shall be obtained in the usual manner. For all ordinary repairs not thus covered, a monthly statement shall be submitted to the Governor for approval, showing each building repaired during the month, the nature of the repairs, and the total cost of each building separately.

9. Ordinary maintenance and repairs to Canal Zone water works, sewers, and roads may be made without work request, except when the estimated cost for any piece of work is over $500, when authority shall be obtained in the usual manner. For all maintenance and repair work not thus covered, a monthly statement shall be submitted to the Governor for approval, showing the purpose and necessity of the expenditures.

10. "Blanket orders," or work requests covering services, small repairs, and manufacturing work of a minor nature will, with the approval of the Governor, be allowed to run for the entire fiscal year, subject, of course, to termination or modification at any time on the part of the department or division making the wor request.

GEO. W. GOETHALS,
Governor.

Survey Requests.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 638:

1. Survey requests will be prepared in duplicate and forwarded to the surveying officer, and after approval by the Governor, or by his direction, the original will be returned to the accountable officer, who will then prepare the necessary certified copies to carry out the approved recommendations of the surveying officer.

2. Survey requests must in all cases show the total money value of each item; also, total value of the survey request.

3. Survey requests must show the same designations as appear on property records, giving sizes, dimensions, or descriptions, so that property may be readily identified, and prices shown must in all cases be the original cost prices. Articles presented for action of the surveying officer, when practicable, must be laid out for inspection in the same order that they appear on the survey requests, and responsible officers will be held for any discrepancies between articles listed for disposition on the request and the actual articles presented.

4. Survey requests for plant and equipment for such

items as boilers, engines, concrete mixers, rock crushers, rock drills, channelers, locomotives, pumps, steam-shovels, must show full information as regards individual numbers, type, dimensions, sizes, name of maker, capacity, French or American manufacture, horsepower developed or required to operate same, date entered service, date discontinued in service, date last inspected, and condition at time of survey.

5. Whenever it becomes necessary or advisable to change the approved disposition of equipment or property which has been surveyed, request for such change should be made direct to the surveying officer.

6. The person responsible for public property to be surveyed will, in all cases, furnish the original certificates or affidavits upon which he relies to be relieved from responsibility. Whenever loss, or destruction of, or damage to, public property requiring the action of the surveying officer, shall occur, such action will be requested by the responsible official as soon as practicable, and, in every case, within 30 days after the discovery of such loss, destruction, or damage, unless exceptional circumstances, which will be explained by the official's certificate, prevent such action within that period. Losses or damages to public property will be investigated by the surveying officer, who has full authority to question officers or employes, either orally or in writing, and all files pertaining to such losses or damages will be furnished the surveying officer, while making such investigations, on his request.

GEO. W. GOETHALS,
Governor, The Panama Canal.
President, Panama Railroad Company.

Duties of Mechanical Division.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1913.

CIRCULAR No. 660-5:

1. The Mechanical Division, which will operate the shops and dry docks, is a part of the Department of Operation and Maintenance. It will be presided over by a superintendent who will report direct to the Governor. There will be an assistant superintendent who will perform such duties as may be assigned to him by the superintendent.

2. The Mechanical Division will have cognizance of the following plants and duties:

(*a*) Operation of the shops at Balboa, Cristobal (heretofore known as the dry dock shops), Paraiso, Balboa dump engine house, Balboa roundhouse, and Cristobal roundhouse. The shops at Porto Bello and Toro Point will be operated under their present heads until closed.

(*b*) A car inspection and repair system will be maintained in the Cristobal, Mount Hope, Panama, and Balboa car yards, and at such other places as may be necessary.

(*c*) The dry docks at Balboa (when completed), and the dry dock at Cristobal. The docking of all vessels, or beaching them for repairs.

(*d*) The repair wharf at Balboa shops.

(*e*) The coaling plants at Balboa and Cristobal, when completed.

(*f*) The inspection and maintenance in proper working condition of all mechanical equipment and machinery used in the operation and maintenance of the Panama railroad and on construction work, except floating equipment and equipment used at Porto Bello and Toro Point.

(*g*) Repairs to all classes and kinds of floating and dredging equipment in the service of the different departments and divisions that require shop, dry dock, or repair wharf facilities. The character and extent of repairs made to marine equipment will be specified or approved by the head of the department or division using the same or by his authorized representative.

(*h*) Shop repairs to all machinery, mechanical apparatus, and power plants connected with the operation and maintenance of the Canal.

(*i*) The manufacture of such articles as time will not permit to be purchased in the United States, and such as can be made more economically on the Canal Zone than purchased.

(*j*) The maintenance of a boiler inspection service, for the inspection and test of all boilers, except marine boilers.

(*k*) The instruction of locomotive engineers and hostlers, and of all firemen, and supervision over the quality and economical use of lubricants and fuel oil.

(*l*) Such repairs and other mechanical work as may be required by other departments of the United States Government.

(*m*) Such repairs and other mechanical work as may be required by commercial vessels, individuals, and companies.

(*n*) Repairing all kinds and classes of instruments, clocks, typewriters, adding machines, and locks.

3. The work to be done by the Mechanical Division is divided into the following three classes:

(*a*) Repair work, which consists of putting into serviceable condition broken, deformed, or worn parts that admit of such action, or replacing parts that are not repairable, or that it is not economical to repair, with spare parts drawn from store.

(*b*) Alteration, which consists of any change in the original design.

(*c*) Manufacture, which consists of making any completed article or part thereof, including spare parts for use in making repairs.

Requests for the performance of work by the Mechanical Division for other departments and divisions of The Panama Canal will be submitted on form PC 159, as follows:

(*a*) No article will be manufactured on the Isthmus unless by previous approval of the Governor, except in case of an emergency, which will be reported promptly in writing to the Governor, and in cases covered by Subparagraph 4-*e*, below. Requests covering manufacture of all kinds will be sent to the Superintendent of the Mechanical Division, with a statement of the reasons for making the material instead of purchasing it in the United States, the work for which the material is requested, and the date on which it will be actually required. The Superintendent will forward the request to the Governor, with the following data:

U. S. and Isthmian costs, or if not available, estimated purchase and Isthmian costs.
Estimated dates of delivery if purchased, and made on the Isthmus.
Action recommended.

(*b*) Requests covering alterations in existing material or equipment will be submitted to the Governor by heads of departments and divisions, with reasons therefor and estimated costs.

(*c*) Ordinary repairs to equipment in current service will be made under annual blanket work requests submitted to the Governor on form PC 159, by heads of departments and divisions not later than June 15 of each year. The heads of departments or divisions will designate which of their subordinates may order work performed under annual blanket work requests, and will communicate the names and positions of such subordinates to the Superintendent of the Mechanical Division.

(*d*) Equipment retired from service will not be repaired preparatory to its return into service until request for repairs has been submitted on form PC 159, and approved by the Governor. Such requests will state the reasons for returning the equipment to service, the estimated cost of repairs, and date required.

(*e*) When prompt action would enable employes to be kept at work, would prevent material delay in completing work, or probable injury to property, or for other reasons would be economical, work requests for manufacture or alterations will be submitted to the Governor and one copy sent direct to the Superintendent of the Mechanical Division, who will proceed with the work, provided the estimated cost does not exceed $100. The reasons for the urgency or economy will be given on the request. Manufacture or alterations estimated to exceed $100 in cost will not be proceeded with until definite authority of the Governor is obtained Such authority should be obtained by telephone if necessary to prevent delay.

GEO. W. GOETHALS,
Governor.

Alterations to Vessels to Prevent Accidents During Transit of Canal.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., May 13, 1914.

All concerned—Many of the vessels now using the terminal ports, and which will expect to use the Panama Canal, have their boats, davits, and accommodation ladders protruding over their sides, with no provision for rigging them in to leave their sides clear and unencumbered.

When necessary, alterations should be made to remedy such defects in order to prevent accident and save time during lockage.

GEO. W. GOETHALS,
Governor.

Purchases of Material and Equipment.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z, May 14, 1914.

HEADS OF DEPARTMENTS AND DIVISIONS:

In view of the status of appropriations for the purchase of material and equipment, I desire that every possible effort be made to avoid purchases which are not absolutely essential, in order to properly continue the work.

Please give this matter your close attention, and do not place a requisition with the Supply Department until you have personally satisfied yourself of the actual necessity for making the purchase.

GEO. W. GOETHALS,
Governor.

Legal Holidays.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 671:

The following days will be observed as legal holidays in the Canal Zone:

January 1, February 22, Good Friday, May 30, July 4, Labor Day, November 3, Thanksgiving Day, and December 25.

As far as practicable all public business will be suspended on these days. Good Friday and November 3 are not included in the list of holidays for which gratuity pay is allowed, and pay for services performed on those days will be calculated the same as for Sundays.

GEO. W. GOETHALS,
Governor.

Building Lots for Churches.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., May 16, 1914.

To all concerned—It is desired to assign lots to such churches and religious organizations as desire them in such settlements as suitable areas are available, in general accordance with the following terms:

Lots will be leased under revocable license at a nominal rental.

Such lots may be used for the erection of church buildings by the different churches and religious societies, and for the erection of quarters for the priest, or for the minister or pastor and his family.

This revocable license will not permit the subleasing or the use of the lot by others than the person or the persons named in it.

The church or church society will be expected to bear all expense connected with the construction of the buildings on the lots and the use thereof, including payment for electric light, water, etc. The lessee will be expected to conform to all administrative and sanitary rules and regulations.

As regards the lots for church purposes in Balboa and La Boca, the committee which is considering the matter will hear any one interested at a meeting which it will hold in the office of the Chief Health Officer at Ancon on Tuesday afternoon, May 26, at 2.30.

Applications for lots for churches in any other settlement should be made to me direct.

GEO. W. GOETHALS.
Governor.

Settling Estates.

The following estates of deceased employes of The Panama Canal or Panama Railroad Company are now in process of settlement by the office of the Administrator of Estates, in the Administration Building, Ancon, and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings or postal money order deposits, or any other moneys due them, should be presented at his office at once in order that the estate may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once.

Name.	*M. C. No.*	*Native of*	*Isthmian residence.*	*Employed by*	*Date of death.*
Augustus Ellcock	82947 190150	Barbados	Colon	P. R. R., and Fortifications	May 11, 1914.
George Elliott	84612	Jamaica	Golden Green	P. R. R	May 8, 1914.
John Graham	7324	Barbados	Colon	P. R. R	May 9, 1914.
Daniel Hall	158567	Jamaica	Panama	First Division	May 8, 1914.
Christopher Lucas	180890	Barbados	Gatun	First Division	Mar. 11, 1914.
John Sterling	23353	Jamaica	Culebra	First Division	May 8, 1914.
Benjamin Williams	132561	Barbados	Panama	Ancon Hospital.	May 9, 1914.

CANAL CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL

The moving picture schedule for the week May 25 to 30 is, as follows: Monday, Balboa and Pedro Miguel; Tuesday, Empire; Wednesday, Gatun; Thurdsay, Cristobal; Friday, Corozal; Saturday, Culebra.

BALBOA.

A handicap pool tournament has been started with 12 entries, as follows: Young, Dents, Cone, Ashton, Brugge, Dubendorf, Lewis, Rudolf, Peterson, Miller, O'Hagan, Davison, and Smith. Entries will be open till Saturday night, May 23. A gold medal will be given for first prize and a bronze medal for second prize. All interested are requested to see the secretary.

All members who have not transferred their cards from other clubhouses are requested to do so at once.

The monthly supply of new phonograph records has been received.

COROZAL.

The following program was given on Mother's Day, May 17, at the clubhouse: Song, children's chorus; recitation, Opal Bromley; song, three Lewis sisters, accompanied by Viola Bewley; violin solo. Dr. E. W. Hill, accompanied by Mrs. Dorothy Leyland Rand; song, children's chorus; piano solo, Goldie Cranfell; reading, Mrs. Manota Perry Lang; address, S. P. Verner; violin solo, Dr. E. W. Hill. There were 225 present.

The following high scores in tenpins were rolled during the past week: Parkis, 225, 213, 214; Thirsk, 211; Boessen, 236, 208, 224; Davis, 209, 202.

The standing of the local league indoor baseball teams is, as follows:

	Won	*Lost*	*P. C.*
Red Sox	3	2	.600
Naps	3	3	.500
White Sox	2	2	.500
Cubs	2	3	.400

Miss MacLaren will appear on Friday night, May 29, in the "Misleading lady."

Fifty people attended the exhibition of 101 slides, showing the scenery of Switzerland, on Sunday night, May 17.

PEDRO MIGUEL.

Much interest is being taken in the local ragtime duckpin tournament. The highest score so far has been by Murry and Whisten, 587. The highest single game is a tie between Dougherty and Vandeburgh, 118.

High duckpin scores for the week were made by: Murray, 114, 112, 104; Halloway, 108, 107; Vandeburgh, 118, 105; Landers, 101; Whiston, 105.

Ladies' high score in rubberband pins was made by Mrs. Landers, 100.

Mr. S. P. Verner of Cristobal gave a very interesting lecture at the cubhouse on Saturday night, May 16, on "Among the pygmies and cannibals of the Congo."

An exhibit of camera pictures will take place at the clubhouse in Pedro Miguel on May 25, 26, and 27. All who are interested in photography and who own cameras are invited to send in their work. Pictures must be the complete work of the exhibitor. Prizes will be offered.

The Pedro Miguel Dance Club will give a dance in the clubhouse on Saturday, May 23.

GATUN.

The Gatun clubhouse extends a very hearty welcome to the officers and men of companies I and M, Tenth Infantry, now stationed at Gatun. All are invited to take part in the various activities of the clubhouse. It is hoped that a large number will take advantage of the privileges offered.

The new handballs have been received from the United States and the handball tournament is now well under way.

The basketball game between the Y. M. C. A. girls' basketball team and the Corozal-Ancon girls' team has been indefinitely postponed.

Applications for membership in the boys' or the men's first aid classes may be made at any time to the physical director.

A two-weeks pool tournament will start this week.

By request, Miss MacLaren will give "Within the law," on Friday evening, May 22. At her last appearance here, on May 14, she was presented with a handsome bouquet of American Beauty roses as a token of appreciation on the part of her many friends in Gatun.

Saturday afternoon of each week, from 2 to 4, will be set aside as the time at which the children of the Gatun schools may make use of the gymnasium of the clubhouse. The physicial director will have charge of this work.

CRISTOBAL.

One hundred and sixty girls, boys, young men, and men participated in the Cristobal circus, which was held on Friday and Saturday evenings, May 15 and 16, on Pier 9. The circus, preceded by a street parade, consisted of 26 acts. Bleachers were erected to give a circus ring effect. The seats were crowded on both evenings. Following is the circus staff: Ringmaster, B. C. Poole; ticket manager, A. E. Cotton; general manager, W. C. Poore; manager of the comics, T. A. Aanstoos; chief usher, W. H. Fredericks; music, Mrs. H. D. Brittin, A. J. Saft, and the Colonial Band.

An indoor baseball league, composed of four teams, will be formed in the young men's gymnasium class in the near future.

Mr. J. L. Weaver will report on "Recent happenings in Mexico," and Mr. S. P. Verner will give an account of the recent trouble in Ulster at the Discussion Club meeting on May 28.

Much interest is being manifested in the local 3-men team duckpin tournament. The Yankees are in the lead with five won, and one lost. High duckpin scores for the week were: Schied, 115; Steele, 107; Bevington, 102; Pinney, 102.

Miss MacLaren's last appearance at Cristobal will be on Saturday night, May 23.

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Misdirected Letters.

ANCON, C. Z., May 18, 1914.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts,and may be secured upon request of the addressees:

Berkely, E.
Brown, J. S.
Brown, J. W.
Buck, Elbert S.
Creager, Gray H.
Evans, Mrs. Louise
Hagen, Joseph
Janyes, Mrs. Una L.
Laflin, W. O.
Noe, Howard
Quinterolf, Benj.
Settle, Maj. Douglas
Story, Lee
Wait, W. W.
Walsh, Eddie
Woodsum, Walter

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Family Quarters.

Applications for married quarters on file on April 30, were, as follows:

DISTRICT.	List No. 1.	List. No. 2
Balboa	32 (27)	237 (114)
Ancon	54 (45)	254 (148)
Ancon Hospital		8
Corozal	23 (22)	280 (160)
Paraiso	1	130 (27)
Empire		1
Gatun		103 (7)
Cristobal		144 (41)
Total	110 (94)	1,157 (497)

NOTE—The figures in parentheses show the number of applicants already occupying regular or nonhousekeeping family quarters at stations other than those at which applications are filed.

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Rainfall, May 1 to May 16, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	.26	15	.73
Balboa	.60	15	1.74
*Miraflores	1.20	13	1.32
Pedro Miguel	.74	6	1.40
Rio Grande	.86	6	1 68
Central Section—			
Culebra	1 37	6	2 01
*Camacho	1 56	6	2.79
Empire	1.22	6	2.00
Gamboa	.24	6	.57
*Juan Mina	1.48	6	2 11
Alhajuela	.28	13	.53
*El Vigla	.45	13	.91
Frijoles	.69	8	1.22
Trinidad	.85	7	2.24
*Monte Lirio	.98	13	2.14
Atlantic Section—			
Gatun	.88	12	3.27
*Brazos Brook	1.75	7	4.79
Colon	4.91	7	10.19

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight.

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Supplies for the Canal.

The following steamers with supplies for The Panama Canal and Panama Railroad Company arrived at the ports of Colon, Balboa, and Cristobal during the week ending May 9:

Advance, May 4, from New York, with 13 cases incandescent lamps, 160 crates roofing tile, 60 crates roofing tile, 28 reels copper cable, 207 pieces mahogany lumber, 67 packages stone wash tubs, for permanent buildings; 88 cases incandescent lamps, 24 packages welding apparatus, seven reels copper cable, 101 barrels fire clay, 20 cases paint, 136 bags silica grit, 20 boxes motors, for Mechanical Division; 80 crates roofing paper, six reels copper cable, two reels cable, 43 packages asphalt mixing plant, for Second Division; 50 packages chain fender material, for First Division; 108 packages pipe and fittings, for Division of Municipal Engineering; 61 pieces signal material, 59 kegs bolts and washers, for Panama Railroad Company; 50 barrels flour, 40 bags orange shellac, 510 pigs lead, 37 cases Stillson wrenches, 166 bales hay, 110 cases brass pipe, 42 crates plumbing material, 90 cases varnish, 203 kegs bolts, nuts, and washers, 375 steel plates, 241 steel bars, 14 pieces mahogany lumber, 979 bags oats, 77 kegs steel rivets, for stock; and a miscellaneous cargo, the whole consisting of 5,391 packages, weighing 120 tons.

Prinz August Wilhelm, May 4, from New York, with one case iron castings, for First Division; 140 drums lime, for stock.

Cartago, May 6, from New Orleans, with 946 barrels paving brick, for Division of Municipal Engineering; 1,081 pieces creosoted switch ties, for Panama Railroad Company; 3,375 board feet hickory lumber, 2,360 board feet hickory lumber, 24,821 board feet yellow pine lumber for flooring, 9,639 board feet oak lumber, 33 pieces untreated piling, 167 pieces cotton duck, 2,116 pieces sewer pipe, 700 packages kerosene, for stock.

Zacapa, May 6, from New York, with 17 reels copper cable, for First Division; 12 crates meters and parts, for Division of Municipal Engineering; 60 cases putty, 20 cases paint, 18 cases hubs and felloes, 475 pieces galvanized pipe, 42 pieces steel billets, 107 crates window glass, for stock.

Abangarez, May 7, from New Orleans, with 156,230 pounds pig iron, for Mechanical Division.

Cristobal, May 7, from New York, with 109 barrels plaster, 100 bags cement, 163 crates roofing tile, 110 boxes ranges, 134 crates stone tubs, 14,000 pieces hollow tile, for permanent buildings; 45 packages chain fender material, two electric towing locomotives, for First Division; 54 pieces pipe and fittings, for Division of Municipal Engineering; 25 crates electrical material for Mechanical Division; 67,200 bags cement, 393 drums lubricating oil, 100 cases lubricating grease, 1,788 bales hay, 1,598 bags oats, 1,000 bundles plain wire, 30 barrels lead pipe and fittings, 41 crates plumbing material, 400 cases turpentine, 75 bundles sheet steel, 98 pieces galvanized pipe, for stock.

Hilding, May 8, from Mobile, with 54,451 pieces clay conduit, for Panama Railroad Company; 2,500 sacks fire clay, 348 boxes fire brick, 3,168 pieces sewer pipe, 20 barrels creosote oil, 203 barrels gasoline, for stock.

Allianca, May 8, from New York, with 50 boxes absorbent cotton, for Health Department; 20 cases batteries, 256 bundles wrought iron castings, for Panama Railroad Company; 22 boxes machine tools, 80 steel springs, 39 packages pipe and fittings, 10 cases electrical material, for Mechanical Division; seven cases electrical material, for Division of Municipal Engineering; 113 cases electrical material, 13 cases electrical material, 239 kegs rivets, for First Division; 50 crate stoves, 105 rolls wire fencing, 13 packages gasoline furnaces, 595 bundles steel bars, for stock; and a miscellaneous cargo, the whole consisting of 1,288 pieces, weighing 100 tons.

Calamares, May 8, from New York, with five packages structural material, for Division of Fortifications; 50 cases locomotive black paint, nine bundles sandpaper, for stock.

Pennsylvania, May 9, from San Francisco, with 169 board feet sugar pine lumber, for stock.

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Automatic Signals at Miraflores Tunnel.

PANAMA RAILROAD COMPANY,
OFFICE OF SUPERINTENDENT,
COLON, R. P., May 18, 1914.

G. S. BULLETIN No. 69:

All concerned—Effective May 20, 1914, automatic signals will be ready for service through the tunnel, and all hand cars and push cars in use between Pedro Miguel and Corozal must be insulated before that date or taken out of service through any of this territory.

F. R. BLUNT,
Acting Superintendent.

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Withdrawal of International Insurance Company from Canal Zone.

The International Insurance Company (Compañia Internacional de Seguros) of Panama, has advised the Executive Secretary of its intention to withdraw from the business of underwriting fire insurance in the Canal Zone. All persons having any claims against the Company arising from policies issued by it upon property in the Canal Zone, or who hold the company's policies upon property located in the Zone, are requested to communicate with the office of the Executive Secretary, Ancon, C. Z.

COMMISSARY DEPARTMENT.

The commissary stores are open during the following hours:

Cristobal, 8 a. m., to 12.30 p. m., and 2 to 7 p. m.

Balboa, 8 a. m. to 12.30 p. m., and 2.30 to 7 p. m.

Ancon, 8 a. m. to 1 p. m., and 3 to 6 p. m.

All others, 8 a. m. to 1 p. m., and 3 to 7 p. m.

Retail prices of cold storage provisions for the week beginning May 21, 1914:

FRESH MEATS.	Price.
Mutton—Stewing, per pound	7
Shoulder, neck trimmed off (4 pounds and over), per pound	9
Entire, forequarter (not trimmed, 10 pounds and over), per pound	8
Legs (8 to 10 pounds), per pound	17
Cutlets, per pound	18
Short cut chops, per pound	20
Lamb—Stewing per pound	8
Entire forequarter, neck trimmed off, per pound	10
Legs (5 to 8 pounds), per pound	20
Chops, per pound	24
Cutlets, per pound	24
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	17
Chops, per pound	26
Loin, for roasting, per pound	26
Cutlets, per pound	30
Beef—Suet, per pound	2
Soup, per pound	5
Stew, per pound	8
Plate, per pound	9
Corned, No. 1, per pound	14
Corned, No. 2, per pound	12
Chuck roast, 3 lbs., and over, per pound.	12
Rib roast, second cut (not under 3½ pounds), per pound	16
Rib roast, first cut (not under 3 pounds), per pound	18
Pot roast, per pound	19
Rump roast, per pound	19
Porterhouse roast, per pound	20
Steak, Chuck, per pound	12½
Round, per pound	13
Rib, per pound	18
Sirloin, per pound	19
Rump, per pound	19
Porterhouse (not less than 1½ pounds), per pound	20
Tenderloin (Western), per pound.	30
Pork—Hams, fresh, per pound	§22
Loin chops or roast, per pound	19
Shoulders, fresh, per pound	§18
Spare ribs, per pound	17
Backbones, per pound	15
Pigs' feet, each	7
Pigs' heads, whole	80
Pigs' head, ½-head	40
Sausage, homemade, per pound	22
MISCELLANEOUS.	
Livers—Beef, per pound	13
Calf, each	60
Half, each	30
Steak, Hamburger, package	13
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	12
Devonshire Farm, per pound	22
Sweetbread, beef, per pound	27
Eggs, fresh, per dozen	25
per ½-dozen	13
Bluefish, per pound	11
Halibut, fresh, per pound	06
Salmon, per pound	07
Shad roes, per pair	40
Oysters, per quart	28
POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, large each.	1.40
Fancy roasting, milk fed, med., each.	1.10
Fancy roasting, corn fed, about 5½ pounds, each	1.25
Fancy roasting, corn fed, about 4½ pounds each	1.00
Fowls, each ††66, 77, 88, 99, and	1.10
Ducks, Western (about 4½ pounds), each	1.25
Capons, each	3.00
Broilers, milk fed, each	75
Broilers, corn fed, each	60
Turkeys, per pound	28
Squabs, each	50
Ducks, teal, each	40
Partridges, pair	1.30
Grouse, per pair	1 30
Pheasants, per pair	1 30
CURED AND PICKLED MEATS.	
Ham—Real York and Cumberland, per pound	37
Genuine Westphalia, per pound	40
Sugar cured, per pound	20
Sliced, per pound	22
Half, for boiling, per pound	21
Boiled, per pound	28
Hocks, per pound	18
Beef, salt, family, per pound	12
Bacon—Breakfast, whole piece, per pound	25
Sliced, per pound	26
Ham, lunch, per pound	40
Pork, salt, family, per pound	14
Ox tongues, each	1.10
Pigs' feet, per pound	7
Tongues, per pound	18

DAIRY PRODUCTS.	Price.
Butter—Creamery, special, per pound	32
Sheffield Farms, extra fancy, per lb.	46
Cheese—Philadelphia cream, cake	10
Cheese—Roquefort, per pound	35
Young America, per pound	24
Swiss, per pound	27
Edam, each	75
Edam, tin	28
Parmesan, per pound	35
Gouda, per pound	30
Snappy, per cake	9
Milk (certified), bottle	**.20
Fer-mil-lac, bottle	**.20
Ice cream, quart	‡25
½-gallon	‡50
Cream, Sheffield Farm, quart	**.33
VEGETABLES AND FRUITS.	
Beets, per pound	3½
Celery, per head	9
Cabbage, per pound	2
Carrots, per pound	3
Lettuce, per pound.	7
Onions, per pound	4
Potatoes, white, per pound	3
sweet, tropical, per pound	2
Yams, per pound	2½
Parsley, per bunch	2½
Parsnips, per pound	4
Rhubarb, per pound	3½
Turnips, per pound	†3
Tomatoes, per pound	11
Spinach, per pound	6
Grape fruit, American, each	8
Tropical each	4
Lemons, per dozen	*12
Oranges, Jamaican, per dozen	16

*Indicates reduction from last list.

**Indicates 5 cents allowed for return of bottle.

†Indicates advance on list.

††Fowls weight each, about as follows: 3, 3½, 4, 4½, and 5 pounds. Prices are based accordingly; when size ordered is not in stock, next lightest weight is supplied and refund note sent for difference.

‡Sold only from commissaries; no orders taken for delivery.

§Not less than half of a fresh ham or shoulder will be sold.

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Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes for the week ending midnight, Saturday, May 16, 1914. All heights are in feet above mean sealevel:

DAY AND DATE.	STATIONS				
	Vigia.	Alhajuela	Gamboa.	Gatun Lake.	Miraflores Lake.
Sun., May 10	125.1	91.6	84.9	84.9	51.5
Mon., May 11	125.1	91.6	84.9	84.9	51.4
Tues., May 12	125.0	91.4	84 9	84.9	51.4
Wed., May 13	131.3	96.4	85.0	85.0	51.3
Thurs., May 14	131.4	96.6	85.0	85.1	51.3
Fri., May 15	127.3	94.0	85.1	85.1	51.4
Sat., May 16	126.3	93.1	84.9	85.0	51.6
Height of low water to nearest foot	125.0	91 0			

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Tide Table.

The following table shows the time of high and low tides at Panama for the week ending May 30, 1914:

DATE.	Low	High	Low	High	Low
	A.M.	A.M.	A.M.	P.M.	P.M.
May 24	......	3.19	9.23	3 20	9.44
May 25	......	3 51	9 59	3.55	10 20
May 26	......	4 25	10 37	4.30	10.56
	.....	5 00	11.15	5.09	11.35
May 27	.....	5 38	11 55	5.48	......
May 28			P.M.		
May 29	12.16	6 19	12 39	6.30	......
May 30	12.29	7.04	1 26	7 17	

75th meridian time.

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Movements of Vessels, Port of Balboa.

The following vessels arrived at, or departed from, the port of Balboa during the week ending May 16:

Arrivals—May 10, *Manavi*, from intermediate ports; May 11, *Huallaga*, from Callao; May 11, *Guatemala*, from Callao; May 12, *Acajutla*, from Salina Cruz; May 13, *Lyra*, from San Francisco; May 16, *City of Para*, from San Francisco.

Departures—May 10, *Columbian*, to Honolulu; May 10, *Salvador*, to Salina Cruz; May 11, *Mantaro*, to Callao; May 11, *Huasco*, to Valparaiso.

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Hotel Aspinwall, Taboga.

Families of employes are entitled to the employes' rate of $2.25 per day, per person, at the Hotel Aspinwall, Taboga.

Launch tickets to Taboga are on sale at all P. C. hotels and the Hotel Washington.

MOVEMENTS OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line.

NEW YORK TO CRISTOBAL.		Sails.	Arrives.
*Panama	P. R. R.	May 22	May 28
*Allianca	P. R. R.	May 28	June 3
*Cristobal	P. R. R.	June 3	June 10
*Advance	P. R. R.	June 9	June 16
*Panama	P. R. R.	June 15	June 21
*Allianca	P. R. R.	June 20	June 26
*Colon	P. R. R.	June 27	July 3
*Advance	P. R. R.	July 3	July 10
*Panama	P. R. R.	July 10	July 16
CRISTOBAL TO NEW YORK.			
†Colon	P. R. R.	May 21	May 27
†Advance	P. R. R.	May 28	June 4
†Panama	P. R. R.	June 3	June 9
†Allianca	P. R. R.	June 9	June 15
†Cristobal	P. R. R.	June 18	June 25
†Advance	P. R. R.	June 22	June 29
†Panama	P. R. R.	June 28	July 4
†Allianca	P. R. R.	July 3	July 9
†Colon	P. R. R.	July 10	July 16
NEW YORK TO COLON.			
*Santa Marta	U. F. C.	May 13	May 20
Tenadores	U. F. C.	May 16	May 23
Prinz Eitel Friedrich	H.-A.	May 16	May 26
*Metapan	U. F. C.	May 20	May 27
*Calamares	U. F. C.	May 23	May 30
Orotava	R. M.	May 23	May 31
Prinz August Wilhelm	H.-A.	May 23	June 1
Zacapa	U. F. C.	May 27	June 3
*Pastores	U. F. C.	May 30	June 5
Prinz Sigismund	H.-A.	May 30	June 9
Almirante	U. F. C.	June 3	June 10
*Tenadores	U. F. C.	June 6	June 12
Danube	R. M.	June 6	June 14
Prinz Joachim	H.-A.	June 6	June 15
*Santa Marta	U. F. C.	June 10	June 17
*Calamares	U. F. C.	June 13	June 19
Prinz Eitel Friedrich	H.-A.	June 13	June 23
COLON TO NEW YORK.			
Almirante	U. F. C.	May 21	May 29
Prinz Joachim	H.-A.	May 26	June 3
Danube	R. M.	May 26	June 3
†Tenadores	U. F. C.	May 27	June 1
Santa Marta	U. F. C.	May 28	June 3
Prinz Eitel Friedrich	H.-A.	May 31	June 8
†Calamares	U. F. C.	June 3	June 10
Metapan	U. F. C.	June 4	June 12
Tagus	R. M.	June 9	June 17
Prinz August Wilhelm	H.-A.	June 9	June 17
†Pastores	U. F. C.	June 10	June 16
Zacapa	U. F. C.	June 11	June 18
Prinz Sigismund	H.-A.	June 14	June 23
*Tenadores	U. F. C.	June 17	June 23
Almirante	U. F. C.	June 18	June 23
NEW ORLEANS TO COLON.			
Parismina	U. F. C.	May 13	May 20
*Turrialba	U. F. C.	May 16	May 21
Cartago	U. F. C.	May 20	May 27
*Abangarez	U. F. C.	May 23	May 28
COLON TO NEW ORLEANS.			
‡Atenas	U. F. C.	May 21	May 26
Parismina	U. F. C.	May 21	May 28
‡Turrialba	U. F. C.	May 28	June 2
Cartago	U. F. C.	May 28	June 4

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Piers 8, 9, and 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays at 3 p.m.; for New Orleans, via Bocas del Toro and Havana, on Thursdays at 4 p.m.; ships for New York via Kingston, on Thursdays, at 2 p.m.; for New York direct, on Wednesdays at 2 p.m.; for Limon and Bocas del Toro, on Saturdays at 4 p. m.; and for Bocas del Toro direct, on Thursdays at 4 p. m.

The Hamburg-American steamers *Prinz Eitel Friedrich* and *Prinz Sigismund* sail for New York, via Kingston and Fortune Island, on Sundays at 2 p. m.; the *Prinz August Wilhelm* and *Prinz Joachim* sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays at 10 a. m.

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Married.

WILSON-ZOOK—At Christ Church, Colon Beach, on April 29, Miss Leah Zook of Nebraska City, Neb., to Mr. Roland Webster Wilson, the Rev. H. R. Carson officiating. Canal Zone residence, Cristobal.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, MAY 27, 1914. No. 40.

The Canal Record

Official publication of The Panama Canal.

The Canal Record is published weekly free of charge, one copy each, to all employes of The Panama Canal and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No commnnication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Governor's Report.

A report of the Governor of The Panama Canal to the Secretary of War, of operations in April, is published in this issue of THE CANAL RECORD. It recounts the operations on the Isthmus during April, and gives the status of the principal features of the Canal construction at the close of the month. It shows the realignment of the various forces under the permanent organization.

The Beginning of Regular Commercial Service through the Canal.

The project of lightering the cargo of the steamship *Alaskan* through the Canal, begun with the departure of barges in tow of the *La Boca* from Balboa on May 18, has developed into a regular traffic operation. Twelve barges have been diverted to the service, and the tug *Mariner* was transferred to the Division of Operation on May 21, and is now continuously engaged in handling the barges back and forth.

A schedule has been established under which approximately a third of the barges are always being loaded at Balboa, a third are in transit, and a third are discharging at Cristobal. Thus, upon its arrival at Balboa, the *Mariner* leaves its tow of empties and picks up a tow of loaded barges; and, on arrival with these at Cristobal, finds waiting a tow of empties with which it may start directly on its return trip to Balboa. An effort is being made to accomplish a complete round trip in every 24 hours.

This service is maintained for handling the cargo from vessels of the American-Hawaiian Steamship Company. The local authorities have been advised that vessels of the company will be coming to Balboa regularly until at least the end of June, by which time it is probable that steamships will be allowed to go through the Canal.

Advantage is being taken of this opportunity to allow the pilots to familiarize themselves with the courses through the Canal, and to develop a system of communication between the port captains and the locks. The departures and arrivals of the vessels are reported, as they will be when the Canal is in regular operation.

Tug Service for Vessels at Balboa.

In the line with the proposed transfer of the control of the terminal ports, and of shipping, from the Panama Railroad Company to The Panama Canal, the railroad has notified all the Pacific steamship companies that make the port of Balboa that in the future they shall communicate their requirements for tug service direct to Lieut. Comdr. H. V. Butler, the recently appointed captain of the port, under The Panama Canal organization.

Interchangeable Use of Equipment.

A committee consisting of Ad. Faure, costkeeping accountant, chairman; F. R. Blunt, acting Superintendent of the Panama railroad; and Charles L. Parker, surveying officer, was appointed on May 21 to prepare a schedule of all plant and equipment owned by The Panama Canal which will be used or operated permanently by the Panama railroad; and, similarly, a statement of all plant and equipment owned by the Panama Railroad Company which will be used or operated by The Panama Canal. The statements are to show first cost of the items and a rough approximation of their present value.

Arrival of the Dredge "Paraiso."

The 15-cubic yard dipper dredge *Paraiso* arrived at Colon in the evening of Friday, May 22. It was in tow of the tug *M. E. Luckenbach* and had been 27 days at sea. On Saturday, it was towed to Gatun Locks, and on Sunday was raised to Gatun Lake and towed to Paraiso and tied up just north of the pontoon bridge. It was towed past the bridge on Monday morning, immediately after the passage of train No. 41, and moored alongside the repair wharf. The erection of its parts is now in progress, and it will shortly be placed at work in Culebra Cut.

Progress on Transisthmian Duct Line.

In the laying of the transisthmian duct line for telegraph and telephone cables, which was begun on April 14, at Gamboa, the trench for the duct has been dug as far as Frijoles, a distance of slightly over nine miles, to the morning of May 27. The duct has been laid and concreted to within a mile of Frijoles, and has been backfilled and otherwise completed, with the exception of the manhole covers, to a point about two miles south of Frijoles, or over two miles north of Darien.

Small New Slide in Culebra Cut.

A small slide occurred in the west bank of Culebra Cut, opposite Las Cascadas (station No. 1600, mile 33 of the Canal) on May 19. About 5,000 cubic yards of earth were involved. The slide did not break far back, is now quiescent, and appears to involve no more motion than the slight amount which took place in the one day. The channel is otherwise at full depth and width in this section.

Joint Land Commission Resumes Activities.

Following the arrival on the Isthmus of the new United States members of the Joint Land Commission, to take the places vacated by L. S. Rowe and Roland P. Falkner, the body has resumed its activities. The new members are David Marks, a retired business man of Wabash, Ind., and Levi Monroe Kagy, a practicing attorney of Salem, Ill. The representatives of Panama are the same, Federico Boyd and Samuel Lewis. J. A. Langston has been chosen secretary of the Commission, *pro tempore*.

The members made an official visit to President Porras and Secretary of Foreign Relations Lefévre on Saturday, May 23. An informal meeting was held on May 25. A meeting for formal organization was held on May 26, and hearings will begin on May 28, at 9 a. m. The offices of the Commission have been transferred to Ancon, in the residence formerly occupied by the head of the old Department of Civil Administration.

New Water Stage Registers.

Forces of the meteorological and hydrographic section have recently installed new water stage registers at Juan Mina and Monte Lirio, in order to obtain more extensive data on the fluctuations of the surface of Gatun Lake, as affected by freshets in the several tributary rivers, and by other forces. The water stage register at Frijoles has been moved to a convenient point alongside the Panama railroad, from its former location, a quarter of a mile from the railroad station.

Canal Excavation in April.

The grand total of Canal excavation to May 1, 1914, was 220,825,562 cubic yards, leaving 11,527,438 cubic yards remaining to be excavated, under the revised estimate of July 1, 1913.

The total excavation for the month of April was 1,223,925 cubic yards, as compared with 1,226,644 cubic yards for March. The wet excavation amounted to 1,049,834 cubic yards, and the dry excavation to 174,091 cubic yards.

In the Atlantic section, the total excavation for March was 188,383 cubic yards, all by dredges. Of this amount, 186,119 cubic yards were removed from the Atlantic entrance and the site of the proposed new pier No. 7, by the suction dredges *Caribbean* and *Culebra*, and 2,264 cubic yards were taken out at the coaling basin.

Of the 648,906 cubic yards excavated in the Central section, comprising Culebra Cut and the Charges territory, 472,162 cubic yards were removed by the dredges, 117,714 by hydraulic monitors, and 59,030 cubic yards were taken out by steamshovels on the west bank of Culebra Cut, south of Culebra village, in relieving the pressure as a preventive against slides.

In the territory of the old Pacific Division, operations by dredges resulted in the removal of 260,366 cubic yards from the inner harbor; and 11,209 cubic yards from the Pacific entrance. Dry excavation in this section amounted to 115,061 cubic yards, of which 113,461 cubic yards were excavated at the terminal site, and 1,600 cubic yards were removed from the discharge channel for Miraflores Spillway.

A total of 1,296 cubic yards of concrete was placed in the locks, in connection with the installation of machinery.

A detailed statement of excavation, and a summary of the work on the locks and dams during the month of April, follow:

ATLANTIC DIVISION.

LOCALITY.	"Work" Excavation.	"Plant" Excavation.	Total Excavation.
Dry Excavation—	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
Locks, dam and spillway	....	....	....
Mindi	....	....	....
Terminal	....	....	....
Total	....	....	....
Wet excavation—			
Atlantic entrance	186,119	....	186,119
Locks, Dam and Spillway	....	....	....
Terminal, Cristobal C.P.	2,264	....	2,264
Total	188,383	....	188,383
Total wet and dry excavation	188,383	....	188,383

CENTRAL DIVISION.

Dry excavation—			
Culebra Cut	59,030	....	59,030
Total dry	59,030	....	59,030
Wet excavation—			
Chagres Section, dredges	....	....	....
Culebra Cut, hydraulics	117,714	....	117,714
Culebra Cut, dredges	472,162	....	472,162
Total wet	589,876	....	589,876
Total wet and dry excavation	648,906	....	648,906

PACIFIC DIVISION.

Dry excavation—			
Locks, dams and spillways	....	....	....
Terminal	112,024	1,437	113,461
Rio Grande Diversion	1,600	....	1,600
Total	113,624	1,437	115,061
Wet excavation—			
Pacific entrance	11,209	....	11,209
Miraflores Locks	....	....	....
Diversions	....	....	....
Terminal	260,366	....	260,366
Total	271,575	....	271,575
Total wet and dry excavation	385,199	1,437	386,636

TOTAL CANAL EXCAVATION.

Dry excavation	172,654	1,437	174,091
Wet excavation	1,049,834	....	1,049,834
Total	1,222,488	1,437	1,223,925

LOCKS AND DAMS.

MATERIAL.	Atlantic	Pacific	Total
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*
Concrete placed in locks	198	455	643
Concrete placed in dams and spillways	....	....	....
Fill placed in dams	....	....	....

Mean rainfall along Canal (nine stations), 2.40 inches.

By "Work" excavation is meant excavation actually made for one of the constituent parts of the Canal, such as prism, diversions, locks, etc.; that is, it represents material taken from the area to be occupied by the Canal and constitutes excavation useful for the completed Canal.

By "Plant" excavation is meant excavation outside any of the constituent parts of the Canal, such as prism, diversions, locks, etc. It includes material necessary to be excavated for construction purposes only, and is chargeable against the particular plant item for which it is performed, such as prism, diversions, locks, etc.

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Changes in Signaling Devices.

When the pontoon bridge was placed in service on May 14, the interlocking plants at bridge 57½ and Paraiso Junction were placed out of service. The telegraph operator will remain on duty for the present at Paraiso Junction but bridge 57½ cabin has been closed and a new office opened at Springs, which is located about one-half mile west of the pontoon bridge. The block dispatchers are to be moved from Summit and placed in the new cabin on the pontoon bridge.

The automatic signal protection for the gauntlet track through Miraflores tunnel was placed in service at 12 o'clock noon on Thursday, May 21, and the staff system and interlocking plants at both North Cabin and South Cabin have been removed.

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Ancon Crusher.

Following is a statement of rock crushed at Ancon quarry during the two weeks ending May 23:

DATE.	Hours worked.	Cubic yards.
May 11	8.15	2,368
May 12	8.00	2,308
May 13	8.20	2,497
May 14	8.00	1,794
May 15	6.55	1,891
May 16	8.40	1,790
Total	48.10	12,648
May 18	7.50	1,325
May 19	6.00	1,571
May 20	8.45	1,964
May 21	6.00	1,202
May 22	7.30	1,200
May 23	8.50	2,035
Total	44.55	9,797

◆

The Type-22 house at Gatun, formerly occupied by Lieut.-Col. William L. Sibert, and the one adjoining, formerly occupied by Maj. Chester Harding, are being dismantled, and will be reerected on the west slope of Ancon Hill.

EXECUTIVE ORDERS.

Payment of Members of Joint Land Commission.

By direction of the President, it is ordered:

That Levi Monroe Kagy and David Marks, who have been appointed members of the Joint Commission for the appraisement and settlement of damages to property in the Canal Zone, in accordance with the provisions of Articles VI and XV of the Convention between the United States and Panama, concluded November 18, 1903, be allowed twenty-five ($25) dollars per day for their services, including all expenses, from the time of their sailing from New York until their return thither; provided, that they shall be granted free transportation on the Panama Railroad Steamship Line from New York to the Isthmus and return, free transportation over the Panama railroad, and such other transportation as may be necessary when traveling on official business on the Isthmus; they shall also be allowed the ordinary privileges of Government employes on the Isthmus, including employes' rates at the hotels of The Panama Canal or the Panama Railroad Company on the Isthmus.

LINDLEY M. GARRISON,
Secretary of War.

WAR DEPARTMENT,
Washington, D. C., *May 8, 1914.*

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Approving Acts and Resolutions of the Isthmian Canal Commission Passed since February 28, 1907.

All acts and resolutions of the Isthmian Canal Commission passed since February 28, 1907, in so far as they effect changes in the "Laws of the Canal Zone" or other enactments of the Commission relative to the Government of the Canal Zone prior to March 4, 1905, in so far as they have not been specifically approved or modified, are hereby approved.

By order of the President.

LINDLEY M. GARRISON,
Secretary of War.

WAR DEPARTMENT,
Washington, D. C., *May 13, 1914.*

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Mr. G. Arias L. has been appointed vice-consul for Brazil in Panama.

Estates Being Settled.

The following estates of deceased employes of The Panama Canal or the Panama Railroad Company are now in process of settlement by the office of the Administrator of Estates, Ancon, C. Z., and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings, or postal money order deposits, or any other moneys due them, should be presented at his office at once in order that the estate may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once.

Name.	*Check No.*	*Native of*	*Isthmian residence.*	*Employed by*	*Date of death.*
Fred A. Archer	216830	U. S. A.	Empire	Electrical Div.	May 19
Konstantina Banos	14427	Greece	Corozal	Fourth Divison	May 16.
José Colmeiro	3225	Spain	Corozal	Ancon Quarry	May 5.
George F. Cleveland	56482	U. S. A.	....	Electrical Div.	May 23.
Albert Delaney (Dehaney)	213458	Jamaica	Colon	Fortifications	May 15.
George Dumonoir	56104	Martinique	Colon	Police Division	May 20.
George Gale	102440	Jamaica	Colon	Fortifications	May 15.
James Hosier	184219	Antigua	Colon	Fortifications	May 15.
Luther Lopez	189131	Jamaica	Colon	Dredging Div.	May 15.
Jay T. Miller	212503	U. S. A.	Ancon	Electrical Div.	May 20.
Joseph Monroe	222289	Jamaica	Golden Green	Second Division.	May 17.
Edward Noonan	211383	U. S. A.	Corozal	Q. M. D.	May 21.
Alonzo Small	111360	Barbados	Panama	Health Dept.	April 20.
Frederick Thompson	213698	Jamaica	Folks River	Mechanical Div.	May 11.
Theophilus Turner	55315	Jamaica	Colon	Mun. Eng. Div.	May 15.
John White	83759	Jamaica	Gatun	Permanent Blds.	May 18.
Robert Woodbine	79736	Jamaica	Colon	Fortifications	May 15.
Stephen M. Alton	56171	U. S. A.	Porto Bello	Police Div.	Sept. 9, 1911.
Duncan May	68071	U. S. A.	Balboa	Pacific Div.	Dec. 6, 1912.
Walter McNish	87913	Jamaica	Panama	....	July 14, 1913.
George Wagner	40456	U. S. A.	Ancon	Q. M. D.	Nov. 12, 1913.
Nelson Wheeler	76575	U. S. A.	Panama	Pacific Div.	Aug. 17, 1912.

SOCIAL LIFE OF THE ZONE.

Seventh Anniversary and Farewell Celebration of Culebra Clubhouse.—General Notes.

The seventh anniversary of the opening of the Canal clubhouse at Culebra was celebrated in three nights of entertainment by the Culebra clubhouse last week. Music, monologue, and song, interposed among the films at a moving picture show on Wednesday night, May 20, comprised the opening entertainment; on Thursday night, there was an imitative recital of "The man from home;" and on Friday night, a formal farewell meeting was held, and numerous addresses were delivered. The activities of the association will continue, but as the village is in progress of dissolution and will not be in existence another year, the anniversary date was selected as a fit time for the exercises.

The original Culebra clubhouse was opened on May 21, 1907. It was one of the four clubhouses first authorized, buildings of the same type having been completed and opened in the first half of the year 1907 at Culebra, Empire, Gorgona, and Cristobal. The success of the associations at these points led to the erection of clubhouses later at Gatun, Porto Bello, and Corozal; and, with the transfer of force toward the south end of the Canal, to the opening of clubhouses at Pedro Miguel and Balboa. The building at Culebra was demolished in August, 1912, on account of the encroachment of the west Culebra slide. The site is now included in the slide area, and the soil on which the clubhouse rested has been hauled away on dirt trains.

Upon the demolition of the clubhouse, part of the material in it was used for the construction of a temporary recreation center beneath the west end of the Administration Building annex. It was held inadvisable to reerect the clubhouse, a large 2-story structure, on account of the impending abandonment of the village. The temporary center has housed two bowling alleys, pool and billiard tables, a library, a refreshment counter, and a barber shop. Entertainments of the association have been held in the public school building.

The farewell exercises of Friday night were presided over by Ernest E. Lee, chairman of the executive council of the local association. The program comprised vocal and musical selections; address, "Our association," by Benjamin A. Armstrong, secretary of the Culebra organization; a series of 2-minute addresses by representatives of other clubhouses; and an address by Associate Justice Thomas E. Brown, Jr. At the close of the formal exercises, a social hour was held, and refreshments were served.

The Cristobal Dancing Club will hold a special dance on Saturday, May 30, at the Cristobal clubhouse. The new board of governors of the club are Chas. L. Persons, T. A. Aanstoos, and Jos. H. Gill, and Wm. H. Marsh, secretary-treasurer.

Employes Transferring to Sanitary Work at Vera Cruz.

In response to offers from the Surgeon General of the United States Army of positions in a force to be organized for the sanitation of Vera Cruz, Mexico, E. D. Gayle, Joseph McGuigan, Charles Parker, and E. W. Mitchell have resigned from the service of the Health Department and will sail shortly for New Orleans, on their way to Vera Cruz. Dr. L. P. Williamson, former superintendent of Colon Hospital, was transferred on his own request to field service with the army of occupation, and sailed on May 14. James T. B. Bowles, physiologist in the Division of Municipal Engineering, accepted a position at Vera Cruz, and sailed on May 21.

Rates for Launch "Louise."

The following rates will apply on special trips of the launch *Louise*, excepting special trips through Culebra Cut:

Regular rate—Per hour, $5; minimum charge, $15.

Employes' rate—Per hour, $3; minimum charge, $15.

For special trips through the Cut, the regular rate of $1.50 per passenger should apply, with a minimum charge of $15, all passengers over ten (10) to be charged for at the regular rate.

Independent Order of Panamanian Kangaroos.

At a meeting of the Independent Order of Panamanian Kangaroos, held at Kangaroo hall at Empire on May 9, nominations for officers for the term July 1 to December 31, 1914, were called for. Further nominations will be made and election held on Saturday night, June 6, at Empire. Refreshments will be served after the meeting.

FRANK E. GREENE,
Clerk, I. O. P. K.

EMPIRE, C. Z., May 21, 1914.

Improved Order of Red Men.

All Red Men are cordially invited to attend Ancon wigwam on the evening of May 30. Consolidation of Chiriqui, Cocoli, and Panama tribes, followed by corn and venison, and dogeating contest between Carib and Panama tribes.

R. H. HULL,
Chief of Records.

PARAISO, C. Z., May 26, 1914.

Missing Man.

Any one having information regarding the whereabouts of a white man named Gordon Maddox is requested to communicate with the Chief of Police and Fire Division, Ancon, C. Z.

PERSONAL.

Frank Feuille returned to the Isthmus on Thursday, May 21, from a special leave of 42 days, spent in the United States.

Arrested on the Isthmus for a Murder in Oklahoma.

Thomas Winters, a white American who had been living in Colon and was under indictment for the murder of Arthur Hennessey at Sapulpa, Okla., on January 12, 1914, was arrested in the Canal Zone on May 2, on instructions cabled from the commonwealth of Oklahoma. Upon being advised of the arrest, Governor Lee Cruce of Oklahoma issued papers of extradition, which were brought to the Canal Zone by Sheriff Henry Clay King, of Creek county. The prisoner signed a voluntary waiver of extradition and sailed with the sheriff for New Orleans on May 21.

A Type-5 house at Porto Bello is being dismantled and will be reerected at a point near the hotel at East Balboa. A Type-18 house and five laborers' barracks in the same settlement are being moved to the settlement at La Boca, where they will be reerected into quarters for silver laborers.

MEMORIAL DAY EXERCISES.

Program for Observances at Ancon Cemetery on Morning of May 30.

Memorial Day, May 30, will be observed by special exercises held in Ancon, under the auspices of the American Veterans of Foreign Service and the Spanish War Veterans. The following program has been adopted by the united societies:

At 9.30 a. m., a procession will form at the Panama railroad passenger station. The order of formation will be: Tenth Infantry band, Tenth Infantry escort and firing squad, American Veterans of Foreign Service, Spanish War Veterans. Capt. Charles A. Barber will be marshall and E. W. Bucklin, aide.

The line of march will be toward the Hotel Tivoli, turning to the left and proceeding through Bishop's Hollow to Ancon cemetery.

The exercises at the cemetery, at 10 a. m., will be, as follows: Prayer, the Rev. Harry Compton; dirge, the Tenth Infantry band; Lincoln's address at Gettysburg, delivered by H. A. Gudger; "The unknown dead," address by W. H. Jackson; selection by the band, during the playing of which the graves will be decorated with flowers by the children of the public school; volley by the firing squad; taps.

Obituary.

Herbert C. McPhadden, an enlisted man in the Tenth Infantry, while walking guard at the lower end of Gatun Locks, during the night of May 15, fell into the water and was drowned. His body was recovered by a diver. He was 22 years and three months of age, single, and had been on the Isthmus since December 11, 1913. He is survived by his father, Douglass McPhadden, living in Richmond, Va.

Fred A. Archer, a wireman employed in the Electrical Division, died at Ancon Hospital on May 19, as the result of an electric shock and falling from a pole on which he was at work, at Las Cascadas. He had been on the Isthmus one month, was 39 years of age, a widower, and is survived by his mother, Mrs. Lizzie D. Norton, living at 58 South Sawyer street, Portland, Me.

Jay P. Miller, a wireman in the Electrical Division, was killed by electric shock at Balboa shops on May 20. He had been on the Isthmus three months, was 25 years of age, single, and is survived by his mother, Mrs. A. E. Miller, living at Glen Falls, N. Y., R. F. D. No. 1.

Edward Noonan, an employe in the Supply Department, died at Ancon Hospital on May 21. He was 44 years of age, single, and came to the Isthmus three months ago from Brooklyn, N. Y. He is survived by a sister, Mrs. M. Leaney, living at 7032 Stoney Island avenue, Chicago, Ill.

Five Employes Drowned in Limon Bay.

Albert Dehaney, George Gale, Theophilus Turner, and Robert Woodbine, Jamaicans, and James Hosier, Antiguan, negro employes of the Fortifications Division, were drowned in the morning of May 15, in Limon Bay at a point about a quarter of a mile east of Toro Point. The bodies of all but Dehaney have been recovered. These men with 11 others were crossing the bay from Colon in a privately owned sailboat, 19 feet long by five feet wide, with a round bottom. A sudden gust of wind capsized the boat and threw its occupants into the water.

RECORD OF CANAL WORK SINCE AMERICAN OCCUPATION.

TOTALS BY CUBIC YARDS OF EXCAVATION AND LOCK AND DAM CONSTRUCTION.

[All figures are of work useful for the completed Canal.]

DRY EXCAVATION.

CENTRAL SECTION.

M'THS.	Culebra Section.*								Chagres Section.**					
	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1909.	1910.	1911.	1912.	1913.	1914.
Jan	566,750	1,227,022	1,150,249	1,323,693	1,356,394	1,416,035	1,135,580	777,322	389,399	175,802	255,385	28,357	......	71,710
Feb	639,112	1,248,265	1,194,454	1,259,173	1,409,338	1,349,569	996,800	681,550	450,182	286,309	219,550	66,145	....	113,457
March	815,270	1,290,885	1,434,597	1,509,728	1,728,748	1,539,618	1,183,900	617,887	619,491	484,846	297,339	172,607	....	....
April	879,527	1,242,574	1,272,746	1,288,845	1,414,336	1,455,216	1,178,000	648,906	510,020	428,777	102,103	171,731	....	....
May	690,365	960,840	1,126,963	1,099,279	1,299,100	1,405,760	921,000	....	386,170	248,974	29,783	12,524	....	....
June	624,586	1,134,032	1,242,134	1,305,141	1,401,016	1,348,780	865,283	....	275,900	164,389	32,288	8,424	....	....
July	770,570	1,121,325	1,200,828	1,153,810	1,337,833	1,335,590	1,037,700	....	233,897	166,106	22,284	776	....	....
August	786,866	1,171,927	1,173,370	1,377,714	1,442,402	1,094,132	893,300	....	231,543	234,404	21,892	....	....	....
Sept	753,468	1,122,860	1,235,978	1,339,948	1,340,173	922,712	448,200	....	235,818	234,290	21,272	....	....	....
Oct	834,499	1,160,101	1,302,901	1,320,314	1,306,971	1,113,420	382,270	....	221,409	271,409	12,216	....	132,703	....
Nov	790,632	1,022,576	1,070,792	1,209,554	1,209,498	973,071	441,494	....	93,619	260,882	12,248	....	119,092	....
Dec	1,025,485	1,210,046	1,152,022	1,211,400	1,351,082	1,074,510	736,202	....	105,044	197,481	10,809	....	124,227	....
Totals	9,177,130	13,912,453	14,557,034	15,398,599	16,595,891	15,028,413	10,219,729	2,725,695	3,752,492	3,153,669	1,037,169	460,564	376,022	185,147

Mos	ATLANTIC SECTION.†					PACIFIC SECTION.¶										
	Gatun Locks, Dam and Spillway.††					Pedro Miguel Locks and Dams.‡					Miraflores Locks, Dams and Spillway.‡‡					Balboa T'm'n'ls.§
	1910.	1911.	1912.	1913.	1914.	1910.	1911.	1912.	1913.	1914.	1910.	1911.	1912.	1913.	1914.	1914.
Jan	125,011	65,889	1,330	46,773	4,626	27,320	15,690	24,969	1,147	....	31,479	48,744	95,609	26,483	44,830	161,818
Feb	123,738	50,511	1,228	11,241	....	9,486	6,809	18,480	448	....	15,300	12,936	47,426	12,532	36,801	104,488
Mar.	132,007	51,431	254	35,705	....	6,784	674	1,777	800	....	18,184	72,739	28,352	28,700	14,789	113,497
Apl	103,243	12,548	27,134	29,649	....	9,129	255	13,269	620	....	12,148	79,751	29,094	23,255	1,600	112,024
May	82,958	17,677	24,280	1,829	.....	10,405	5,905	26,018	127	....	20,250	57,975	13,096	3,778	....	....
June	88,088	4,840	19,605	388	....	8,420	7,454	7,794	936	....	21,994	38,023	7,906	....	....	....
July	95,503	6,897	1,974	17,756	....	4,410	6,273	4,412	....	....	11,990	97,884	4,532	....	....	....
Aug	99,737	22,558	....	2,161	....	12,789	220	4,866	....	....	17,548	102,249	7,120	....	....	....
Sept	103,040	3,489	1,025	1,041	....	10,405	3,472	1,613	....	....	8,590	96,112	5,192	....	....	....
Oct	118,327	112	1,700	1,383	....	7,433	5,365	1,257	....	....	9,850	107,790	14,107	6,980	....	....
Nov	94,552	....	2,203	1,210	....	10,636	12,962	2,408	....	....	9,400	84,894	27,728	6,970	....	....
Dec	72,030	....	16,677	2,168	....	11,195	17,320	3,176	....	....	17,906	79,480	30,319	30,420	....	....
Tot'ls	1,238,234	235,952	97,410	151,354	4,626	128,412	82,399	110,039	4,078	....	194,639	878,577	310,481	139,118	95,011	491,827

*Total to May 1, 1914, 101,476,661 c. yds. Excavated 1904—1906 inclusive, 3,860,717 c. yds; by sluicing, 1,283,308 c. yds.; by dredging, 2,396,425 c. yds.

**Total to May 1, 1914, 12,945,824 cu. yds.; 1907, 192,769 cu. yds.; 1908, 3,787,992 c. yds.; by sluicing, 188,239 c. yds.; by dredging, 551,169 c. yds.

†Dry excavation Mindi Hills 1907-1912, 2,196,198 cubic yards.

¶Excavated various points in prism to May 1, 1914, 4,819,797 cu. yds.; Balboa Locks and Dams, 1907, 78,233 cu. yds.; Outside Prism 1908, 172 cu. yds.

††Total to May 1, 1914, 6,662,779 cubic yards, including 26,628 c. y., 1906; 1,340,179 c. y., 1907; 2,774,561 c. y., 1908; 793,835 c. y., 1909.

‡Total to May 1, 1914, 1,321,063 cubic yards, including 256,780 cu. yds. in 1908, and 739,355 cu. yds. in 1909.

‡‡Total to May 1, 1914, 2,979,679 cubic yards, including 846,920 cu. yds. in 1908, and 511,933 cu. yds. in 1909.

§Total to May 1, 1914, 1,762,981 cubic yards, including 318,731 cu. yds. in 1912, and 952,423 c. y. in 1913.

WET EXCAVATION.

Mos.	ATLANTIC SECTION.†							PACIFIC SECTION.††							
	Atlantic Entrance.§						A'L'TIC TERM.*	Pacific Entrance.§§						Balboa Terminals**	
	1909.	1910.	1911.	1912.	1913.	1914.	1914.	1909.	1910.	1911.	1912.	1913.	1914.	1913	1914.
Jan	521,050	510,055	520,181	520,228	508,338	102,057	53,734	459,529	518,936	379,810	334,735	215,025	86,585	216,540	205,[illegible]
Feb	444,910	493,448	455,318	581,399	303,949	289,396	55,727	671,477	285,791	386,866	432,796	239,032	9,275	175,225	135,150
Mar	461,208	412,325	391,736	103,373	380,243	259,615	25,019	865,696	462,588	639,761	404,939	379,845	13,740	166,806	166,092
Apr	470,635	190,574	492,579	134,261	436,605	186,119	22,641	731,767	534,322	439,622	383,995	356,942	11,209	182,125	[illegible]
May	315,370	447,578	514,178	229,626	685,163	....	....	720,753	484,509	548,047	388,310	369,703	....	194,510	....
June	182,575	458,021	452,098	343,804	814,592	....	....	844,685	475,486	576,100	338,006	604,080	....	31,179	....
July	348,451	423,092	425,195	495,398	921,948	....	....	733,181	515,782	520,692	392,511	756,930	....	231,105	....
Aug	422,846	508,829	367,456	429,415	512,089	....	....	623,263	506,969	630,241	441,644	726,256	....	286,127	....
Sept	410,574	451,873	420,434	372,302	478,689	....	....	662,976	473,585	534,667	455,059	581,958	....	178,579	....
Oct.	314,778	549,788	470,400	572,783	288,760	....	....	720,920	467,873	329,224	435,726	433,098	....	110,600	....
Nov	457,889	600,708	742,242	670,247	206,327	....	....	627,791	425,870	346,089	534,273	341,585	....	....	....
Dec	489,121	482,370	533,409	814,373	221,474	....	....	727,460	387,034	141,189	349,747	182,277	....	94,591	....
Totals	[illegible]	5,523,661	5,785,226	5,267,209	5,758,177	837,187	136,744	8,390,498	5,538,745	5,472,308	4,891,741	5,186,731	120,789	1,867,441	[illegible]

†Dredging, Gatun Dam, 1907, 38,425 cu. yds.: Gatun Locks, 1908-13, 1,776,791 cubic yards.

††Miraflores Locks and Dam, 1909-12, 652,246 cu. yds.: total to Jan. 1, 1914, 652,246 cu. yds.

§Total to May 1, 1914, 38,868,242 cu. yds., including 10,792,375 cu. yds. in 1905-08.

§§Total to May 1, 1914, 41,486,012 cu. yds., including 11,876,200 cu. yds. in 1905-08.

**Total to May 1, 1914, 3,446,075 cu. yds., including 264,556 cu. yds. in 1911, and 566,814 cu. yds. in 1912.

*Total to May 1, 1914, 374,384 cu. yds., including 237,640 cu. yds. in 1913.

CONCRETE IN LOCKS AND DAMS.*

Months.	Gatun Locks.†			Pedro Miguel Lock††			Miraflores Locks.‡		
	1912.	1913.	1914.	1912.	1913.	1914.	1912.	1913.	1914.
Jan	34,983	28,085	176	15,003	4,652	3,692	48,416	50,456	3,680
Feb.	26,664	30,780	159	12,639	4,294	813	63,893	34,979	2,358
March	27,532	48,180	208	9,331	13,412	169	83,706	21,030	902
April	11,600	22,732	198	9,460	2,145	155	97,735	13,266	300
May	7,746	13,046	....	10,736	1,144	....	92,095	6,956	....
June	6,095	5,509	....	10,061	773	....	68,398	3,836	....
July	8,093	3,431	....	11,480	1,829	....	66,026	3,810	....
Aug.	6,855	6,258	....	5,995	1,884	....	75,388	3,643	....
Sept.	3,162	442	....	3,039	1,144	....	46,122	1,907	....
Oct.	3,252	174	....	6,587	412	....	54,790	1,152	....
Nov.	6,029	280	....	7,972	630	....	39,874	2,007	....
Dec.	5,697	120	....	6,958	1,162	....	46,746	1,859	....
Total	147,708	159,037	741	109,261	33,481	4,829	783,183	144,901	7,240

*Concrete in dams to May 1, 1914—Gatun spillway, 232,256 cu. yds.; Miraflores dam and spillway, 79,004 cu. yds.; Pedro Miguel dam, 1,289 cu. yds.

†1,761,344 cu. yds. in 1909, 1910, and 1911. ††780,696 cu. yds. in 1909, 1910, and 1911. ‡572,435 cu. yds. in 1909, 1910, and 1911.

FILL PLACED IN DAMS—1906-1914.

Year.	Gatun.		Pedro Miguel	Miraflores.	
	Wet	Dry	Dry	Wet	Dry
	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.
To January 1, 1911	5,833,076	6,128,105	260,852	294,712	609,863
1911	3,493,388	2,613,066	57,669	366,336	460,514
1912	1,402,501	2,499,092	352,159	....	418,042
1913	....	910,741	25,258	....	246,640
1914	....	37,689	....	....	23,364
Totals	10,728,965	12,195,017	695,938	661,048	1,758,423

CANAL EXCAVATION TO DATE.

By French Companies		78,146,960
French excavation useful to present Canal		29,903,000
By Americans—		
Dry excavation	129,815,340	
Dredges	91,011,316	
Total		220,826,656
May 4 to December 31, 1904	243,472	
January 1 to December 31, 1905	1,799,227	
January 1 to December 31, 1906	4,948,497	
January 1 to December 31, 1907	15,765,290	
January 1 to December 31, 1908	37,116,735	
January 1 to December 31, 1909	35,096,166	
January 1 to December 31, 1910	31,437,677	
January 1 to December 31, 1911	31,603,899	
January 1 to December 31, 1912	30,269,349	
January 1 to December 31, 1913	27,177,960	
January 1 to April 30, 1914	5,368,384	

Totals by Sections and Amounts to be Excavated.

Sections.	Amount excavated.		Remaining to be excavated.	
Atlantic—				
Dry excavation	8,858,977	49,856,819	*3,977	3,310,181
Wet	40,997,842		3,314,158	
Central—				
Culebra Cut	101,460,266	114,422,485	3,551,734	3,274,515
All other points	12,962,219		*277,219	
Pacific—				
Dry excavation	10,961,925	56,546,258	*173,925	4,942,742
Wet	45,584,333		5,116,667	
Grand total		220,825,562		11,527,438

*Estimate exceeded by this amount.

PACIFIC SIDE WATER SUPPLY.

Infiltration of Chlorine Leads to Abandonment of Miraflores Lake Project.

It has been decided to abandon Miraflores Lake as a source of water supply for Panama and the permanent Canal Zone settlements on the Pacific side of the Isthmus. This step is taken because of the discovery, made a few months ago, of a steadily increasing chlorine content in the water of the lake, from which most of the supply for domestic consumption at the southern end of the Canal has been drawn since October, 1913. Recent analysis of a sample of water taken 100 feet east of Cocoli spillway showed 85 parts chlorine to one million parts water at the bottom, and 77.5 at the top; at a point 100 feet west of the spillway, an analysis showed 80 parts at the bottom and 76.5 at the top; 100 feet west of the upstream side of Cocoli dam, the examination showed 75 parts at the bottom and 75 at the top, while approximately one-fourth to three-eighths of a mile up the Cocoli River, the water contained 52 parts chlorine at the bottom and 69 parts at the top, showing that the more remote parts of the lake have become impregnated. Although unnoticeable to the taste in the above proportions, the salinity at above 80 is likely to cause injury to boilers, and to be generally unfit for industrial uses.

Since the selection of Miraflores as the site of the present pumping plant for the Pacific end, and of Miraflores Lake as the reservoir, the water requirements of that section have been served by a temporary pumping station, situated near the railroad track just north of the tunnel. The consumption of water at the southern end is now about 6,250,000 gallons a day, nearly all of which is drawn from the lake. A small amount has been taken from Rio Grande reservoir during the past dry season, but owing to its present low stage, the remainder of this supply is being reserved for the use of Culebra village.

Pending the results of the investigations, a temporary pumping station was installed near the east wing wall at Pedro Miguel Lock, equipped with two pumps, formerly in use at Gatun Locks, each having a capacity of about 4,000 gallons a minute, and water was pumped from Culebra Cut into the intake basin at Miraflores, to reduce the chlorine content of the water drawn into the Panama mains. This plan decreased the salinity of the water to a considerable extent, but also increased the operating cost, and gave no hope of permanent relief.

Work on the new permanent pumping plant at Miraflores was stopped in January, soon after it became known that the chlorine in the lake was increasing. Up to this time, the small intake had been practically completed, and portions of the walls of the main building were up. Since the stoppage of construction work at that point, the matter of a new source of supply has been under advisement, and all the streams in the Pacific slope, including the Juan Diaz River, were investigated and considered, and found to be inadequate as a source of water supply without the construction of large impounding reservoirs. Upon the recommendation of the resident engineer of the Division of Municipal Engineering, the decision was finally reached to extend the pipeline to the Chagres River at Gamboa.

It is proposed to lay the new pipeline parallel to the main line of the Panama railroad between Gamboa and Miraflores, either beneath the flow line of the roadbed drainage ditch, and inside of the transmission line tower foundations, or outside of these foundations altogether, depending upon which location will result in the least cost. It is also proposed to place the pipeline on the sides of the railroad embankment where the embankment is stable; at points where it is not suited, the pipe will be laid in original ground along the bottom of the embankment.

The plan contemplates the laying of approximately 18,000 feet of 30-inch cast iron pipe from Gamboa to a short distance north of La Pita Point, which, at 270 feet above mean sealevel, is the highest elevation between Gamboa and Miraflores; and of approximately 16,000 feet of 36-inch pipe from La Pita Point to a point just south of the continental divide; and from this point, approximately 26,000 feet of 30-inch pipe to the Miraflores purification plant. The pumping pressure will be increased by about 43 pounds per square inch over that at Miraflores, as the water will have to be lifted over the divide at La Pita; from there to Miraflores, and thence through the purification plant to Panama City and vicinity, the flow will be entirely by gravity.

In order to lay the pipe with the least possible delay, and with the least interference with the railroad, a ditch will be opened for approximately 75 per cent of the length of the pipeline, prior to the arrival of the pipe on the Isthmus. The total shipment of pipe for this purpose will aggregate about 10,500 tons, or from 350 to 400 carloads, in 12-foot lengths, each length weighing between two and three tons. The pipe will be distributed by work trains, using locomotive cranes, on the main line of the Panama railroad. It is proposed to lay the pipe at night, in case traffic in the day time should be so heavy as greatly to delay the work, and to run the joints, and backfill the pipe during the daytime. Leadite will be used in sealing all joints, except where the pipe crosses under the railroad or falls in soft ground.

It is further planned to place one main line 30 or 36-inch geared valve every one-half mile, and, by means of the steam pumping plant now in operation at Gamboa, a full working hydrostatic test will be placed on each half-mile section as fast as the line is completed. That portion of the pipeline in the immediate vicinity of Gamboa, and that between Pedro Miguel and Miraflores, will be subjected to heads as high as 300 feet. In order to protect the line against water hammers, a number of 6-inch relief valves will be placed at each end of the line. Numerous blow-off valves and both automatic and hand-operated air relief valves will be placed in the main at suitable intervals.

The change in the site of the pumping station will cause no change in the equipment ordered and delivered for the construction of the pump station building, and the pipe equipment within it. Neither will the change require any modifications in the electrical equipment already delivered. New pumps to operate under the higher head will be required.

The pump station will, in all probability, be located on the original ground at a point immediately upstream from the present steam pumping plant at the south end of the Gamboa bridge.

CANAL WORK IN APRIL.

Monthly Report of the Governor to the Secretary of War.

Culebra, C. Z., May 18, 1914.

The Honorable the Secretary of War,
Washington, D. C.

Sir: In accordance with the provisions of the Executive Order of January 27, 1914, the permanent organization of The Panama Canal became effective on April 1.

I have the honor to submit the following report of operations under the new organization for the month of April:

Department of Operation and Maintenance. Division of Terminal Construction.

PACIFIC TERMINALS.

Dry docks—Designing work included wall sections and emplacements for valve machinery, sewer system, drainage system, and brackets for support of the caisson seats in dry dock No. 1, and wall sections, valve emplacements, sewer and drainage systems for dry dock No. 2. Construction included 54,004 cubic yards excavated from dry dock No. 1; 17,804 cubic yards from No. 2; and 28,440 cubic yards from the entrance basin.

Quay walls and pier—Designing work included studies to adapt the cargo cranes now in use on the steel pier at Balboa to new pier No. 1, studies of pontoon anchorages, and estimates of pontoons built of wood, steel, and reinforced concrete, and computations and designs relating to floor systems. Construction on pier No. 1 included filling of 30 caissons with concrete, bringing the total to 185 and leaving 24 to be filled, and the completing of 384 linear feet of floor slab. On quay wall e-f, 180 feet of concrete pile and 13,615 feet of wooden pile were driven, and 491 linear feet of pile trestle were constructed. On quay wall i-j-m-n, two caissons were filled, making the total 51, and 136.5 linear feet of floor slab were laid. Excavation for the pier and quay walls amounted to 5,701 cubic yards; concrete placed, 5,328 cubic yards.

Coal and fuel oil plants—Designing included changes in the machinery of the Miraflores berm cranes to adapt them to use in the coal handling plant, and design of the interior walls and supports for berm cranes. Construction included 2,716 cubic yards of excavation for the coaling plant, and 782 cubic yards of concrete placed.

In the fuel oil plant work, specifications covering fuel oil pumps and auxiliary equipment were rewritten in accordance with decision to install two oil pumping units in each plant, instead of three, as originally planned. United States requisition was prepared covering equipment, special pipeline tools, and material required. Inspection was made of boilers on the Isthmus and available for transfer, resulting in the selection of one Phoenix and three Robb-Mumford, 250-horsepower horizontal return tubular boilers, to be reserved for the oil handling plants. Arrangements were made for the transfer to the oil handling plants of the 10-inch air main between Bas Obispo and Paraiso as soon as same may be retired from its present service. Investigation was made relative to the possible use of tank No. 37, capacity 4,038 barrels, now located at Aguadulce and out of service, in connection with storage of either fuel oil or gasoline at the Pacific terminal. An estimate of the cost of moving this tank from its present location at Balboa was made. A preliminary draft of general instructions to private individuals and corporations was prepared, covering the construction of oil storage tanks by line connections. Further investigation and study relative to the location of handling plant and pipelines for the Atlantic terminal were made.

Storage tanks Nos. 3 and 4 are completed as to hydraulic test and calking and painting, and 75 per cent as to pipeline connections. No. 3 is 50 per cent completed as to construction of concrete apron and installation of drainage pipes, and No. 4 is completed in these respects; No. 4 is 50 per cent completed as to fire wall construction, while the work has not been begun on No. 3.

Shops—Work was continued on buildings Nos. 1 to 9, 12, 14, 15, 16, and 27, and on the cinder pit and water and oil cranes. Two hundred and twenty-one cubic yards were placed in building foundations, 412 cubic yards in machine foundations, 51 cubic yards in shop floors, 80 cubic yards in shop walls, 98 in shop beams, columns, and roofs, seven in shop drains, and 20 in shop tunnels. Work was also carried forward on the drainage system for the shop area.

ATLANTIC TERMINALS.

Coaling plant—Plans were issued for the construction of the pile and concrete supports for the bridge tracks and viaduct posts south of station 11 plus 69.0; various matters concerning the contract for coal handling machinery were disposed of. The design of the cylinder wharf structure was proceeded with, with a view to its advertisement at an early date.

Preparatory work was carried on at the site of the plant, pile driving by three drivers was begun, materials were received, the field office was completed, tests were made of the bearing power of the hydraulic fill, dry fill was placed, and a temporary air compressing plant was installed. The force at present numbers 20 gold and 244 silver employes.

West breakwater—During the month of April, 13,081 cubic yards of Porto Bello rock were unloaded and placed in the breakwater. The total amount unloaded and placed to April 30, 1914, was 455,101 cubic yards. One thousand one hundred and forty linear feet of breakwater were completed during the month, making the total length completed to April 30th, 10,641 linear feet, including the ell.

East breakwater—Work on the east breakwater included the completion of 900 linear feet of trestle, making a total of 1,532 feet; track work, and pile driving. Seven thousand two hundred and twenty-eight cubic yards of rock fill were received from the Mount Hope borrow pit.

LANDSCAPE ARCHITECT.

Work was continued on plans and construction at the new Balboa townsite. Work completed amounted to 10,807 cubic yards excavation; backfill, 3,160 cubic yards; pavement completed, 9,070 square yards; gutters laid, 2,224 linear feet; sewer pipe laid, 4,977 linear feet; water pipe placed, 4,658 linear feet.

RADIO STATIONS.

At Caimito, foundations for tower No. 1 were in readiness for erection of steel work. Foundation work for the other towers, and provision for carrying away surface water from all tower foundations were advanced. At the Colon and Balboa radio stations, work requests were issued for the greater part of the construction work required. Plans and allotments have been received from the Bureau of Yards and Docks.

Division of Erection.

This division, formerly called the Electrical and Mechanical Subdivision, has carried on the erection and inspection of operating machinery and electrical equipment in the locks, spillways, lock gates, fenders, lock entrance caisson, and pontoon bridge for the crossing of the Canal at Paraiso.

LOCKS.

Seven lockages were made at Gatun, six at Pedro Miguel, and nine at Miraflores.

The miter gate forcing machines, the rising stem, cylindrical, and auxiliary valves, and the machines to operate them, are completely installed, track installation is practically completed, and only a small amount of work remains in connection with the illumination of the locks.

All of the 18 guard valve machines have been received, mechanical installation is 98 per cent, and electrical installation 43 per cent completed. Mechanical installation of the miter gate moving machines is completed, and 98 per cent of the electrical installation is complete.

Mechanical erection of the chain fender machines at Gatun is 50 per cent complete; Pedro Miguel, 47 per cent; and Miraflores, 24 per cent. Electrical installation is nine per cent complete at Gatun. Four sections of chain have been received; five sections are about completed.

Pumps—Pumps and motors, with float switches and starters, have been received complete. Mechanical erection is 100 per cent complete on miter gate sump pumps, drainage sump pumps, and culvert pumps; and 54 per cent complete on chain fender sump pumps. Electrical installation is 98 per cent complete on miter gate sump pumps, 100 per cent on drainage sump pumps, 20 per cent on culvert sump pumps, and three per cent on chain fender sump pumps.

Transformer room equipment—The installation of all transformer rooms at all locks is approximately 94 per cent complete.

Control apparatus—The houses for the control apparatus are practically complete, and practically all of the apparatus has been received. The Miraflores board is about 70 per cent complete.

HYDROELECTRIC STATION.

The installation of generators, exciters, main control board, oil switches, and other apparatus is about 95 per cent completed.

SPILLWAYS.

Three of the 14 spillway gates at Gatun were operated satisfactorily, with the lake at approximately 85 feet above sealevel.

All the gate machines have been received, installation at Gatun is complete, and at Miraflores, all mechanical installation, and 80 per cent of the electrical are complete.

TRANSMISSION LINE.

A total of nine and one-half foundations, involving approximately 159 cubic yards of concrete, were placed during the month. Thirty-two track-span bridges were placed on permanent foundations during the month, bringing the total to date to 807. Work on the track-span bridges is completed between Mount Hope and Balboa, with the exception of two or three structures upon which completion is prevented by local conditions. Stringing of wire was continued during the month, the power wire from Mount Hope to Diablo being completed, with the exception of about a quarter of a mile. The stringing of ground wire practically keeps pace with the stringing of power wire, 30 miles of ground wire and 40 mile of power wire having been strung to date. On Sunday, April 26, the west line from mile post 40 to Miraflores was cut into service at 11,000 volts, to supply the relay pump load at Cucaracha, eliminating the present 11,000-volt pole line south of Pedro Miguel. The east line from Gatun to Mount Hope was also cut into service temporarily at 2,200 volts on April 22, to supply additional load at Cristobal. These services are temporary, until the 44,000-volt lines can be operated.

Electrical Division.

Power plants—The net output of the power plants was: Gatun, 550,279 kilowatt-hours; Miraflores, 1,702,400 kilowatt-hours; Balboa, 6,621 kilowatt-hours. At Miraflores, the work of installing the 1,500-kilowatt vertical turbogenerator set from Gatun was continued and almost completed. The rated capacity of this plant is now 6,000 kilowatts.

District work—In addition to the maintenance and operation in the northern district, work was continued on the installation of the underground 2,200-volt feeder to Agua Clara pumping station, the temporary 6,600-volt transmission line from Gatun to Cristobal was put out of service and connections were made over the permanent line, and connections for the 2,200-volt service from Gatun to Mount Hope pumping plant were made on the permanent transmission line.

In the southern district, the work included, in addition to maintenance and operation, underground conduit construction, line work, and wiring in the new administration building and other permanent structures.

Division of Municipal Engineering.

In the northern district, the usual maintenance work was continued. In the southern district, the extension of water and sewer lines at La Boca, and the installation of fire protection service at Balboa shops were advanced; and at Pedro Miguel, the construction of roads was completed, and the work of grading and installing water and sewer systems was continued.

In the construction of the new waterworks to supply Panama and the Pacific terminus of the Canal, work was continued on the Miraflores filtration plant and the pump station at Ancon, and was completed on the high service reservoir at Ancon.

Division of Lighthouses.

Work has been in progress completing the construction of towers Nos. 22 and 28, Gatun Lake section; moving forms, tools, etc., to Gatun; handling spar buoys from Panama railroad dock at Gatun to machine shop, preparatory to painting; constructing and painting beacons in the Culebra Cut section; running pole lines on east and west sides of the Canal between Bas Obispo and Pedro Miguel; recharging gas buoys in the Pacific entrance; making surveys at the site of the proposed dock at Gamboa, and other necessary surveys and reconnaissances.

No work was accomplished during the month in connection with raising of caisson for the west breakwater light in Colon harbor. This work will be taken in hand as soon as weather conditions permit.

Meteorology and Hydrography.

The total yield for Gatun Lake watershed was 49 per cent below the 6-year normal for April, but the lake continued to rise steadily during the month, it being necesssry to open the spillway gates at Gatun to keep the level from rising above plus 85.

The rainfall for the month was above the station average at six stations, and deficient at 13 stations. The monthly total ranged from 0.49 inch, at Camacho, to 7.33 inches, at Brazos Brook. The estimated rainfall over the entire lake watershed was about 36 per cent below the April average, based on 13 years' record, being 2.71 inches, against an average of 4.24 inches.

Seismic disturbances were recorded at Ancon on the 13th and 20th of the month. The Canal work suffered no damage from either shock.

Dredging Division.

The status of dredging on April 30 was, as follows:

LOCATION.	April. *Cubic Yds.*	Remaining. *Cubic Yds.*
Miraflores Locks to Pacific	11,209	2,056,184
Miraflores Lake		328,872
Culebra Cut	479,646	1,537,827
Gatun Lake		51,000
Gatun Locks to Atlantic		410,973
Total Canal prism	490,855	4,384,856
Balboa harbor	258,666	5,572,936
Cristobal terminals	261,921	797,699
Fortifications	210,297	
Miscellaneous	21,297	
Total general	752,181	6,370,635
Grand total	1,243,036	10,755,491

Culebra Cut—Nine dredges removed 183,008 cubic yards of earth and 296,638 cubic yards of rock from the Canal prism. Dredge *No. 82* sluiced 52,440 cubic yards of material from Cucaracha slide; 7,484 cubic yards were loaded into scows and reported as yardage removed, and 44,956 cubic yards were washed into the Cut and rehandled by dredge *No. 86*.

Following is a statement of the excavation in detail:

LOCATION.	Earth. *Cu. Yds.*	Rock. *Cu. Yds.*	Total. *Cu. Yds.*
Empire slide		16,045	16,045
Hagan's slide		2,415	2,415
East Culebra slide		17,872	17,872
West Culebra slide		55,606	55,606
Cucaracha slide	183,008	204,700	387,708
Total	183,008	296,638	479,646

Material excavated in Culebra Cut by the ladder and dipper dredges was dumped in Gatun Lake, north of Gamboa.

Supply Department.

FORCE.

The force reports for the last week in April show 31,653 employes at work. Of these, 4,429 are white Americans, 1,088 are European laborers, and the balance are West Indian laborers and artisans. The occupants of Government quarters numbered 7,998 Americans, 1,808 Europeans, and 8,193 West Indians. A congestion exists in family and bachelor quarters at Ancon, Balboa, and Corozal.

BUILDINGS.

Work on the administration building has been pushed, although all overtime work has been cut out. On account of the fact that all available plasterers have been put on the administration building, work on the permanent quarters progressed but little during the month. The date of completion has been postponed from a month to six weeks. All houses authorized have been reerected at La Boca, although there still remains some finishing work to be done.

MATERIALS AND SUPPLIES.

The transfer of supplies from Empire to Balboa continued during the month of April at a much slower rate than was anticipated. The steel racks at Balboa were not completed, and it was impossible to transfer the large stock of iron and steel at Empire to Balboa. It is anticipated that the balance of the stock will be transferred before the end of May. The value of the material received during the month was $1,252,374.94.

SUBSISTENCE.

The 13 line hotels served 168,160 meals; 11 laborers' messes, 214,425 meals; Hotel Tivoli, 10,636; Hotel Aspinwall, 867. The net profit on subsistence operations was $2,616.59.

Health Department.

The total number of deaths from all causes among employes was 27 (disease, 22; violence, five), an annual average per thousand of 5.52 and 1.26, respectively. The annual average death rate per thousand in the cities of Panama and Colon. and in the Canal Zone, including both employes and civil population, was 22.33. Among employes, deaths from the principal diseases were: Lobar pneumonia, two; organic disease of the heart, two; tuberculosis, four; typhoid fever, one; leaving 13 deaths from all other diseases, and five deaths from external violence. No case of yellow fever, smallpox, or plague originated on the Isthmus during the month, but one case of smallpox, removed from a ship, recovered.

Executive Office.

The new system of leave of absence was put into operation during April; work was advanced on the commutation of leave due to employes under the old regulations; the old department of Civil Administration was divided into the divisions of Civil Affairs, and Police and Prisons, under division chiefs who report to the Executive Secretary; and the routine administrative work of The Panama Canal was done.

COURTS.

For administrative purposes, the affairs of the courts are reported under the Executive Office. Seven civil cases were pending and one criminal, and four civil cases were filed during the month in the Supreme Court. No cases were disposed of. In the circuit courts, one civil and one criminal case were tried, 18 probate cases and one commitment of an insane person were settled. In the magistrates' courts, 255 criminal and 13 civil cases were tried at Balboa, and 116 criminal and six civil cases were tried at Cristobal.

POSTS AND CUSTOMS.

Money order sales for April amounted to $294,158.91; fees, $1,411.87; receipts from stamp and card sales, $6,667.01; deposits in savings accounts, $149,100; withdrawals, $194,121.

At the port of Ancon, 25 vessels entered and 24 cleared; at Cristobal, 31 entered and 32 cleared.

POLICE AND FIRE DIVISION.

Arrests numbered 391, and which 29 were of women. One convict was committed to the penitentiary and seven were discharged; total in confinement at the close of the month, 74. The cost of guarding and subsisting the convicts was $1,875.70. and the value of their work on the Gamboa-Empire road was $1,332.80.

Thirty-four fires occurred in the Canal Zone, and two in Colon to which the Cristobal company responded. The losses in the Canal Zone were $1,292.50.

SCHOOLS.

The net enrollment in the white schools was 1,259, the average number belonging, 930.1, and the average daily attendance, 891.1. In the colored schools, the net enrollment was 1,455, the average number belonging, 789.2, and the average daily attendance, 653.6.

Respectfully,
Geo. W. Goethals,
Governor.

Charts of the Canal and Approaches.

The completion of the Canal has been anticipated by the Department of Commerce in the publication by the United States Coast and Geodetic Survey office of a series of charts of the Canal and its approaches.

The general chart of the Canal and approaches, No. 954, which has recently been issued, is on a scale of 1/146,000 or one-half inch to the nautical mile, and is in colors. The soundings are given in feet. The tidal data are for mean low water springs in the Gulf and Bay of Panama and mean low water in the Caribbean Sea and Limon Bay. The mean higher high tide at Colon is only 1.2 feet above the tidal plane and the lowest tide 2 feet below that plane. At Balboa, the range of tide is much greater, the mean higher high water being 14.5 feet above the plane of reference and the lowest, four feet below it. The plane of reference is at Naos Island, and is about eight feet below mean sealevel. The surveys on which this chart is based were made by the Coast and Geodetic Survey in 1905 and 1912, but surveys made by the Isthmian Canal Commission and information obtained from other sources have also been utilized. The lighthouses and buoys for the aid of navigators in the approaches to the Canal are shown and their characteristics indicated. The elevations on land are given in feet above high water. There are two compass roses and a border scale on the chart. The magnetic declination in this region is given as four degrees 24 minutes east in 1915, with an annual decrease of one minute.

Three other charts, Nos. 950, 952, and 953, are on larger scales for special uses. Chart No. 950, of Colon harbor and approaches, is on a scale of 1/15,000. Chart No. 952, which includes Panama harbor and the Pacific end of the Canal and its approaches, is on a scale of 1/40,000. No. 953, on a scale of 1/80,000, also shows Panama harbor and the Pacific end of the Canal. Being on a smaller scale, this chart includes a larger area than No. 952. The last three charts are not colored, but they give the same data as the general chart (No. 954) on a larger scale and for a more limited area. All are on the Mercator projections. They may be obtained from the office of the Coast and Geodetic Survey in Washington or from sales agents at the principal ports in the United States, at the price printed on each chart.

A contract has been entered into with the Nassau Smelting and Refining Company of New York City, covering the sale of 40,000 pounds of scrap copper wire, at the price of $0.1255 per pound.

OFFICIAL CIRCULARS.

Standard Shovels.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 635:

1. Hand shovels on construction work shall be used, as follows:

2. For handling of earth—No. 2 round point, short handle, malleable iron "D"-handle shovel.

3. For general railroad construction and ordinary tamping in connection therewith—No. 2 round point, short handle shovel.

4. For railroad maintenance work—No. 2 square point, short handle shovel for tamping, and No 2. round point, short handle shovel for ditching, weed cutting, etc.

5. For shoveling concrete material from boards, including other shoveling of sand, gravel, and broken stone—No. 2 square point, short handle shovel.

6. For mixing and placing concrete—No. 2 square point, short handle shovel.

7. No. 2 long handle, square and round point shovels, respectively, shall be used whenever material is to be raised to such an elevation as will render their use economical.

GEO. W. GOETHALS,
Governor.

Sales of Material.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., May 2, 1914.

CIRCULAR No. 630-1:

Paragraph 6-*b* of Circular No. 630 is modified by adding the following sentence:

"This privilege will apply only to shipment made at the time of purchase."

GEO. W. GOETHALS,
Governor.

Acting Electrical and Mechanical Engineer.

CULEBRA, C. Z., May 14, 1914.

To all concerned—During the absence of Mr. Schildhauer on leave, Mr. E. E. Lee will perform the duties of Electrical and Mechanical Engineer.

H. F. HODGES,
Engineer of Maintenance.

Duties of Surveying Officer.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., May 7, 1914.

CIRCULAR No. 639-1:

In paragraph 2 of Circular No. 639, insert the words "for transfer" after the word "appraisals."

GEO. W. GOETHALS,
Governor.

Santo Tomas Hospital.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., May 21, 1914.

CIRCULAR No. 623-1:

1. Circular No. 623 is hereby amended so as to read:

2. Paragraph 4: Instead of "two nurses, each $720," *two nurses, each $720 or $900.*

3. Add paragraph 5, as follows: 5. Bills for the subsistence and laundry of the three nurses furnished by The Panama Canal should be rendered against The Panama Canal monthly by the Santo Tomas Hospital.

GEO. W. GOETHALS,
Governor.

Positions on Dipper Dredges.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., May 8, 1914.

CIRCULAR No. 603-3:

1. Steamshovel employes in the service, and ex-employes with steamshovel experience, will be eligible for positions on the dipper dredges operated by The Panama Canal, subject to the following requirements:

(*a*) Steamshovel engineers will be eligible for appointment to position of mate (craneman) on dipper dredges, upon passing examiuation before the Board of Local Inspectors and securing necessary license for the service.

(*b*) Steamshovel cranemen will be eligible for appointment to position of dipper dredge engineer, upon passing examination before the Board of Local Inspectors and securing necessary license for the service.

(*c*) All applicants for positions on dipper dredges will be required to secure necessary license from the Board of Local Inspectors; marine licenses, as issued by the Department of Commerce, will not be accepted for this service.

2. All applications for dipper dredge service should be forwarded to the Resident Engineer, Dredging Division, Paraiso, C. Z., enclosing license (which will be returned), and appointments will be made, when vacancies exist, in the order of the receipt of such applications.

GEO. W. GOETHALS,
Governor.

Leave of Absence.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., May 8, 1914.

CIRCULAR No. 602-6:

1. On the new form of request for leave of absence (P. C. 194-4), spaces are provided for indicating whether the leave requested is annual, accumulative, travel, or without pay.

2. However, in entering the leave on the daily leave order, only the total number of days leave granted will be shown.

3. When the employe returns from leave, the time spent will be charged against any annual, cumulative, or travel leave due the employe at the time of entering on the leave.

4. Absences with permission without pay will not be permitted if annual leave is due the employe. The time must be charged to any annual leave due, except as provided in Paragraph 5, following; if the absence is without permission, no charge against or pay for annual leave will be made, and such other discipline shall be administered as the offense warrants.

5. Paragraph 13 of Circular No. 602 reads:

> In the case of employes transferred from the Isthmian Canal Commission organization to the new organization who would have had a leave due between April 1, 1914, and February 1, 1915, under the old rules, or who shall have had no leave for approximately a year or more, and who desire to take a leave without pay within that period, 42 days without pay may be granted without any forfeiture of privileges, and only leave in excess of that amount shall be counted under item (*a*), Paragraph 12, above.

In these cases, any annual leave due may (1) be added to the 42 days without pay, or (2) be included in the 42 days as so many days with pay, or (3) remain to the employe's credit, as the employe may elect, subject to the approval of the head of the department or division.

6. Annual leave may not be commuted into a cash payment on termination of service except when added to accumulative leave. This is the interpretation of Rule 34 of the Executive Order of February 2, 1914.

GEO. W. GOETHALS,
Governor.

Sales of Material.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 630:

PURCHASERS.

1. Sales of material, supplies, and equipment, including fabricated articles, rock, sand, and gravel, and excluding only sales of medical and surgical supplies, which may be made by the Chief Health Officer, and sales of school books and supplies by the superintendent of schools, may be made by the Chief Quartermaster, as follows:

(*a*) Material and supplies that can be spared may be sold to officers and employes of The Panama Canal and other departments of the United States Government, for their personal use, and to clubs, societies, and other organizations of such employes.

(*b*) Material and supplies that can be spared may be sold to the departments of the United States Government, and to steamship companies and their agents, for use on ships.

(*c*) Material and supplies that can be spared and are not obtainable in the local markets, may be sold to individuals and companies, except that if the value of sale in any case exceeds $250, prior authority from the Governor must first be obtained.

MATERIALS.

2. (*a*) In sales of regular stock material and supplies, fabricated articles, rock, sand, and gravel, request for purchase should be made through the Chief Quartermaster, who will deliver the material through the nearest storehouse from which the material can be supplied, at price book prices, plus the usual surcharge, except in such cases as may be otherwise provided for by contract. This material will be delivered to the Panama railroad stations nearest to the point where it lies and freight charges over the Panama railroad to its destination, will be assumed by the purchaser. This does not apply to such stock material as may be sold in connection with second hand or obsolete material.

(*b*) In sales of second hand lumber, second hand roofing, and other miscellaneous second hand material, request for purchase should be made through the Chief Quartermaster, who will deliver the material at the point where it is available, at prices approved by the Governor.

(*c*) In sales of surplus and obsolete material that has been turned into the storehouse for obsolete material at Mount Hope, requests for purchase of this class should be made direct upon the Depot Quartermaster at Mount Hope, who will be given blanket authority to make such sales at prices approved by the Governor. A detailed report of such sales will be made monthly to the Chief Quartermaster.

EQUIPMENT.

3. (*a*) Sales of surplus and obsolete equipment turned in by the various departments and divisions will be handled exclusively by the Chief Quartermaster.

(*b*) The Supply Department will act as sales agent for the Panama Railroad Company in the sale or disposition of any surplus or obsolete equipment retired by that company.

(*c*) All inquiries from prospective purchasers of equipment should be referred to the Chief Quartermaster.

PRICES.

4. The Chief Quartermaster will arrange for competent appraisals of all material and supplies for sale. After such prices are approved by the Governor, sales may be made by the Chief Quartermaster without additional authority, at the prices thus fixed, to an amount in any one case of $500. But no material shall be sold at a reduction in cost without previously having been surveyed for sale by the surveying officer.

TERMS OF SALE.

5. Sales shall be made on a cash basis unless otherwise specifically authorized by the Governor, except, as follows:

(*a*) Sales to other departments of the United States Government and the Republic of Panama.

(*b*) Sales to contractors with The Panama Canal or the Panama Railroad Company, and to steamship companies, and others, in cases where such individuals or companies secure payment for the material, supplies, and equipment, by making a deposit of cash or satisfactory certified check, or by giving a bond in form, with securities satisfactory to the Auditor of The Panama Canal, in an amount to be fixed by the Chief Quartermaster to cover the line of credit which it is deemed advisable to grant, and conditioned upon the payment for such material, supplies, and equipment within 30 days from the close of the month within which delivery of the material, supplies, or equipment is made.

(*c*) Sales to contractors with The Panama Canal and the Panama Railroad Company, and to steamship companies, in cases where The Panama Canal or the Panama Railroad Company is indebted to such contractors or companies for material furnished or services rendered by them to The Panama Canal or the railroad company, in an amount equal to or in excess of the value of any material, supplies, or equipment sold.

FREIGHT CHARGES.

6. (*a*) On second hand, surplus, and obsolete material, and equipment, shipment over the Panama railroad will be made at the expense of the purchaser, unless otherwise provided for in the terms of sale.

(*b*) The purchaser will, however, be granted the freight rates fixed by the tariff for Panama Canal business, effective January 1, 1907, and supplements thereto, namely, $2.25 a ton of 2,000 pounds, minimum carload weight 20,000 pounds, and minimum charge of 20 cents, $50 for each movement dead weight in train for special equipment, such as steamshovels, locomotives, cranes, and piledrivers, and $5 for each empty car. If the general local tariff rates are lower than the rates specified above, such rates will apply.

DUTY PAYABLE.

7. (*a*) Material, supplies, and equipment sold for use within the Republic of Panama and the Canal Zone shall be subject to payment of customs duty by the purchaser to the Republic of Panama.

(*b*) Delivery of such material, supplies, and equipment will not be made to the purchaser until he shall have presented to the depot quartermaster at Mount Hope, or to the district quartermaster at Ancon, two copies of bill covering sale, on which are endorsed certificates signed by the Treasurer of the Republic of Panama, or his authorized representative in Panama or Colon, that customs duties on such material, supplies, and equipment have been paid or have been remitted.

(*c*) This provision shall not apply, however, to sales made:

(*A*) To individuals and companies who have been granted blanket authority by the Republic of Panama to make purchases without payment of customs duties.

(*B*) To the Panama Railroad Company, The Panama Canal, other departments of the United States Government, or contractors with The Panama Canal or the Panama Railroad Company, when articles purchased are for use in connection with their contracts.

(*C*) To steamship companies and other individuals and companies when the articles purchased are for use solely outside of the territorial limits of the Canal Zone and the Republic of Panama.

(*D*) To churches and charitable organizations.

(*E*) To officers and employes of The Panama Canal and the Panama Railroad Company, officers and enlisted men of the United States Army, Navy, and Marine Corps, or officers and employes of other departments of the United States Government, when the articles are purchased for personal use.

(*F*) To clubs, societies, or other organizations of such officers, employes, and enlisted men in the Government service.

Geo. W. Goethals,
Governor.

Discharge.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 604:

1. The Executive Order of February 2, 1914, provides:

> Section 9. * * * The Governor may discharge an employe at any time for cause, and terminate a provisional appointment when the exigencies of the service require.

REDUCTION OF FORCE.

2. In reducing force the following considerations will govern in selecting employes to be discharged:

(*a*) *Citizenship*—Persons who are not citizens of the United States or of Panama will be discharged first, regardless of efficiency.

(*b*) *Efficiency*—The relative efficiency of an employe in the class of work he is doing will be the second consideration. This includes personal conduct in so far as it affects the employe's work.

(*c*) *Seniority*—Length of service shall be considered only where a decision cannot be made by the criterion of efficiency. (See rules of seniority.)

3. An employe discharged on account of reduction of force, due to any cause, shall be allowed five days without pay in which to procure work; this, in order that, in case he finds employment, he may forfeit none of of the privileges incident to continuous service.

FURLOUGH.

4. In case of a discharge on account of temporary reduction of force, if an employe cannot obtain work under the Canal organization, he may be given leave without pay for a limited period, pending reemployment. This will be known as "Furlough," and under it all privileges of continuous service will be preserved to the employe. In case of a temporary reduction of force of aclass of workers, the furlough time will be distributed as equally as possible among employes of the class.

ARTISANS.

5. Whenever a reduction in the force of artisans is contemplated, the office of the Executive Secretary must be notified in writing at least five days in advance of any action toward discharge or of serving the five days notice referred to above. This, in order that an effort may be made to find work elsewhere in the organization for the men to be discharged.

SERVICE RECORD

6. A transcript of his service record in the Canal and Panama railroad services will be issued upon request to each employe who resigns or who is discharged. It will be issued by the office of the Executive Secretary, and signed by the Governor, or such person as he may authorize. No other letter of recommendation or service shall be given by an official of The Panama Canal. Upon papers of transfer, promotion, demotion, change of rating, and termination of employment, the head of the department shall indorse a rating for "conduct" and "General workmanship." The ratings authorized are "Excellent," "Very good," "Good," "Mediocre," and "Poor," and only these terms shall be used. The rating "Good" shall indicate hereafter passably satisfactory service. Persons whose rating in either conduct or workmanship is below the grade of "Good" will not be eligible for reemployment; and only those with ratings of "Excellent" or "Very good" may be carried on the preferred list for reemployment. On this account, and in order to avoid misrepresentation regarding an employe's ability or conduct, heads of departments are directed to exercise careful discrimination in making these ratings.

SERVICE RATINGS.

7. Ratings for general workmanship and conduct will be marked, as follows:

(*a*) *Excellent*, when compliance with rules, punctuality, attendance, general attention to duty, and physical fitness are exceptionally good.

(*b*) *Very good*, when the above are not sufficiently above the average to justify the mark *excellent* but are, nevertheless. above the average.

(*c*) Care will be taken that markings *excellent* and *very good* under workmanship are given only to men of exceptional ability.

(*d*) *Good*, when the above are average.

(*e*) *Mediocre*, when the above are such as to render employment undesirable, except under conditions of unusual necessity.

(*f*) *Poor*, when the above are so bad as to render employment under any conditions undesirable.

8. The above markings shall be for *general* conduct. Specific instances rendering employment undesirable, but of such rare occurrence as not to be considered general, will be noted as exceptions under the marking for general conduct; as, for instance, if a man whose conduct is in all other respects excellent, should commit a theft and be discharged for it, his conduct would be marked *excellent, except* for case noted as cause of discharge.

9. General workmanship will be marked in the same manner as general conduct, the rules for assigning any particular marking being in general similar to those described above for conduct; and specific and exceptional cases of bad workmanship, in the same manner as explained for conduct.

Geo. W. Goethals,
Governor.

Duties of the Surveying Officer.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., April 1, 1914.

Circular No. 639:

1. It will be the duty of the surveying officer to submit recommendations to the Governor on requests for relief from accountability for lost or damaged property, and to pass upon the responsibility of officers and employes for such loss or damage.

2. He will make appraisals and will survey and submit recommendations for the disposition of tools, appliances, equipment, or material which may have become unserviceable by use, deterioration. general wear, or unfitness for the purpose for which such articles were secured, upon presentation of proper requests.

3. When questions of responsibility or property arise, due to accident, mistake, neglect, or in other ways, he will ascertain the facts and report them to the Governor with his recommendation. This will include questions involving the character, amount, and cause of damage or deficiency, and responsibility for such damage or deficiency; also, inventories of property ordered to be abandoned. He will fully investigate all matters submitted to him and call for all evidence obtainable, and will not limit his inquiries to proofs or statements presented by parties in interest. He will rigidly scrutinize all evidence, especially in cases of alleged theft or embezzlement, and will not recommend the relief of officials or employes from responsibility unless fully satisfied that those charged with the care of property have performed their duty in regard to it. He should hear in person, or by deposition, all persons concerned in the subject matter before him.

4. The surveying officer will verify discrepancies between invoices and actual property transferred from one accountable officer to another, ascertaining definitely amounts received for which receiving official must receipt, and, as far as possible, where and how the discrepancy occurred.

5. The following classes of property may be destroyed by the surveying officer:

(*a*) Stores which have become so deteriorated as to endanger health or injure other stores.

(*b*) Unserviceable property of no salable value.

6. The surveying officer will act on requests of unserviceable, obsolete, surplus. and damaged material, equipment, and supplies; also, requests for relief for lost or stolen property, only, when the same are presented on prescribed forms.

Geo. W. Goethals,
Governor.

Private Property Rights.

The Panama Canal,
Executive Office,
Culebra, C. Z., April 1, 1914.

Circular No. 653:

Private property rights must not be interfered with any more than absolutely necessary, and foremen must prevent their laborers from taking or damaging such property. In cases where it becomes necessary in connection with any of the works of the Canal or railroad to enter upon, interfere with, damage, or destroy private property such as buildings, growing crops, fruit trees, fences, or other improvements, immediate notice thereof shall be given to the owners of such property. The person in charge of such work shall make and forward to the head of his department an accurate and detailed report showing all property destroyed, its location, the date of destruction, and the names of the owners. Such reports should then be forwarded to the District Attorney, for settlement upon approved voucher forms, or for such other action as the facts may warrant.

Geo. W. Goethals,
Governor.

Approval of Vouchers, Pay Rolls, and Public Bills.

The Panama Canal,
Executive Office,
Culebra, C. Z., April 1, 1914.

Circular No. 670:

All vouchers, pay rolls, and public bills covering expenditures on the Isthmus, shall be approved for payment by the Governor, or by his direction, or by the heads of the respective departments in which and for the benefit of which the expenditures are made, except expenditures for the Accounting Department, for which approval shall be by the Governor, or by his direction, and except that the Chief Quartermaster may approve vouchers covering purchases of material and supplies on the Isthmus, or may authorize any person in the Supply Department to approve such vouchers by his direction.

Geo. W. Goethals,
Governor.

Military Defense Reservations.

The Panama Canal,
Executive Office,
Culebra, C. Z., April 1, 1914.

Circular No. 649:

1. With the view of preventing the unauthorized obtaining of information relative to the military defenses of The Panama Canal, all hitherto existing regulations governing visitors to such defense reservations are hereby revised and published in accordance with Paragraph 347, Army Regulations.

2. Persons not employed in connection with fortification work will not be permitted to visit military reservations, except as hereinafter provided.

3. Officers of the United States Army, Navy, and Marine Corps, on identification satisfactory to the police officers or superintendents at the different localities, will be permitted to visit such reservations, with members of their families in their company and not be required to present passes.

4. Passes to visit the reservations may be issued to immediate relatives of employes of the Fortification Division; and to immediate relatives of employes quartered at Toro Point, *for the purpose of visiting the residential section of Toro Point only.* Excepting under unusual or exceptional circumstances, no other persons will receive permits to visit the reservations.

5. Passes to visit the reservations will be issued only by the Governor of The Panama Canal or by the assistant engineer in charge of fortification construction, except as provided in Paragraph 6. These passes will be accepted in future as authority for transportation by captains of tug boats and launches plying between Cristobal and Toro Point. The issuing of boat passes by the office of the Division of Terminal Construction at Toro Point for trips to Cristobal, or for round trips initiating at Toro Point, may be continued until that office is abolished.

6. Inspectors, machinists, and other employes of The Panama Canal who are obliged to visit frequently the reservations during working hours on official business, will be issued limited passes upon application of the heads of their respective departments. Single trip passes to Toro Point for such purposes may be obtained from the Cristobal fortification office.

7. Superintendents, engineers, foremen, and all employes engaged on fortification work will cooperate with officers of the Canal Zone police to prevent the visits of all unauthorized persons. Such persons will be regarded as trespassers and prosecuted as provided by law.

8. The provisions of this order will remain in effect until further notice, or until the works at the various points have been transferred to the Coast Artillery Corps, United States Army. When the majority of the works at any fort have been transferred to the Coast Artillery Corps, the responsibility of issuing passes will be turned over to the commanding officer of such fort.

Geo. W. Goethals,
Governor.

Injury Claims.

The Panama Canal,
Office of the Governor,
Culebra,, C. Z., April 1, 1914.

Circular No. 668:

1. By Executive Order, dated March 20, 1914, the President, as directed by The Panama Canal Act, approved August 24, 1912, has provided:

> * * * * "a method for the determination and adjustment of all claims arising out of personal injuries to employes thereafter occurring while directly engaged in actual work in connection with the construction, maintenance, operation, or sanitation of the Canal or of the Panama railroad, or of any auxiliary canals, locks, or other works necessary and convenient for the construction, maintenance, operation, or sanitation of the Canal, whether such injuries shall result in death or not."

2. That Order provides that claims for compensation on account of injuries to or deaths of employes occurring on or after April 1, 1914, shall be settled by the Governor of The Panama Canal; authorizes the Governor to make all necessary rules and regulations for its proper enforcement and to decide all questions arising thereunder, or in regard to the interpretation thereof, and makes the Governor's determination of any fact, necessary to or underlying any claim thereunder, final and conclusive.

3. In accordance with the authority conferred upon me by Section 30 of the said Executive Order of March 20, 1914, the following rules and regulations are pre-

scribed for the purpose of making effective the provisions of the said Order.

NOTICE OF INJURY.

4. Immediately after an employe of The Panama Canal is injured, he shall notify his foreman or other immediate superior of the injury, if he is able to do so. This notice may be either written or oral. Upon receipt of the notice, the foreman or other immediate superior shall investigate the reported injury for the purpose of securing information necessary to the rendering of a report. If the notice herein specified is not given promptly, it may constitute a waiver by the employe of any claim for compensation under the Executive Order, in the discretion of the Governor.

MEDICAL AND SURGICAL TREATMENT.

5. Immediately after an employe is injured, he shall report for treatment to the nearest physician of The Panama Canal, and shall be subject to the orders of such physician until discharged. If any such injured employe shall refuse to submit to the medical or surgical treatment prescribed for him and determined by the Governor to be reasonable and proper, the Governor may, in his discretion, either reduce the amount of compensation to which said employe might otherwise be entitled, or consider such refusal on the part of the employe to be a waiver by him of any right to compensation under the Executive Order.

REPORT OF INJURY.

6. Immediately after an injury to an employe resulting in his probable disability comes to the knowledge of a foreman or other person charged with the making of reports, it shall be the duty of such foreman or other person to make a report, at once, upon form A-18, to the claim officer. If any officer of The Panama Canal shall witness an injury to a man on the work, he shall ascertain immediately the facts connected therewith and make a report as provided above. In order to enforce compliance with the provisions of these regulations as to the rendition of reports of accidents, the Auditor of The Panama Canal will report to the Governor the failure of any officer to render reports as required.

REPORT OF DEATH.

7. When an employe of The Panama Canal is accidentally killed, the deceased employe's foreman or other immediate superior shall make report, at once, to the claim officer on Form A-19.

NOTICE OF DEATH.

8. When an employe dies as a result of injuries received in connection with his work, one of the persons entitled to compensation, or some one on his behalf, shall give written notice of such death to the Governor.

DISPOSITION OF REPORT.

9. Upon receipt of a report of injury or death, the claim officer shall forward a transcript of the material facts to the head of the department or division in which the injured or deceased person was employed at the time of the injury. A copy will be forwarded to the chief timekeeper, or to the proper district timekeeper, who shall cause the office timekeeper charged with the preparation of the pay roll upon which the name of the injured or deceased employe is carried, to verify the name, metal check number, occupation, rate of pay, and to add to the report, the pay roll references and such other information as may be required. The completed notice of injury will then be returned to the claim officer. If the employe is paid by the output, information which is required by Paragraph F of Section 14 of the Executive Order, may be given on a separate sheet attached to the notice.

CERTIFICATE OF ATTENDING PHYSICIAN.

10. Whenever a physician of The Panama Canal shall attend an employe who is unable to perform his work, and such employe claims that his disability is due to an injury which he has received in connection with his work, the physician shall issue to the employe a certificate of disability. The following rules shall govern the issuance of certificates:

(*a*) After the period of disability shall have continued for seven full consecutive days following the day of the inception of such disability, the physician shall issue a certificate of disability on account of injury upon form A-24, and when issued, such certificate shall be forwarded immediately to the claim officer.

(*b*) When an employe is transferred to another point for treatment on account of injury, the period of continuous disability prior to his transfer, shall be certified upon the papers which accompany the employe to the point of transfer. The physician at the point of transfer shall include in his certificate, which is to be forwarded to the claim officer, the period of disability from the beginning date shown upon the transfer papers.

(c) When the period of disability is less than seven full consecutive days following the day of the inception of such disability, the time shall be certified upon the form in use for time lost on account of illness or injury, and such certificate shall be delivered to the employe.

DISPOSITION OF DISCHARGE SLIP.

11. When an employe is discharged from treatment, the physician shall instruct the employe to show the discharge slip to his foreman or other immediate superior, upon his return to his station, then to deliver the slip to his timekeeper. The timekeeper shall attach the discharge slip to his time book and it shall accompany the time book to the timekeeping office. The office timekeeper shall add to the discharge slip such information in regard to the employe's status on the pay roll; as may be required, and when completed, it shall be forwarded to the claim officer. If the employe does not return to work, he should forward his discharge slip direct to the claim officer.

DUTIES OF SUPERINTENDENT OF HOSPITALS.

12. It shall be the duty of the Superintendent of Hospitals to require officers under his jurisdiction to submit to the claim officer reports upon the physical condition of employes, whenever such reports are requested; a notice of refusal of an injured employe to submit to medical treatment; a notice of refusal of an injured employe to submit to a surgical operation which the attending physician may deem necessary to save the life of the injured employe, or to render the disability less serious, immediately after such refusal; a notice of discharge of an injured employe who is in need of no further medical treatment, but is still incapacitated; notice that an injured employe whose disability will probably continue for a period of more than two months, is able to travel to his home, if such employe is not a permanent resident of the Isthmus of Panama; and such other information as the claim officer may require.

13. There shall be kept in Ancon Hospital separate registers, on form A-31, of all injury cases which may be under treatment. These registers of injury cases shall be available, at all times, to the claim officer and his assistants for such information as they may require,

DUTIES OF THE AUDITOR.

14. The Auditor of The Panama Canal shall designate an employe of his department to perform the duties of claim officer. The claim officer shall keep accurate records of all transactions in connection with claims arising out of injuries to employes, prepare the necessary pay rolls and vouchers, and certify the same as correct. He shall collect evidence for the proper determination of any question which may arise upon a claim for compensation, and shall exercise jurisdiction over the administrative details of the operation of the Executive Order. All claims for compensation on account of injury, in connection with which any question has been raised, shall be submitted by the Auditor to the Governor, with a brief of the facts in the case and a recommendation as to the action to be taken.

DEATH CLAIMS.

15. When an employe shall die within one year from the date of injury and such death is the result of injuries received while directly engaged in actual work in connection with the construction, maintenance, operation, or sanitation of the Canal, upon application, persons entitled to compensation shall be furnished with blank forms of claim. All persons entitled to compensation shall execute such claims before some officer who is authorized to administer oaths generally. The claim must be filed with the claim officer within one year after the death of the employe. All claims for compensation on account of death shall be submitted by the Auditor to the Governor, with a brief of the facts in in the case and a recommendation as to the action to be taken.

TRANSIT TIME.

16. In addition to the time that an employe is certified for injury, he shall be allowed the time necessarily consumed in returning from the hospital, or other place in which he has been detained for treatment on account of injury, to the place of accident, or to his place of work, or to his home in the Canal Zone ; provided, that payment for no part of the time has been otherwise allowed.

SCOPE OF RULES.

17. These rules and regulations shall have general application to the employes of the Panama Railroad Company, and all claims arising from injuries to Panama railroad employes will be handled under the supervision of the Auditor of The Panama Canal.

Geo. W. Goethals,
Governor.

Measuring of Sand, Gravel, and Stone.

The Panama Canal,
Executive Office,
Culebra, C. Z., May 18, 1914.

Circular No. 637-1:

Circular No. 637 is amended to read, as follows:
Western dump cars (large), 23 cubic yards.
Western dump cars (small), 15 cubic yards.

Geo. W. Goethals,
Governor.

Employes Whose Duties Require Their Visiting or Crossing the Locks.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., May 23, 1914.

Heads of Departments and Divisions:

Please furnish this office a list of officials and employes of your department or division, whose duties require them to visit or cross the locks at Gatun, Pedro Miguel, or Miraflores during the day or night, or both. This list need not include those employes who are stationed at Gatun, Pedro Miguel, or Miraflores and regularly employed on the locks.

This information is desired in order that the necessary permits may be issued.

Geo. W. Goethals,
Governor.

Indigent Sick of the Republic of Panama.

The Panama Canal,
Executive Office,
Culebra, C. Z., May 8, 1914.

Circular No. 618-1:

Paragraph 20 of Circular 618 is amended to read, as follows:

The indigent sick, lepers, and insane of the Republic of Panama shall be admitted to such hospital as may be designated for their reception and shall be treated, upon request of authorized officials of the Republic. A charge of 75 cents gold per day shall be made for the medical and surgical treatment of such persons, bills being rendered against the Republic of Panama; except that for care at Colon Hospital bill will be rendered against the Republic at the rate of the per capita cost of patients in that hospital for the preceding month.

Geo. W. Goethals,
Governor.

Leave Regulations—Two Days Allowed at Termination.

The Panama Canal,
Executive Office,
Culebra, C. Z., May 14, 1914.

Circular No. 602-7:

1. Employes who have two or more days annual leave to their credit may be excused not to exceed two days when service is terminated by resignation, or discharge on account of reduction of force, and may be paid for the same without again reporting for duty.

2. If more than two days are granted, employes are required to report for duty before payment may be authorized, except when the annual leave is added to cumulative leave.

Geo. W. Goethals,
Governor.

Sightseeing Service.

Panama Railroad Company,
Office of Superintendent,
Colon, R. P., May 21, 1914.

Circular No. 431:

All concerned—Effective May 24, the sightseeing train will be discontinued.

Commencing May 25, the Panama Railroad Company will resume the operation of the motor boat *Louise*. This launch, however, instead of operating between Gamboa and Gatun, as heretofore, will ply between Paraiso and Gamboa, leaving from the launch landing north of the pontoon bridge at 9.20 a. m., daily except Sunday, running through Culebra Cut and up the Chagres River, landing passengers at Gamboa at 11.30 a. m. Commencing June 1, the *Louise* will leave from Pedro Miguel Lock.

The *Louise* will be available for charter any afternoon or Sunday for trip through Culebra Cut, up the Chagres River, or on Gatun Lake.

For further particulars, apply to any agent.

F. R. Blunt,
Acting Superintendent.

Sale of Obsolete Metal Checks.

The Panama Canal,
Office of Depot Quartermaster,
Cristobal, C. Z., May 21, 1914.

Sealed bids will be received at the office of the Depot Quartermaster, Mount Hope, until 2 o'clock p. m., Saturday, June 6, 1914, when they will be opened in the presence of attending bidders, for miscellaneous lot of approximately 1,500 old series metal checks.

These may be seen on any working day between the hours of 7 and 11 a. m., and 1 to 5 p. m., on application to this office.

Bids must be plainly marked "Proposal to purchase old metal checks, to be opened June 6, 1914," and addressed to the Depot Quartermaster, Mount Hope, C. Z. The right is reserved to reject any or all bids.

C. H. Mann,
Depot Quartermaster.

Division of Municipal Engineering.

Gatun, C. Z., May 20, 1914.

To all concerned—Mr. E. J. Tucker, chemist, will be temporarily in charge of the operation of all filtration plants and the analyses of all water supplies in the Canal Zone, during the absence on leave of Mr. Jas. T. B. Bowles, physiologist, effective May 21, 1914.

Geo. M. Wells,
Resident Engineer, Division of Municipal Engineering.

CANAL CLUBHOUSES.

Activities of the Young Men's Christian Association.

BALBOA.

Señor Perez will be in charge of the class in Spanish which will open on Friday evening, May 29.

Beginning Monday, May 25, the barber shop in charge of Mr. Sandrock has been open daily, instead of on alternate days, as formerly.

COROZAL.

The following high scores were recorded on the bowling alleys this week:

Tenpins—Thirsk, 215, 204, 200; Parkis, 211; Garrett, 205; Davis, 203.

Duckpins—Ruggles, 111; Garrett, 101.

Moving pictures for this week have been scheduled for Friday, May 29.

The standing of the teams in the local indoor baseball tournament on May 23, was:

Team.	*Won.*	*Lost.*	*P. C.*
White Sox	3	2	.600
Red Sox	3	3	.500
Cubs	3	3	.500
Naps	3	4	.428

PEDRO MIGUEL.

The motion picture reels entitled "From the manger to the Cross" will be exhibited at the clubhouse, on Sunday evening, May 31. The pictures were taken in the Holy Land. Special music will be furnished by C. C. Pearsall.

CULEBRA.

All interested in entering a handicap tenpin bowling tournament are requested to indicate it at once, as the tournament will start in a few days.

Miss MacLaren will give her final entertainment on Friday night, May 29, at 8 o'clock. Admission will be 50 cents for adult nonmembers, 25 cents for children, members free. She will present "The misleading lady."

GATUN.

Miss Gay Zenola MacLaren will give an imitative recital of "The music master," on Tuesday evening, June 2. At the conclusion of the play, she will give an imitation of Sarah Bernhardt as Camille.

The tropical pool tournament started on Wednesday evening, May 20, with the following entries: Wright, Goree, Feehan, Duffy, Conley, Kerruish, Loulan, and Brown.

A collection of song books has been added to the musical library of the Y. M. C. A. It includes home songs, national songs, college songs, songs for glee club, songs for male quartets, popular hymns, and popular opera songs.

Eight reels of motion pictures illustrating Bulwer-Lytton's famous novel, "The last days of Pompeii," were exhibited at the clubhouse on Monday evening, May 25. Translations of the Spanish titles were given by Harry Feehan.

Special shelves are being constructed in the reading room to contain permanent files of the more important magazines.

Special music was given at the clubhouse on Saturday evening, May 23, by Messrs. Joseph and Polliter, of Wilkesbarre, Pa.

Among the scores above 100 made by some of the Gatun women during the week ending May 23 were the following: Mrs. Tricker, 148, 131, 122, 113; Mrs. Conley, 134, 129, 116, 108; Mrs. Crosscup, 119, 114, 111; Mrs. Walsh, 114, 110, 109, 107.

The standing in the local handball tournament is, as follows:

	Won	*Lost*	*P. C.*
Peters	2	0	1.000
Wright	2	1	.667
Lailor	1	1	.500
Loulan, J	0	1	.000
Sutliffe	0	1	.000
Heslop	0	1	.000

The final standing of the national duckpin tournament. which began on May 4 and closed on May 21, was, as follows:

	Won	*Lost*	*P. C.*
Tigers	12	6	.667
Pirates	9	9	.500
Red Sox	8	10	.444
Superbas	7	11	.389

In a 3-game contest for the pennant awarded to the winning team, O'Meara made the highest score, 269. The "Boob" pennant awarded the Superbas was similarly contested for by the members of that team, in three games, and won by Kiger, with a score of 297.

CRISTOBAL.

Because of moving pictures on Thursday night of this week, the regular meeting of the Discussion Club will be held on Friday, May 19. The meeting for June 4, will be addressed by Mr. L. Larson on the subject of "Practical sanitation in Panama."

The scores above 500 in the single folks' duckpin tournament, held on May 18, were made by Archie Gibson and Miss Gay Butler, 526; and W. G. Russell and Miss Miriam Stevens, 514.

The Redsox now lead in the local duckpin tournament, with six games won and three lost.

Messrs. W. Russell, D. Raymond, E. MacSparron, and F. Parker have been selected as captains of teams for the local indoor baseball league.

A team from the Corozal boys' department defeated the Cristobal boys at indoor baseball on Saturday, May 23, by a score of 17 to 14.

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Supplies for the Canal.

The following steamers with supplies for The Panama Canal and Panama Railroad Company arrived at the ports of Colon, Balboa, and Cristobal during the two weeks ending May 23:

Prinz Sigismund, May 12, from New York, with 17 boxes graphite, for stock.

Heredia, May 12, from New Orleans, with 744 barrels paving brick, for Division of Municipal Engineering; 75 packages wire screens, for Mechanical Division; 76 pieces untreated yellow pine piling, 44 rolls cotton duck, for stock.

Cratheus, May 12, from Port Arthur, Texas, with 200 barrels gasoline.

Almirante, May 13, from New York, with 74 packages chain fender material, 17 cases electrical material, for Department of Operation and Maintenance; five crates structural material, for fortifications; 154 cases electrical material, for Mechanical Division; 1,171 pieces galvanized pipe, for stock.

Atenas, May 14, from New Orleans, with 87 boxes doors and windows, for permanent buildings; 173 pieces untreated yellow pine piling, for stock.

Lyra, May 15, from San Francisco, with two cases dredge parts, for Dredging Division.

Colon, May 15, from New York, with eight boxes electrical material, 39 packages electrical material, 243 steel plates, 32 boxes clock and fixtures, 151 packages elevator machinery, 1,800 bags sand, 66 boxes incandescent lamps, for Mechanical Division; 13 pieces pipe, 104 pieces cast iron pipe, 16 pieces cast iron fittings, for Division of Municipal Engineering; 56 packages splice bar and bolts, for Pacific terminals; 11 cases hardware, 20,800 pieces hollow tile, eight crates incandescent lamps, for permanent buildings; 30 pieces structural material, 25 pieces angle iron, 97 packages bolts and rivets, for Department of Operation and Maintenance; 12 barrels soda, for Health Department; 87 boxes plumbing material, 40 cases polish, 290 kegs bolts and rivets, 14 barrels electric batteries, 33 cases paper, 40 cases paint, 71 boxes ink, 14 boxes hardware, 27 boxes rubber hose, 150 bundles galvanized sheets, 473 pieces galvanized pipe, 854 pieces steel bars, 1,288 bags oats, 1,500 kegs paint, 127 kegs horseshoes, 598 bales hay, 200 pieces angle iron, for stock; and a miscellaneous cargo, the whole consisting of 29,713 packages, weighing approximately 1,043 tons.

Falk, May 16, from New York, with 113 drums gasoline, for stock.

Fort Morgan, May 16, from Mobile, with 2,053 creosoted switch ties, for stock.

Naperian, May 18, from Liverpool, with 53 casks tiling, for permanent buildings; 154 barrels carbolic acid, for stock.

Prinz Joachim, May 18, from New York, with 56 bundles tool steel, for stock.

Wasgenwaldt, May 19, from Barmen, Germany, with 204 packages floating crane material, for Division of Terminal Construction.

Parismina, May 20, from New Orleans, with two pile driver hammers, for Division of Terminal Construction; 107 pieces untreated piling, for stock.

Santa Marta, May 20, from New York, with 4,701 bundles reinforcing bars, for Division of Terminal Construction; 50 bundles wire rods, for permanent buildings; 206 packages chain fender material, for Division of Erection; 100 crates, 12 boxes, 17 barrels water closets and fittings, 250 drums calcium carbide, 38 reels hoisting cable, 1,040 kegs wire nails, 287 bundles galvanized sheets, 41 bundles tire steel, for stock.

Turrialba, May 21, from New Orleans, with 13,131 feet, board measure, lumber, for Mechanical Division; 42,556 feet, board measure, lumber, 130 pieces piling, for stock.

Ne'isbrook, May 22, with 537 pieces untreated piling, for Division of Terminal Construction; 1,172 pieces untreated piling, for stock.

Tenadores, May 22, from New York, with 20 reels cable, 33 cases electrical material, 100 pieces channels and angles, for Mechanical Division; eight cases electrical material, 14 reels cable, 144 bundles reinforcing rods, for permanent buildings; 12 cases electrical material, nine cases lock caisson material, 13 cases emergency dam material, for Division of Erection; 950 bundles reinforcing bars, for Division of Terminal Construction; 15 cases, four crates, 12 barrels electrical material and telephone wire, for Panama Railroad Company; 165 kegs wire nails, 51 cases caustic soda, 40 cases pipe covering, 1,700 bags oats, for stock.

M. E. Luckenbach, May 22, from Port Richmond, N. Y. with dredge *Paraiso* in tow, for Dredging Division.

Advance, May 23, from New York, with 151 barrels clay, 32 cases electric lamps, six reels copper wire, for Mechanical Division; 19 boxes water gates, for Division of Municipal Engineering; 326 barrels plaster, 50 barrels cement, 123 bundles iron pipe, seven cases sheet copper, for permanent buildings; 16 crates, two cases, ventilators, for Fortifications Division; 870 pieces steel ties, 24 kegs clips, 23 kegs bolts, for Division of Erection; 47 cases envelopes, 198 drums, two boxes welding compound, 229 bales hay, 70 galvanized range boilers, 46 kegs, 47 boxes bolts, one box valves, 80 cases alcohol, 420 bundles wrought pipe, 30 bundles brushes, for stock; and a miscellaneous cargo, the whole consisting of 3,412 packages, weighing approximately 255 tons.

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Misdirected Letters.

ANCON, C. Z., May 25, 1914.

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressees:

Arthur, Robert (2)
Cheranne, B. J.
Craig, Wallace C.
Cranfill, Miss Goldie
Denney, C. B.
Dugan, S. A.
Ferguson, Colin D.
Geiger, James
Gill, William
Gittens, Alban
Glab, Leo
Gray, E. L.
Graham, A. Neely
Grzybowski, Eric
Hall, Hubert
Hartsough, Geo. H., Jr.
Heflin, Henry T.
King, Bennie
Kennon, Major L. W. V.
Kinney, William
Kneeland, Elder W. G.
Kontouras, James
Kuller, Miss Helen
Kuller, Mrs. Bessie
Kyle, Thomas
Landis, John
Lee, B. E.
Loman, Harry
Lyman, Van Allen
McLennan, Roderick
McCormack, Andy J.
McC. Jacques, Mace
Markland, George
Marshel, Wilbur
Mellhope, C. E., Esq.
Metzger, Isaac
Miles, John (2)
Moffitt, J. F.
Moyer, Mrs. Jennie
Mulcahy, Joseph
Mullane, D. E.
Myers, D. S.
Nolerega, E. A.
Norton, Joseph
O'Shea, Tim
Park, Arthur
Pezza, L.
Reenan, Wilham
Roach, Mrs. George
Shinn, Thos. B.
Stephans, Frank W.
Stevenson, Miss Lucile
Stumm, Charles A.
Svensson, Chas.
West, William
Wilby, George
Will, T. E.
William, Warren (2)
Yonce, S. J.

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Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes for the week ending midnight, Saturday, May 23, 1914. All heights are in feet above mean sealevel:

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela	Gamboa.	Gatun Lake.	Miraflores Lake.
Sun., May 17	126.00	92.50	84.80	84.86	51.02
Mon., May 18	125.60	92.00	84.63	84.63	51.08
Tues., May 19	125.40	91.80	84.45	84.47	50.90
Wed., May 20	125.35	91.80	84.46	84.46	51.04
Thurs., May 21	138.20	101.00	84.62	84.58	50.88
Fri., May 22	133.30	99.25	85.08	85.05	50.80
Sat., May 23	131.15	96.35	85.08	85.13	50.98
Height of low water to nearest foot	125.0	91.0			

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Tide Table.

The following table shows the time of high and low tides at Panama for the week ending June 6, 1914:

DATE.	High	Low	High	Low	High
	A M	A M.	A.M.	P.M.	P.M.
May 31		1.47	7.53	2 17	8.09
June 1		2.40	8.47	3.16	9.08
June 2		3.37	9.46	4.17	10.12
June 3		4.39	10.46	5.18	11.20
June 4		5.42	11.50	6.20	......
			P.M.		
June 5	12.28	6.44	12.49	7.18	......
June 6	1.29	7.41	1.47	8.13	......

75th meridian time.

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Hotel Aspinwall, Taboga.

Families of employes are entitled to the employes' rate of $2.25 per day, per person, at the Hotel Aspinwall, Taboga.

Launch tickets to Taboga are on sale at all P. C. hotels and the Hotel Washington.

COMMISSARY DEPARTMENT.

Opening of Ancon Commissary.

The new Ancon commissary store will be open for business on June 15, 1914.

Closed on Decoration Day.

The commissaries will be closed on Decoration day, May 30, 1914. Patrons will be guided accordingly in placing their orders.

Reduction in Price of Ice.

The price of ice will be reduced from 40 cents to 30 cents per 100 pounds, effective June 1, 1914.

This price change was not authorized until after most of the June ice bills were sent to and paid by customers at the 40-cent rate. This overcharge will be credited on July ice accounts, but those who desire it will be sent refund notes, upon application to the Depot Commissary, Cristobal, C. Z.

The reduction in the price of ice is in accordance with the policy recently prescribed whereby the products of each department of the commissary branch of the Supply Department will be sold at cost price, plus the cost of handling supplies and maintenance of plants. This will result in reduction of price on all articles that heretofore counterbalanced the loss sustained in others, and in raising the price of a comparatively small number of articles that were sold in large quantities far below cost. Lists of these changes will be published in succeeding issues of The Canal Record.

Transfer of Offices from de Lesseps House.

The offices of the Assistant Chief Quartermaster, the depot commissary, and the commissary accounting force have been transferred from building No. 2, the annex to the de Lesseps residence on Cristobal Point, to building No. 263, opposite the commissary laundry. This building is a Type-18 bachelors' quarters, renovated for temporary use as an office building. Authority has been granted to demolish building No. 2.

Changes in Cold Storage Price List.

The following changes have been made in the cold storage price list, and will be effective through the week beginning May 28:

Lettuce, †11 cents per pound; onions, †4½ cents per pound; tomatoes, *10 cents per pound; American grapefruit, *7 cents each.

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*Indicates reduction from last list.
†Indicates advance on list.

New Rules Governing Deliveries.

The Panama Canal,
Supply Department,
Culebra, C. Z., May 19, 1914.

Circular No. 96:

To all concerned—The following rules, which have been approved by the Governor, will be put into effect June 1 to govern deliveries from commissary stores:

1. One free grocery delivery every week day morning.
2. One free cold storage delivery every morning.
3. One free grocery and cold storage delivery on Saturday afternoon, and the afternoon of days preceding holidays.
4. Order for morning deliveries must be placed the day previous, or at least one hour before wagon starts.
5. Orders for Saturday afternoon delivery must be received before 11 a. m.
6. Bread will be sent out with the first delivery, and on second if requested.
7. Cold storage will be sent out on grocery delivery if requested, but at patron's risk, owing to the fact that wagons are out longer and during the heat of the day.
8. Owing to their perishable nature, peaches, plums, pears, apricots, and strawberries will not be sent out on regular deliveries.
9. Any article other than the foregoing purchased from any department of the commissary, will be delivered.
10. Ice cream will only be delivered on regular deliveries when packed in suitable containers. An extra charge will be made for packing, and the use of containers.
11. Empty milk bottles, ice cream containers, etc., will be picked up by wagon drivers on request when making deliveries.
12. Laundry will be picked up by cold storage and grocery wagons on return trip any day. Every Monday (either morning or afternoon), laundry will be collected from all bachelor quarters and from married quarter on request.
13. Laundry will be delivered on first grocery delivery when paid in advance at commissary, or to solicitors. Laundry paid for before 1 p. m. on Saturdays, will be delivered that afternoon. On Saturdays, the commissary laundry men will accompany wagon in afternoon and collect at time of delivery, if previously advised that commissary book will be left with servant or janitor.
14. Special deliveries (leaving commissary within one hour after receipt of order) will be made at any time to anyone. An extra charge of 10 cents for each 20 pounds or part thereof will be made for this service.

R. E. Wood,
Chief Quartermaster.

Handling Meat and Vegetables.

The Panama Canal,
Supply Department,
Culebra, C. Z., May 22, 1914.

Circular No. 102:

Effective May 25, on every day except Sunday, meat and perishable vegetables will be put up on morning of day of delivery. Meat and vegetables for delivery on Sunday morning will be put up Saturday afternoon, as now.

Butchers and such of their assistants as may be needed will report at 5 a. m. or earlier, if necessary, in order to get the cold storage delivery—which must not be made any later than at present—out on time.

Storekeepers are authorized to give butchers and their assistants time off during the day to avoid working them longer hours than under the present system. Butchers must, however, be on duty during the rush hours in the cold storage department.

R. E. Wood,
Chief Quartermaster.

JOINT LAND COMMISSION.

Notice.

Notice is hereby given to all land owners and landholders and to all persons having any claims to right, title, or interest in any land, or land under water, situated in any part of the Canal Zone, except in the region known as Las Sabanas, now pending before the Joint Land Commission, and to all other persons interested, that the Commission has resumed its work and will proceed with the adjudication of claims.

Its hearings will be held in building No. 114, Ancon, C. Z., (known as the Governor's residence), and due notice of such hearings will be given from time to time.

By order of the Joint Land Commission.

J. A. Langston,
Secretary, pro tempore.

Ancon, C. Z., May 25, 1914.

Examinations by Board of Local Inspectors.

The Panama Canal,
Board of Local Inspectors,
Ancon, C. Z., May 23, 1914.

The Board of Local Inspectors will conduct examinations at the Administration Building, Ancon, on Wednesday, June 3, 1914, beginning promptly at 2 p. m., for persons desiring the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for licenses must procure from the office of the Board, Ancon, forms of application and information respecting the filling out of same, not later than the day previous to the examination. In addition, all persons desiring chauffeurs' licenses must provide themselves with automobiles with which to demonstrate their ability properly to operate the same.

Note—The demonstration test for applicnts for chauffeurs' licenses will be given on Tuesday, the day preceding the regular examination, at 2 p. m., at the Administration Building, Ancon; on Wednesday, the day of the regular examination, for out-of-town applicants, at 2 p. m. at the Administration Building, Ancon. No demonstration tests will be given at Cristobal, except by appointment.

By direction of the Chairman of the Board.

W. H. Hyde,
Clerk of the Board.

MOVEMENTS OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line.

		Sails.	*Arrives.*
NEW YORK TO CRISTOBAL.			
*Panama	P. R. R.	May 22	May 28
*Allianca	P. R. R.	May 28	June 3
*Cristobal	P. R. R.	June 3	June 10
*Advance	P. R. R.	June 9	June 16
*Panama	P. R. R.	June 15	June 21
*Allianca	P. R. R.	June 20	June 26
*Colon	P. R. R.	June 27	July 3
*Advance	P. R. R.	July 3	July 10
*Panama	P. R. R.	July 10	July 16
CRISTOBAL TO NEW YORK.			
†Advance	P. R. R.	May 28	June 4
†Panama	P. R. R.	June 3	June 9
†Allianca	P. R. R.	June 9	June 15
†Cristobal	P. R. R.	June 18	June 25
†Advance	P. R. R.	June 22	June 29
†Panama	P. R. R.	June 28	July 4
†Allianca	P. R. R.	July 3	July 9
†Colon	P. R. R.	July 10	July 16
NEW YORK TO COLON.			
*Metapan	U. F. C.	May 20	May 27
*Calamares	U. F. C.	May 23	May 29
Orotava	R. M.	May 23	May 31
Prinz August Wilhelm	H.-A.	May 23	June 1
Zacapa	U. F. C.	May 27	June 3
*Pastores	U. F. C.	May 30	June 5
Prinz Sigismund	H.-A.	May 30	June 9
Almirante	U. F. C.	June 3	June 10
*Tenadores	U. F. C.	June 6	June 12
Danube	R. M.	June 6	June 14
Prinz Joachim	H.-A.	June 6	June 15
*Santa Marta	U. F. C.	June 10	June 17
*Calamares	U. F. C.	June 13	June 19
Prinz Eitel Friedrich	H.-A.	June 13	June 23
*Metapan	U. F. C.	June 17	June 24
Pastores	U. F. C.	June 20	June 26
Tagus	R. M.	June 20	June 28
Prinz August Wilhelm	H.-A.	June 20	June 29
*Zacapa	U. F. C.	June 24	July 1
Tenadores	U. F. C.	June 27	July 3
Prinz Sigismund	H.-A.	June 27	July 7
COLON TO NEW YORK.			
Tenadores	U. F. C.	May 27	June 2
Santa Marta	U. F. C.	May 28	June 4
Prinz Eitel Friedrich	H.-A.	May 31	June 8
†Calamares	U. F. C.	June 3	June 9
Metapan	U. F. C.	June 4	June 11
Tagus	R. M.	June 9	June 17
Prinz August Wilhelm	H.-A.	June 9	June 17
†Pastores	U. F. C.	June 10	June 16
Zacapa	U. F. C.	June 11	June 18
Prinz Sigismund	H.-A.	June 14	June 23
†Tenadores	U. F. C.	June 17	June 23
Almirante	U. F. C.	June 18	June 25
Prinz Joachim	H.-A.	June 23	July 1
Oruba	R. M.	June 23	July 1
†Calamares	U. F. C.	June 24	June 30
Santa Marta	U. F. C.	June 25	July 2
Prinz Eitel Friedrich	H.-A.	June 28	July 7
†Pastores	U. F. C.	July 1	July 7
Metapan	U. F. C.	July 2	July 9
NEW ORLEANS TO COLON.			
Cartago	U. F. C.	May 20	May 27
*Abangarcz	U. F. C.	May 23	May 28
Heredia	U. F. C.	May 27	June 3
*Atenas	U. F. C.	May 30	June 4
COLON TO NEW ORLEANS.			
‡Turrialba	U. F. C.	May 28	June 2
Cartago	U. F. C.	May 28	June 4
‡Abangarez	U. F. C.	June 4	June 9
Heredia	U. F. C.	June 4	June 11

*Will carry mail from the United States.
†Will carry mail to the United States.
‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Piers 8, 9, and 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays at 3 p.m.; for New Orleans, via Bocas del Toro and Havana, on Thursdays at 4 p.m.; ships for New York via Kingston, on Thursdays, at 2 p.m.; for New York direct, on Wednesdays at 2 p.m.; or Limon and Bocas del Toro, on Saturdays at 4 p. m.; and for Bocas del Toro direct, on Thursdays at 4 p. m.

The Hamburg-American steamers *Prinz Eitel Friedrich* and *Prinz Sigismund* sail from New York, via Kingston and Fortune Island, on Sundays at 2 p. m.; the *Prinz August Wilhelm* and *Prinz Joachim* sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays at 10 a. m.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, JUNE 3, 1914. No. 41.

The Canal Record

Official publication of The Panama Canal.

The Canal Record is published weekly free of charge, one copy each, to all employes of The Panama Canal and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No commnnication, either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Preparations for Local Work on Floating Cranes.

Six employes of the Deutsche Maschinenfabrik Actiengesellschaft of Duisburg, Germany, to which contract for two floating cranes of 270-tons capacity was awarded in May, 1913, have arrived on the Isthmus and are engaged in preparations for the erection of the jibs. They are quartered at Gatun. A considerable part of the erection of the superstructure will take place at Dock 14, Cristobal, after which each pontoon will be towed to Gatun Locks, and its jib will be handled into place from the east side wall of the middle level. Practically all of the jib material for the first crane is at hand, a shipload of it having arrived on May 19, on the steamship *Wasgenwald*, sailing direct to Colon from Barmen, Germany. The steamship *Medea*, sailing from Amsterdam, arrived with a second cargo on May 29.

Advice has been received that the pontoon of the *Ajax*, which left the yards of the contractor on April 26, sailed, in tow, from Falmouth, England, on May 15. The pontoon of the second crane, the *Hercules*, has been launched.

The first pontoon is due to arrive at Colon on June 26, and the second on August 1.

◆

Sanitary Conditions at Panama Public Market.

A number of suggestions made by the Health Officer of Panama looking toward an improvement in the sanitary conditions at the public market on North avenue have been approved by the Governor and agreed to upon the part of the Panama Government. Under the new arrangement, which will be placed in effect at once, it is proposed to hold the renters of tables in the market responsible for the condition in, under, and around them, and they will also be required to keep the floor pertaining to these tables free of refuse at all times. To see that this order is properly carried out, the Panama police department will detail three members of its force for duty at the market during the regular hours of business, namely, from about 6 a. m., to 2 p. m. One of the policemen must be able to speak Spanish, another English, and the third French, fluently. In addition, the Health Officer will employ two men whose duty it will be to keep the public aisles between the tables and stalls clean. The Department of Public Works of the Panama Government has agreed to bear the cost of the two men thus employed, and an arrangement has been practically arrived at, whereby the amount involved will be collected from the official in charge of the market at the close of each day's business, and turned over to the Collector of The Panama Canal in reimbursement for the outlay.

◆

Additional Concrete Mixers Ordered.

The Washington office was instructed by cable on May 20 to purchase immediately four Ransom No. 3, ½-cubic yard concrete mixers, which will be added to the equipment in the service of the building division of the Supply Department. Each mixer will be mounted on a truck, for portability, and will be driven by a 15-horsepower motor. which will also be geared to operate the charging hopper.

This purchase was made necessary by the present demand for portable mixers in connection with the Canal work, especially in the erection of permanent buildings and in the laying of foundations and side walls for the coaling plants, and in the pier construction at Balboa.

◆

Steelwork in Shops Office Building Completed.

The riveting in connection with the steelwork at the new shops office building at Balboa, No. 28, was completed on Thursday morning, May 28, and all work pertaining to the erection of the structural steel in the building was finished at 5 p. m., on May 29, and accepted as of that date.

◆

No Bubonic Plague in Colombian Ports.

Dr. S. T. Darling, chief of Ancon Hospital laboratory, sailed for Cartagena, Colombia, on May 23, his services having been loaned to the Government of Colombia, by authority of the Secretary of War, for the purpose of investigating a suspicious disease which was reported to have broken out in a nearby port, and which was thought at Bogotá to be bubonic plague. Upon the receipt of the first information, additional quarantine restrictions were placed in effect against Colombian ports on May 11, as a matter of precaution, which required ships from those ports to observe plague regulations. A wireless message was received from Dr. Darling by the agent of the United Fruit Company at Colon on May 31, stating that he had investigated the cases of the suspected disease at Cartagena, Calamar, and Barranquilla, and had found no evidence of plague, but that pneumonia had been found to be the cause of disease in two cases he had examined. In accordance with this information, the Chief Quarantine Officer on June 1, lifted the recent restrictions, leaving the regulations in effect as they were prior to May 11. At the request of President Restrepo of Colombia, Dr. Darling has been permitted to remain in Colombia a few days longer, in order that the members of the Board of Hygiene at Bogotá may have an opportunity to confer with him.

◆

Severe Earthquake Shock.

A pronounced seismic disturbance was recorded at the Ancon station on Wednesday, May 27, beginning at 10.24:50 p. m. The pens were thrown off the sheets of all instruments, and the maximum amplitude of the movement was lost, but it exceeded 150 mm. The preliminary tremors at Ancon indicated the center of the disturbance to be about 100 miles to the southwest, or in the vicinity of the coast of Los Santos province, the locality where most of the movements have had their origin since October 1, 1913. The waves on Wednesday evening traveled in a southwest-northeast direction, the seismoscope registering from both directions. All movement of the pens had ceased at 10.54 p. m., but the actual time the disturbance continued is not known. The preliminary tremors lasted for about 15 seconds. The shock was felt generally throughout the Canal Zone, and in the provinces of Panama, Los Santos, Veraguas, and Coclé. Its intensity on the Rossi-Forel scale was V or VI (scale of I to X). As compared with the notable disturbance on October 1, 1913, the shock of May 27 was of no greater intensity, but it was of a different character, having more of a vertical motion and continuing for a longer period than the earlier one.

The barograph ápoid at Ancon showed a maximum amplitude of 180 mm., and the water stage registers at different places in the Canal Zone showed a movement of the pens. The register at Gatun showed a movement of the lake surface approximating .5 of a foot, while the register at Pedro Miguel showed a movement of the surface of Miraflores Lake of .2 of a foot. No disturbance of the water surface was noted at El Vigia on the Rio Chagres; at Alhajuela, the movement was very slight.

A careful survey made of the Canal structures shows that no damage whatever was caused to the locks, dams, or spillways. The shop buildings and permanent quarters likewise escaped uninjured, the damage to Canal property apparently being confined to the new administration building at Balboa, where some of the concrete blocks and stucco were cracked, and six marble slabs partly set in one of the lavatories. were thrown to the floor and broken.

The movement had no apparent effect on Cucaracha slide, but on the morning after the shock, a small additional slide developed on the north side of Gold Hill. The walls in one or two buildings in the city of Panama developed fissures. Reports from the interior, and especially from Los Santos province, indicate that while the shock was severe in that section, no damage of importance resulted.

A second, but less pronounced shock, was recorded at the Ancon station on Sunday morning, May 31, beginning at 5.34:30 and ending at 5.37. The maximum amplitude was 10 mm., and the approximate distance 100 miles. The barograph âpoid recorded a maximum amplitude of four mm. This disturbance corresponds to the after shocks that were experienced after the severe movement of October 1. It was felt by a number of persons, and had an intensity of II on the Rossi-Forel scale (I to X.)

Arrival of the 119th Company, Coast Artillery.

The 119th Company, Coast Artillery, Maj. W. E. Cole commanding, arrived on the *Ancon* on May 31, and has gone into barracks at Fort Sherman on Toro Point. The company consists of six commissioned officers, three noncommissioned officers, and 104 enlisted men. The officers are: Major Cole, commanding, Capt. A. A. Maybach, Lieutenant Bartlett, Lieut. G. A. Mix, Lieut. Cedric Skeene, and Lieut. H. C. Allen. In addition, there came with the company Lieut. W. B. Borden of the Medical Corps, and five enlisted men belonging to the Hospital Corps. The company was stationed previously at Fort Washington, Md.

The 44th Company, Coast Artillery, sailed from New York on the *Cristobal*, and is due to arrive at Colon about June 10. It will also be quartered at Fort Sherman.

American Institute of Electrical Engineers.

The June meeting of the Panama Section of the American Institute of Electrical Engineers will be held in the lock control house at Gatun, on Sunday morning, June 7, 1914, at 9.15 a. m. Mr. Ernest E. Lee will present a paper entitled "Lock control." The operation of the control board and of the lock machinery will be demonstrated. Visitors including ladies will be welcome.

PERSONAL.

A joint resolution of Congress, approved on May 13, authorizes the President to detail Lieut. Frederick Mears of the Second Regiment of Cavalry, U. S. A., former superintendent and chief engineer of the Panama railroad, to perform service in connection with the location and construction of the proposed Alaskan railroad. Mr. Mears sailed for the United States on special leave on April 22, and Mrs. Mears and their children sailed on Wednesday, May 6. Mr. Mears was born at Fort Omaha, Neb., on May 25, 1878, the son of Col. Frederick Mears of the infantry. He attended school in New York City, San Francisco, and Spokane, and at Shattuck School in Minnesota. In 1897, he began work as a rodman with a field party of the Great Northern Railway. Afterward, he was connected with field parties in Idaho, British Columbia, and Arkansas. In 1899, he enlisted as a private in the United States Army, and was assigned to the Third Infantry, which was sent to the Philippine Islands. He became successively corporal and sergeant, and in July, 1901, passed an examination for appointment as second lieutenant. He was assigned to the Fifth Cavalry. He was graduated from the Infantry and Cavalry School in 1904, and from the Staff College in 1905. He was promoted to be first lieutenant on September 20, 1906. In May, 1906, he was transferred to the Canal Zone to enter the service of the Isthmian Canal Commission, and assigned to surveying the route for the relocation of the Panama railroad. He was promoted to resident engineer, in charge of the relocated line construction, in May, 1907, and in December, 1909, he was made chief engineer of the Panama railroad. In addition to his work on the relocated line, he was placed in charge of the party which surveyed the route of the proposed railroad from Empire to David, in Chiriqui province. On December 1, 1913, he was appointed general superintendent of the Panama railroad, retaining his duties as chief engineer. He is an associate member of the American Society of Civil Engineers.

Dr. Marshal C. Guthrie, chief quarantine officer of The Panama Canal, returned on Thursday, May 28, from a few days' trip to Bocas del Toro, and Almirante, Panama, and Port Limon, Costa Rica, where he went in connection with quarantine matters. He inspected the concrete dock of the United Fruit Company at Almirante, the point from which most of the company's bananas in the Bocas district are shipped, and found it to comply with the standard as set forth in the United States quarantine regulations.

F. C. Stanton, assistant engineer in local charge of the work at the east breakwater in Colon harbor and of the construction of the Cristobal coaling plant, sailed for New Orleans on the *Cartago*, on Thursday, May 28, on 30 days' vacation leave. During his absence, Supervisor W. G. Thompson has been placed in local charge of the work at the coaling plant, and Supervisor C. C. Snedeker of the work at the breakwater.

Mr. Charles H. Motsett, who was appointed superintendent of the Panama Railroad Company, to succeed Lieut. F. Mears, arrived on the Isthmus on the *Ancon*, on May 31.

Accidental Electrocution.

George F. Cleveland, an American employed as electrician in the Division of Erection of the Department of Operation and Maintenance, was accidentally electrocuted at Miraflores Locks on Saturday, May 23. The coroner's jury found that at the time he was in the cab of towing locomotive No. 683, and that while engaged in cleaning the contact fingers of the machine, he came into contact with the current, which was on, causing death. The voltage of the current was 220. He was born at Oneonta, N. Y., was 39 years of age, and had been on the Isthmus since April 18, 1910. He is survived by his wife, Mrs. Florence E. Cleveland, living at Cristobal.

Knights of Pythias.

There will be a special meeting of the Uniform Rank, Knights of Pythias at Ancon lodge hall on Tuesday evening, June 9. All members of the Uniform Rank, and all Knights of Pythias interested are requested to attend this meeting, or communicate with A. O. Blake, P. O. box No. 250, Ancon.

Joint Land Commission.

The first of the hearings of the reorganized Joint Land Commission will be held by agreement on Friday, June 5. The commission has adopted the plan of preparing a calendar of the cases to be heard each week, and announcing it in advance in the press, in order to give the claimants and their attorneys time to prepare for them. It is proposed to call up 10 cases each day sessions are held, and if for some reason certain of the claimants are still unprepared on the date specified their cases can be reset. The cases set for next week all involve property in the Gatun Lake area, known as District No. 2, and are, as follows:

Docket No.	*Claimant.*	*Docket No.*	*Claimant.*
	MONDAY, JUNE 8.		
5	Laurent Roquebert	46	Adalina Rincon
27	Hortensio de Leon	51	Marcelino Arias de Miguel
29	Catherine Skipper		
38	Samuel Williams	59	Ten Sing Cho
45	Ildefonso Pinto	89	Victoria de les Rios V. de Jimenez
140	E. P. Desis		
	TUESDAY, JUNE 9.		
143	Maria Seran	162	Nemesio Gonzalez
147	Pablo Surito	163	Juan Arias
148	Juan Chiru	165	Pedro Agregos
149	Luisa Cerezo	166	Juan Mendoza
161	Juan Chiru	167	Juan Melendez
	WEDNESDAY, JUNE 10.		
168	Pascual Romero	172	Pedro Fernandez
169	Pascual Melendez	173	Juan Navarro
170	Sinferiano Pascual	174	Florentino Herveo
175	Iliginio Hernandez	181	Fulgencio Ovalle
179	Telesfero Dominguez	184	Guillermo Diaz
	THURSDAY, JUNE 11.		
185	Antonio Rodriguez	195	Casimiro Sanchez
186	Severo Sanchez	198	Octavio Mendoza
188	Andres Gonzalez	200	José de Jesus Navarro
193	Nicolas Gonzalez	202	Pablo Surito
194	Cristobal Aguilar	206	Ines Benites

There are still about 400 cases remaining to be adjudicated in the Gatun Lake region. Since the dissolution of the former commission about 150 claims in the Canal Zone have been settled by the former General Counsel. Mr. William Taylor, formerly chief clerk in the Mechanical Division, has been appointed secretary of the commission, and will sail for the Isthmus from New Orleans on June 6.

Stenographers Wanted.

The services of three stenographers can be utilized for a period of not over three months. Men with experience are required. Apply in person, or by writing, to the Executive Secretary, Culebra.

Settlement of Estates.

The following estates of deceased employes of The Panama Canal or the Panama Railroad Company are now in process of settlement by the office of the Administrator of Estates, Ancon, C. Z., and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings, or postal money order deposits, or any other moneys due them, should be presented at his office at once, in order that the estates may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once.

Name.	*Check No.*	*Native of*	*Isthmian residence.*	*Employed by*	*Date of death.*
Joseph Best	52147	Barbados	Panama	Transportation	May 26.
Samuel Bourne	61073	Barbados	Colon	Commissary	May 25.
Oscar Bowen	211864	Barbados	Culebra	First Division	May 21.
Joseph Franklin	37467	Barbados	Culebra	Sixth Division	May 23.
Finus Lawrence	40446	Jamaica	Camp Bierd	Supply Dept	May 22.
Antonio Montalvo	204311	Colombia	Pedro Miguel	Fortifications	May 20.
Joseph Moss	618	Jamaica	Colon	P. R. R.	May 25.
Joseph Reid	208314	Barbados	Panama	Gang 760, Balboa	May 25.

EXECUTIVE ORDER

To Create a Committee to Formally and Officially Open The Panama Canal.

By virtue of the authority vested in me by the Act approved April 6, 1914, entitled "An Act making appropriations to supply urgent deficiencies in appropriations for the fiscal year nineteen hundred and fourteen and for prior years, and for other purposes," a committee of six members is hereby created to arrange and provide suitable ceremonies for the official and formal opening of The Panama Canal, as is provided for in Section 4 of the Panama Canal Act. The committee shall be composed of persons who were members of the Isthmian Canal Commission. The committee shall be known and referred to as the "Committee for the formal and official opening of The Panama Canal." It shall have a chairman and vice-chairman, but shall perform its duties under the direction of the Governor of The Panama Canal.

The persons named below are hereby appointed members of this committee:

Col. George W. Goethals, U. S. A.
Hon. Richard L. Metcalfe.
Gen. William C. Gorgas, U. S. A.
Col. H. F. Hodges, U. S. A.
Lieut.-Col. William L. Sibert, U. S. A.
Civil Engineer H. H. Rousseau, U. S. N.

Col. George W. Goethals, now Governor of The Panama Canal, shall be chairman of this committee.

Hon. Richard L. Metcalfe shall be vice-chairman.

The members of said committee shall each receive salary at the rate of ten thousand dollars per annum from April 1, 1914, to December 31, 1914, inclusive, and such necessary traveling and living expenses during the period from April 1, 1914, to January 31, 1915, when on duty connected with the work of providing for formally and officially opening The Panama Canal, as may be approved by the Secretary of War. The salary fixed as above shall include any salary to which any member of this committee may be entitled by reason of his appointment to or employment in any other position under the United States for the period above provided for, and the amount of such salary shall be deducted from the salary fixed as above. The salary to be paid May 31, 1914, shall be equal to two months' pay in a lump sum, less the amount of any other salary for the months of April and May, 1914. The word "Salary" as used herein, in determining the amount to be deducted, shall not be construed to include additional emoluments, such as quarters, heat, light, etc., but shall be confined to actual pay.

The committee is authorized to spend such sums as may be available for printing, postage, correspondence, employment of clerks, and other necessary expenses connected with formally and officially opening The Panama Canal, as may be approved by the Secretary of War, it being understood that the sum to be expended for traveling, living, and other expenses shall not exceed ten thousand dollars, and that the total expenditure authorized by this Order shall not exceed twenty-five thousand dollars.

The payments herein authorized shall be made from such appropriation or appropriations for the construction, completion, and sanitation of The Panama Canal as may be directed by the Governor of The Panama Canal.

The payments authorized hereunder shall be made by such disbursing officer of The Panama Canal as the Governor shall designate.

The Secretary of War shall provide the manner in which the amount to be expended for traveling, living, and other expenses authorized by him shall be certified to, and, when such expenditures are so certified to, they shall be paid without further vouchers therefor.

WOODROW WILSON.

THE WHITE HOUSE,
May 20, 1914.
[No. 1944.]

EXECUTIVE ORDER

Relating to Pardons, the Remission of Fines and Forfeitures and other Subjects.

By virtue of the authority vested in me, I hereby establish the following Order for the Canal Zone:

Section 1. The Governor of The Panama Canal is hereby empowered to grant pardons and reprieves for offenses against the laws, orders and regulations of the Canal Zone; and to commute sentences, and remit fines and forfeitures. He may establish a system for paroling prisoners, and alter or amend the same from time to time.

Section 2. The Governor may establish regulations to govern the labor and employment of prisoners, and to provide awards for their good behavior, and upon other matters affecting the welfare of the prisoners and their management in the penal institutions of the Canal Zone, and may alter and amend such regulations from time to time.

The existing rules and regulations upon the subjects mentioned in this section shall continue in force until altered or amended by the Governor.

Section 3. This Order shall take effect from and after this date.

WOODROW WILSON.

THE WHITE HOUSE,
May 13, 1914.
[No. 1938.]

Immigrant Inspector Examination.

An examination is scheduled to be held, probably on June 21, for immigrant inspector. The supply of announcements received was limited and has been distributed to the clubhouses at Cristobal, Gatun, Pedro Miguel, Corozal, and Balboa, and the post-offices at Empire, Culebra, Paraiso, Ancon, and Balboa; full information may be obtained from the announcement.

Applications should be secured from and filed with this office. Applications will not be received after June 15; this date may be changed if necessary.

The optional subject of stenography and typewriting will be given, probably on the morning of June 22.

A copy of the immigration laws will be sent to each person *whose application is approved*, after the laws are received on the Isthmus, which, it is expected, will be about June 15.

A card of admission will be sent to those found eligible to be admitted, just before the examination. The place and date of examination should be omitted in application forms.

ISTHMIAN CIVIL SERVICE BOARD.
CULEBRA, C. Z., June 1, 1914.

◆

Seventy-seven recruits for the Tenth Infantry arrived on the *Allianca*, which docked at Cristobal on Wednesday, June 3.

SOCIAL LIFE OF THE ZONE.

Raising Funds for Union Church Parsonage.

A meeting of the executive council of the Union Church of the Canal Zone was held at Cristobal on Sunday, May 24, at which time the principal business transacted was the decision of the council to purchase a cottage from the Government of The Panama Canal to be used as a parsonage for the minister who is expected to arrive on the Isthmus soon. The cottage will be removed from the place where it stands, when purchased, and reerected in Balboa, which will be the official headquarters of the church council. The sum required for the purpose is $1,500, United States currency. A committee has been appointed to raise this money by pledges with as little delay as possible. Subscription lists were opened on Tuesday evening and before noon of the following day $400 had been pledged. Representatives in the local villages for receiving subscriptions are, as follows: A. H. Hackenberg, Corozal; P. T. Woolworth, Pedro Miguel; L. S. Kiser, Paraiso; H. K. Higgins, Culebra; W. H. Warr, Empire; A. H. Kjellander, Gatun; Leander Larson, Cristobal. In addition to this action, various matters of routine business were disposed of. It was decided that the members of the finance committee in each town should be responsible for the collection of pledges for the support of the church. Individuals are requested to make their monthly payments to the local representative of the finance committee who will give receipt and forward the sums to the central treasury. Mr. W. E. Hoffman of Empire has resigned as secretary of the church organization, and Mr. W. H. Kromer of Cristobal has been appointed in his stead.

Fourth Degree, Knights of Columbus.

By virtue of the power conferred upon me as temporary master of the Fourth Degree of the Isthmus of Panama, I hereby call a meeting of all members of the Knights of Columbus who have attained the honors of this degree to meet at the district court building, Cristobal, Sunday, June 7, at 1.15 p. m., for the purpose of organizing, electing officers, selecting a name, and for any other purpose incident to the formation of an assembly.

J. L. KERR,
Temporary Master.

Colon, R. P., June 3, 1914.

Fourth of July Celebration.

A meeting will be held on Sunday, June 7, probably at Ancon, to discuss plans for the celebration of the Fourth of July. The chairmen of the various committees will probably be selected, and the place for holding the celebration decided on at this meeting. In order to insure the receipt of the fireworks in time, an order has already been placed with the Pain Fireworks Company of New York City. The pyrotechnic display this year will be largely of an aerial nature, set pieces having been left out of the program. The order consists of a quantity of assorted rockets, principally 3 and 4-pound size, with a few of the 6-pound size; assorted bombs, consisting of about 300 Manhattan Beach 9 to 15-inch size, and assorted 9 to 15-inch repeating bombshells, with enough mortars to fire all in about one hour and 30 minutes; enough red and magnesium fire to continue an uninterrupted illumination for about two hours, and a quantity of paper balloons, medium size, without fireworks.

COMMISSARY PRICE REVISION.

Number of Cold Storage Articles Including Meats Advanced for Purposes of Equalization.

Beef has been sold in the past by the commissary for less than it has cost, delivered on the dock at Cristobal. Other fresh meat has been sold at cost delivered on the dock at Cristobal. To maintain the price of meat at this level, other commodities were increased in price.

To avoid discrimination and to fix prices on a more stable basis, an adjustment is being made. Ice, dry goods, hardware, and some articles of groceries, will be reduced in price; and some of the cold storage supplies will be raised. These adjustments will be made as rapidly as possible during the month of June.

The following list of cold storage supplies, containing numerous revised prices, is effective for the week beginning June 4:

FRESH MEATS.

	Price.
Mutton—Stewing, per pound	8
Shoulder, trimmed, per pound	12
Leg (8 to 10 pounds), per pound	19
Cutlets, per pound	20
Short cut chops, per pound	23
Shoulder chops, per pound	14
Lamb—Stewing per pound	10
Shoulder trimmed,, per pound	15
Legs (5 to 8 pounds), per pound	24
Chops, per pound	29
Shoulder, chops per pound	18
Cutlets, per pound	29
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	18
Chops, per pound	27
Loin, for roasting, per pound	27
Cutlets, per pound	31
Beef—Suet, per pound	3
Soup, per pound	7
Stew, per pound	11
Plate, per pound	12
Corned, No. 1, per pound	19
Corned, No. 2, per pound	16
Chuck roast, 3 lbs., and over, per pound.	15
Rib roast, second cut (not under 3½ pounds), per pound	21
Rib roast, first cut (not under 3 pounds), per pound	24
Pot roast, per pound	25
Rump roast, per pound	25
Porterhouse roast, per pound	27
Steak, Chuck, per pound	16
Round, top, per pound	19
Round, bottom, per pound	17
Rib, per pound	24
Sirloin, per pound	25
Sirloin, choice cut, per pound	28
Rump, per pound	25
Porterhouse (not less than 1½ pounds), per pound	30
Porterhouse, short, Delmonico, per pound	25
Tenderloin (Western), per pound.	40
Pork—Hams, fresh, per pound	§23
Shoulders, fresh, per pound	§19
Spare ribs, per pound	18
Backbones, per pound	15
Loin chops or roast, per pound	20
Pigs' feet, each	7
Pigs' heads, whole	83
Pigs' head, ½-head	42
Sausage, homemade, per pound	23

MISCELLANEOUS.

	Price.
Livers—Beef, per pound	13
Calf, each	62
Half, each	31
Steak, Hamburger, package	17
Hamburger, 20-pound containers, per pound	14
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Pure pork, 1-lb. carton, per pound	18
Sweetbread, beef, per pound	23
Eggs, fresh, per dozen	28
per ½-dozen	14
Bluefish, per pound	09
Halibut, fresh, per pound	05
Salmon, per pound	06
Shad roes, per pair	38
Oysters, per quart	29

POULTRY AND GAME.

	Price
Chickens—Fancy roasting, milk fed, per pound	30
Fancy roasting, corn fed, per pound	27
Fowls, per pound	22
Fowls, light, per pound	23
Ducks, Western, per pound	25
Capons, per pound	39
Broilers, milk fed, per pound	34
Broilers, corn fed, per pound	30
Turkeys, per pound	32
Squabs, each	42
Ducks, teal, each	40
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1 30

CURED AND PICKLED MEATS

	Price
Ham—Real York and Cumberland, per pound.	43
Genuine Westphalia, per pound	50
Sugar cured, per pound	21
Sliced, per pound	28
Half, for boiling, per pound	23
Boiled, per pound	30
Hocks, per pound	09
Butt end, about 1½ pounds to butt, per pound	11
Bacon—Breakfast, whole piece, per pound	26
Sliced, per pound	27
Ham, lunch, per pound	40
Pork, salt, family, per pound	14
Ox tongues, each	1.'0
Pigs' feet, per pound	7
Tongues, per pound	19

DAIRY PRODUCTS.

	Price
Butter—Creamery, special, per pound	35
Sheffield Farms, extra fancy, per lb	54
Cheese—Philadelphia cream, cake	09
Cheese—Roquefort, per pound	35
Young America, per pound	21
Swiss, per pound	27
Edam, each	81
Edam, tin	29
Parmesan, per pound	38
Gouda, per pound	29
Snappy, per cake	9
Milk (certified), bottle	**.24
Fer-mil-lac, bottle	**.25
Ice cream, quart	‡25
½-gallon	‡50
Cream, Sheffield Farms, quart	**.33

VEGETABLES AND FRUITS.

	Price
Beets, per pound	4½
Celery, per head	10
Cabbage, per pound	2
Carrots, per pound	3½
Horseradish, per pound	12
Lettuce, per pound	11
Onions, per pound	4½
Potatoes, white, per pound	3
sweet, tropical, per pound	2
Yams, per pound	2½
Parsley, per bunch	2½
Parsnips, per pound	4
Rhubarb, per pound	4
Turnips, per pound	3
Tomatoes, per pound	11
Spinach, per pound	6
Grape fruit, American, each	7
Tropical each	4½
Lemons, per dozen	12
Oranges, Jamaican, per dozen	18

**Indicates 5 cents allowed for return of bottle.

‡Sold only from commissaries; no orders taken for delivery.

§ Sold only from cold storage and not from commissaries.

Porterhouse roast includes any cut of hind quarter down to rump, and will not be cut if orders for steak will consume the supply.

Tenderloins on porterhouse will not be cut and sold separately

Not less than ½ ham or ½ shoulder of fresh pork will be sold.

Purchasers desiring crown roasts will be charged for actual cost of materials used and $1 extra for labor. When the following is desired: French lamb chops, mutton saddle, tenderloin roast larded, rib roast boned and rolled, a charge of six cents per pound will be made, based on the original weight and actual cost of the materials used in larding.

Storekeepers will use the "Quantity ordered" column in making up their orders.

Daily cold storage orders will be filed and kept for at least one month.

CANAL CLUBHOUSES.

GENERAL.

Miss MacLaren's engagement for the season closed at Gatun on June 2, when she gave "The music master." This was her 107th appearance under the auspices of the Canal Zone Y. M. C. A.

Arrangements are under way for an exhibition of motion pictures at the Gamboa stockade.

A new contract has been entered into for motion pictures, whereby the films composing the clubhouse exhibitions will be specially selected each week from a shipment of 70 reels.

Mr. F. B. Shipp, executive secretary of the international committee of the Young Men's Christian Association, was a visitor to the Isthmus on Friday and Saturday, May 29 and 30.

BALBOA.

Twelve members were present at the first lesson of the Spanish class, which was started last Friday night. It is expected that more will join later on. Rates and general information can be procured from the secretary.

The handicap pool tournament was started on Monday night, with 19 entries, as follows: Smith, Young, Davison, Rudolf, Quick, Curtiss, Cone, Bailey, Dent, Ashton, Brugge, Dubendorf, Onstott, Flynn, Montgomery, Hulsebosch, O'Hagan, Ormsby, O'Rourke Williams.

A number of books have been added to the library.

COROZAL.

Motion pictures will be shown at Corozal on Friday, June 5.

The Corozal and Ancon basketball teams played a game on Wednesday, May 27, which resulted in a score of 45 to 6 in favor of the Corozal team. The line-ups were, as follows:

Corozal.		*Ancon.*
Schaffer	F.	N. Morris
Doherty	F.	Kaler
Mathues	C.	Russell and Stevens
Johnson	G.	Wechsler
Plank	G.	Poltrino

High scores in bowling during the past week were, as follows: *Duckpins*—Dunlop, 100, 101; Davis, 109, 119, 111; Parkis, 102; Webb, 114; Garrett, 116, 100. *Tenpins*—Davis, 224.

PEDRO MIGUEL.

On Sunday night, June 7, the 6-reel feature film, "From the Manger to the Cross," will be shown, taking the place of the regular song service.

The public school children have been given Saturdays to prepare for the telephone meet to be held on June 19 The boys practice from 9 to 11 a. m., and the girls from 3 to 5 p. m. Considerable interest is being taken by the children in the meet.

A regular nightly brake service will be instituted between Paraiso and the Pedro Miguel clubhouse in the near future. Members will be carried free upon showing their membership card; all others must pay five cents each way. Books of tickets, costing $1, will be issued, and will be on sale at the clubhouse and probably at the post-office at Paraiso.

The following scores were recorded on the bowling alleys this week: *Tenpins*—Orr, 215, 202; Barte, 209, 204; Beeses, 204; Farrar, 201. *Duckpins*—Whiston, 101. *Rubber bands*—Mrs. Landers, 110, 106.

The first tenpin bowling match held at Pedro Miguel was bowled on the evening of May 28 by teams from Corozal and Pedro Miguel. The latter won two out of three games by the following scores: Pedro Miguel, 638, 760, 794; Corozal, 796, 748, 774.

CULEBRA.

On Sunday night, June 7, a set of slides, with accompanying descriptive lecture, will be shown on the subject, "The birth of the nation." All are invited.

GATUN.

The total attendance at all gymnasium activities for the month of May was 843.

A tenpin tournament has been organized.

The sale of strawberries and cream during the past week gave considerable satisfaction to the bachelor members of the clubhouse.

A new class in Spanish for beginners will be started next week. Señorita LaPeira has succeeded Señora de Hess as instructor. The class fee is $2 per month.

The entire force of gold employes of the German contracting company for the floating cranes, which is stationed at Gatun, have become members of the local clubhouse.

A large number of the members took advantage of the "Open house" at the clubhouse on Decoration Day. All the games were well patronized.

The Gatun clubhouse invites other clubhouses to send a chess team to Gatun, the same to consist of three or four men.

A matinee social was held for the girls' and boys' gymnasium classes on Friday, May 29.

CRISTOBAL.

Much interest is being manifested in the indoor baseball league. On Tuesday, May 26, the "Doves" defeated the "Yankees" by a score of 31 to 20; on Thursday, May 28, the "Giants" defeated the "White Sox" by a score of 17 to 7. Following is the standing of the league:

Team.	*Won.*	*Lost.*	*P.C.*
Doves	1	0	1.000
Giants	1	0	1.000
Yankees	0	1	.000
White Sox	0	1	.000

Two hundred and eighty-seven games were rolled in the all-Isthmian duckpin tournament held on Decoration Day. High score was made by Davis, 128; first, second, and third in singles were made by Weaver, 305; Rodeghiero, 301; Potter, 286. First, second, and third in doubles were made by Henry and Claherty, 614; Davis and Sims, 604; Rodeghiero and Lowande, 587. Scores over 100 were made by Weaver, 118, 112; Lowande, 103, 102; Scheid, 101, 103; Warner, 108; Parker, 108; Davis, 110, 128; Rodeghiero, 104, 109, 108, 109, 124; Sims, 102; Conley, 103, 109; Murray, 102; Gill, 102; C. Sims, 125, 104, 109, 114, 101, Parkis, 102; Claherty, 108; Smith, 111.

Because of confliction in dates, the discussion club meeting was not held on Thursday, May 28. Mr. Weaver will consider "Mexico to date" at the meeting on June 11. The meeting of June 18 will be addressed by Dr. S. T. Darling of Ancon. Dr. Darling will give an account of his recent trip to South Africa, illustrating his address with pictures taken on the trip.

TRANSISTHMIAN DUCT LINE.

Advancing Across Isthmus at Rate of 1,500 Feet per Day—Contracts for Electrical Material.

The actual construction of the transisthmian duct line was started on April 14, at the north end of the Gamboa bridge. It required about two weeks to distribute the plant and organize an efficient working force. The completed duct line is now being extended at an average rate of 1,500 feet per day. At the close of the working day on May 8, 28,550 feet of trench had been excavated, 24,650 feet of base conduit laid, 22,608 feet of backfill concrete placed, 23,759 feet of duct laid, 19,361 feet of earth backfill completed, and 61 manholes installed complete, except covers. At the close of the working day on May 29, 57,200 feet of trench had been excavated; 53,603 feet of base conduit laid; 46,876 feet of backfill concrete placed; 47,303 feet of duct laid; 45,342 feet of earth backfill completed; and 115 manholes installed complete, without covers.

To the morning of June 2, the trench was dug to nearly two miles north of Frijoles, or about $10\frac{3}{4}$ miles from Gamboa. Duct had been laid to the Frijoles station and concreted to a point just south of Frijoles. The duct line was completed, with the exception of the manhole covers, for about nine miles. Tile has been distributed along the right-of-way to within approximately four miles of Gatun.

The general alignment of the duct line is on the outside of the transmission line track-span bridges. The average depth of the excavation is two feet. Five to seven inches of concrete is then laid as a base, and the duct placed on this and set in concrete mortar. The ends of all ducts are wrapped with surveyed cement sacks which are first soaked in a thin mixture of cement and water; this is done in order to insure that nothing gets inside the duct during the placing of the three inches of concrete backfill on the sides and top.

Manholes are cast in the field with collapsible forms. The regular spacing of manholes is 776.42 feet, but intermediate manholes are installed in order to get the proper alignment when building the duct around curves. Special manholes are installed at all signal locations in order to save wire and future labor when connecting the signal system to the duct line cable.

A train crew has been assigned to the telephone and signal department of the Panama railroad, which is building the duct line, in order to distribute material and move the plant forward; this crew also hauls the force to and from the work each day in labor cars.

The force consists of seven gold men and a force of silver employes ranging from 375 to 425 men. The nature of this work is such that the force is scattered over 7,000 feet of territory each day.

AWARDS FOR ELECTRICAL MATERIAL.

Award has been made to the Western Electric Company of New York City for the duplex telegraph and telephone cable for the duct line, and the miscellaneous material required for its installation. The principal items are, as follows:

1. Three hundred and thirty pieces of telegraph and telephone cable, each piece 782 feet long, or a total of 258,060 feet. Each cable length is to contain 50 pairs of wires, made up of 38 pairs of No. 16 B. and S. gage quadded, and 12 pairs of No. 19 B. and S. gage in pairs. The No. 16 cable is to have an average mutual electrostatic capacity of not to exceed .074 microfarad per mile, and an insulation resistance of not less than 500 megohms per mile. The No. 19 cable is to have an average mutual electrostatic capacity of not to exceed .074 microfarad per mile, an average ground capacity of not to exceed .111 microfarad per mile, and an insulation resistance of not less than 500 megohms per mile. Delivery of the first 30,000 feet of the order is to be made within 85 days from receipt of notice of award, the remainder to be delivered at the rate of 30,000 feet each succeeding interval of eight working days. The contract price is $0.402 per foot, or a total of $103,740.12.

2. Thirty No. 2 capacity loading coil cases, equipped with 18 No. 530 coils, and 48 No. 515 coils, each case to be equipped with 10 feet of cable stubs. Four cases are to be delivered at Colon within 95 days, and the remainder at the rate of four cases each succeeding interval of eight working days Contract price, $975 per case, or a total of $29,250.

3. Four hundred and sixty feet of single armored cable, to contain the same number of pairs as in Item 1, delivery to be made at Colon within 95 days of receipt of notice of award. Contract price, $1.057 per foot, or a total of $486.22. This cable is required for the bridge crossing the Gatun River at Monte Lirio.

4. Two thousand three hundred feet of single armored cable containing the same number of pairs as in Item 1. delivery to be made at Colon within 95 days of receipt of notice of award. Contract price, $1.057 per foot, or a total of $2,431.10. This cable is required for the Gamboa bridge crossing.

5. Two thousand feet of 25-pair cable, No. 19 B. and S. gage, at $0.108 per foot, or a total of $216, delivery to be made within 85 days. This cable is to be used in tapping the main line for cut-ins.

6. Miscellaneous supplies for installing the above cable, consisting of paper sleeves, paraffine, tape, pothead compound, etc., aggregating in value $842.12.

The following cable purchases have been made of the Kerite Insulated Wire and Cable Company, New York City, for use in the installation of the Panama railroad's signal circuits in the duct line system:

1. Ninety pieces of cable, each 2,338 feet in length, or a total of 210,420 feet, No. 12 B. and S. gage, with 13 solid conductors, and 20 pieces cable, each 2,338 feet in length, or a total of 46,760 feet, No. 21 B. and S. gage, with nine solid conductors. Contract price, $100,152.90.

2. Four hundred and sixty feet of armored cable, 13-conductor, No. 12 B. and S. gage, at $1.05 per foot, or a total of $483, for carrying the signal wires across the Gatun River at Monte Lirio.

3. Two thousand three hundred feet of armored cable, same as above, at a total cost of $2,415, for use in carrying the signal circuits across the Gamboa bridge. One reel of this cable has already been received.

The contract for the vitrified clay duct was awarded to Walter S. Dickey of Kansas City at a unit price of $0.0579 per duct foot; this consisted of 1,060,000 duct feet of 4-way multiple salt glazed conduit with $3\frac{1}{4}$-inch by $3\frac{1}{4}$-inch duct openings, and in lengths of 36 inches, and 4,000 duct feet of split duct made in the same size and under the same specifications. The total cost of duct and dowel pins was $61,605.60. Over 80 per cent of this order has been delivered.

It is estimated the total cost of duct line and cables, installed complete, will be $450,000.

Appointments of Pilots for the Canal.

The following have been appointed pilots under the Division of Operation of the Canal: John Constantine and Ralph Osborn, former Panama railroad pilots, who are stationed at the Atlantic entrance; Charles Svensson, mate on the tug *Empire*, and Frank W. Corning, captain of the tug *Miraflores*, former employes of the Dredging Division, now stationed at the Pacific entrance; Neil Langvardt, captain of the tug *Miraflores*, and John Wieshofer, mate on the dredge *Caribbean*, transferred from the Dredging Division, now familiarizing themselves with the Lake section of the Canal by making trips with the tug *Mariner* and tows. The appointments of Ludwig A. Helliksen, captain of the dredge *Culebra*, and Alvin W. Haynes, first officer on the steamship *Colon* of the Panama Railroad Steamship Line, have been authorized; both men are in the United States but will return to the Isthmus for duty within a short time.

Stolen Dynamite Recovered.

The remainder of the dynamite stolen from the Mindi magazine in the night of May 14-15 was recovered by the Canal Zone police on May 21 at house No. 236 "D" street, Colon. Fifty pounds, left beside the Gatun-Mount Hope road, had been recovered on May 15. The dynamite was found partly packed in a sugar barrel and a trunk, and the remainder was piled on the floor, under a covering of sacks. The other rooms of the house were occupied by families. Francisco Romero and Manuel Contreras, Colombians, and Charles Cohen, black Jamaican, were arrested on a charge of grand larceny, and lodged in the Cristobal jail. They were given a preliminary hearing at the magistrate's court at Cristobal on May 25 and bound over for trial by the District Court.

Licenses for Sale of Merchandise Not to Be Issued for Empire and Culebra Districts after July 1.

In line with the plan of depopulating the Canal Zone, it has been directed that no licenses for the sale of merchandise will be issued in the towns of Culebra and Empire from and after July 1, 1914. No license is required for the sale of groceries and food supplies. The Executive Secretary has forwarded letters to 62 merchants in Empire, New Empire, Rio Grande, Culebra, New Culebra, and Golden Green, advising them of this ruling and that the sale of any merchandise other than foodstuffs, on and after July 1, 1914, will be unlawful.

Free Earth for Sanitary Fills in Panama.

In connection with the work of requiring buildings in the city of Panama to be placed in a sanitary condition, arrangements have been made by which The Panama Canal will furnish earth from Diablo Hill for property owners to use in making fills. The earth is delivered free at the Panama railroad yard, from which it is to be hauled and placed at the expense of the property owner.

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The two lists of applications for family quarters at Ancon and Balboa will be merged in the same manner as the lists for Paraiso-Pedro Miguel and Cristobal-Colon.

OFFICIAL CIRCULARS.

Rates of Pay, Silver Roll.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., May 13, 1914.

CIRCULAR No. 666–Revised:

1. Effective June 1, 1914, all employes on the silver roll of The Panama Canal or Panama Railroad Company shall be rated as hereinafter shown. These ratings and rates of pay have been prepared with a view to limiting the maximum pay that can be given to this class of help, without the necessity of obtaining prior authority, and to eliminating, so far as possible, all unnecessary ratings. It is also desired to establish a uniform rate of pay for work of a similar nature in different departments and divisions.

2. An employe's rating shall in all cases correspond with his duties. Where it is considered desirable to pay a higher rate or to use a different rating than shown, each case should be taken up separately and authority secured to use the higher rate of pay or different rating. It is thought that the ratings and rates of pay hereinafter shown will be sufficient to meet all ordinary requirements, and no changes should be requested unless absolutely necessary, in order to make the employe's pay commensurate with the work done, or to make the rating correspond with the duties performed.

3. A new employment shall not be made at a higher rate of pay than that authorized as the maximum entrance salary for the class of work to be performed, without special approval from the Governor. Unless otherwise specified, the maximum entrance salary shall be the lowest rate of pay given under the authorized ratings, and roll timekeepers must see that new employes are not started at higher rates unless special authority has been obtained. However, an employe may be regularly transferred from one department, division, or gang to another without reduction, and an employe, absent for not more than 30 days, with the prior consent of competent authority in his department or division, or an employe discharged on account of reduction of force or lack of work, may be reinstated, within 60 days, at his former rate of pay.

4. If a silver employe is discharged for unsatisfactory service or misconduct, with no objections to reemployment, he may be reemployed only at a lower rate of pay than that previously received and may not be promoted to his old rate under six months; if he quits voluntarily, with no objections to reemployment, he may be reemployed only at a lower rate of pay than previously received and may not be promoted to his old rate under two months.

5. All employes leaving the service or transferring from one department, division, or gang to another, with the exception of Boys A, Laborers A, and Laborers B will be furnished with "Silver employes' service slip," form No. PC 262-2, properly filled out.

6. Office timekeepers will see that no employe is carried on the rolls who does not comply with these rules.

7. The maximum monthly rate of pay for silver employes shall be $60 U. S. currency, except where special authority has been granted, as provided in Paragraph 21, to pay a higher rate. The monthly silver rates of pay are intended for those employes whose hours of work are more or less irregular, or whose time it would be difficult to check up on an hourly basis. The rate of pay per month shall not exceed the pay which would be received for the number of hours worked at the hourly rate of pay established for the same class of work. Whenever practicable, an hourly rate should be applied in preference to a monthly rate. The following table shows the corresponding monthly amount, at the different standard hourly rates of pay, based on eight, nine, 10, and 12 hours work per day:

STANDARD RATES OF PAY. (U. S. CURRENCY.)	MONTHLY PAY EQUIVALENT TO DIFFERENT HOURLY RATES. SUNDAYS NOT INCLUDED.			
	8 hours daily, 204 hours per month.	9 hours daily, 230 hours per month.	10 hours daily, 255 hours per month.	12 hours daily, 306 hours per month.
5 cents	$10.20	$11.50	$12.75	$15.30
7 cents	14.28	16.10	17.85	21.42
10 cents	20.40	23.00	25.50	30.60
12 cents	24.48	27.60	30.60	36.72
15 cents	30.60	34.50	38.25	45.90
16 cents	32.64	36.80	40.80	48.96
18 cents	36.72	41.40	45.90	55.08
22 cents	44.88	50.60	56.10	67.32

8. Unless otherwise specified, employes will be required to serve at least three months before being promoted to a higher grade. Promotions shall always be made to the next higher grade.

9. In all time books, and on all pay rolls, the designations used will be Laborer A, Laborer B, Laborer C, Helper, Artisan A, Artisan B, or Artisan C, as the case may be. The term "Artisan" will cover the various vocations as shown under this heading.

10. When necessary to change the rate of pay of an employe to make it agree with the rates given hereinafter, the next lower rate should be used; provided, however, that promotion may be made to the next higher authorized rate in *exceptionally meritorious* cases. Report to me immediately the promotions made under this grant, with reasons therefor.

11. The standard hourly rates of pay for silver employes shall be five cents, seven cents, 10 cents, 12 cents, 15 cents, 16 cents, 18 cents, and 22 cents, U. S. currency. The duties to be performed under each grade are, as follows:

12. *Boy A—Five cents per hour*—This is the entrance rate of pay for all boys (including water, shop, and messenger). They may be promoted to Boy B, at seven cents per hour, after six months' satisfactory service.

13. *Boy B—Seven cents per hour*—This rate can be used as the entrance rate only in cases where prior authority has been obtained from the Governor's office, and for well developed boys of 16 years of age or over.

14. *Labarer A—Ten cents per hour*—This will cover all common labor, except as hereinafter specifically authorized.

15. *Laborer B—Thirteen cents per hour*—This is a special rate and can be used only where the work is especially difficult, extra hazardous, or particularly disagreeable, as work that requires the men to be in mud continuously, caisson work, cleaning sewers, etc. Prior authority must be obtained in each case where it is considered necessary to use this rate, and a statement should be furnished showing the nature of the work to be performed and the approximate length of time that this class of labor will be required. It will also be the entrance rate for white labor.

16. *Laborer C—Sixteen cents per hour*—Only white labor is included in this class. Whenever it becomes necessary to employ laborers, it is desired that colored labor, at 10 cents per hour, be used whenever and wherever practicable.

17. *Helper—Twelve cents per haur*—This rating can be applied only to those performing the duties of helpers to shop or other mechanics, such as machinist, car repairer; carpenter, plumber, etc.

18. *Artisan A—Fifteen cents per hour*—Those employes performing the duties of shop, building construction, and other mechanics and artisans shall he given this rating. It is the standard rate of pay for this class of help and shall be the maximum entrance rate for artisans. This designation covers employes performing the following services:

Blacksmith, boilermaker, cable splicer, carpenter, car repairer, calker, cement finisher, coppersmith, drill runner, ironworker, lineman, machinist, mason, molder, painter, pipefitter, pressman, planing mill hand, plumber, riveter, upholsterer, wireman.

19. *Artisan B—Eighteen cents per hour*—Artisans can receive this rate only after demonstrating that the quantity and quality of their work is such as would, in the opinion of the foreman in charge, entitle them to a higher rate than Artisan A. Promotion shall not be made in any case until after six months' satisfactory service. This designation covers employes performing the same services as under Artisan A.

20. *Artisan C—Twenty-two cents per hour*—This rate of pay shall be given only to those artisans whose services are particularly satisfactory, and who show an especial fitness for the work performed. Under no circumstances shall an employe be given this rate of pay until he has served at least one year in the lower grades. This designation covers employes performing the same services as under Artisan A.

21. The rates marked with a star (*) in the lists below are special, and will be eliminated as fast as practicable. Employes receiving these rates as of May 1, 1914, may be continued without change if necessary for the good of the service, but no further promotions to these rates may be made without my approval. The few employes now receiving pay in *excess* of these special rates shall be reduced to the nearest regular or special rate applicable.

DESIGNATIONS AND RATES OF PAY.

HOURLY RATES.

Artisan, A, 15; B, 18; C, 22 cents per hour.
(Note—For explanation of duties to be performed under this designation, see Paragraphs Nos. 17, 18, and 19.)
Bookbinder, 25 cents per hour.
Boy, A, five; B, seven cents per hour.
(Note—See Paragraphs Nos. 12 and 13.)
Bricklayer, 25 and 30 cents per hour.
(Note—European workmen only.)
Caissonman (for work at top of caisson), 13 cents per hour.
Caissonman (for work in caisson), 16 cents per hour.
Carpenter, 16, 20, and 25 cents per hour.
(Note—Only for carpenters in traveling gangs of Supply Department. Rate to be discontinued October 1, 1914.)
Cementman, 13 cents per hour.
(Note—This rate shall apply only to men handling dry cement in cars and cement sheds.)
Checker, 16 and 20 cents per hour.
Compositor, 20 and 25 cents per hour.
Concreteman, 13 cents per hour.
(Note—This rate shall apply only to men handling concrete material to mixers and to men placing concrete in forms.)
Diver, 20, *25, and 44 cents per hour.
(Note—25 cent rate for piledriving work.)
Helper, 12 cents per hour.
(Note—For explanation of duties to be performed under this designation, see paragraph No. 17.)
Ironworker, *25 cents per hour.
(Note—For extra skillful men working aloft.)
Laborer, A, 10; B, 13; C, 16 cents per hour.
(Note—For explanation of different grades, see paragraphs Nos. 14, 15, and 16.)
Laundress, eight, nine, and 10 cents per hour.
Laundryman, 10, 12, 15, 18, and 22 cents per hour.
Nozzleman, 16, 18, and 20 cents per hour.
Operator (crane), 16, 20, and *25 cents per hour.
Packer (female), seven cents per hour.
Papercutter, 20 cents per hour.
Paver, 13 cents per hour.
Pitman, 13 cents per hour.
Powder helper, 13 cents per hour.
Powderman (men loading holes), 13 and 16 cents per hour.
Printer, *25 cents per hour.
(Note—For special classes of work and extra skillful men only.)
Rigger, 13 cents per hour.
Riveter, *25 cents per hour.
(Note—Extra skillful men working aloft.)
Rubber stamp maker, 25 cents per hour.
Shoemaker, 16 cents per hour.
Scytheman, 13 cents per hour.
Switchtender, 13 cents per hour.
(Note—Panama railroad main line only.)
Tunnelman, *25 cents per hour.
(Note—Hazardous work in tunnels.)

MONTHLY RATES.

Attendant, $15, $20, $25, $30, $40, $45.
(Note—The rate of $40 is exclusively for morgue attendants and the rate of $45 is exclusively for operating room attendants, laboratory attendants working in filtration plants, and one at Palo Seco.)
Baker, $37.50, $50, $75.
Barber, $25.
Blacksmith, $40, $50.
(Note—For corral work.)
Boatman, $25, $30, $37.50.
(Note—This rating is for crews of cayucas and rowboats only.)
Boatswain, $45, $55.
Boy, $10, $12.50, $15.
(Note—Water boys and shop boys shall be employed at hourly rates only. Cabin boys and mess boys shall be rerated as waiters.)
Butcher, $40, $50.
Cablesplicer, $60, $75.
Captain: dredge, $100; clapet, $85; steam launch, $75.
(Note—Masters will be known and rated as captains; ratings above $75 per month are for white employes only.)
Carpenter, $45.
(Note—Floating equipment only.)
Carpenter, *$60.
(Note—Seagoing dredges only.)
Cartman, $30, $35.
Cemeteryman, $32.50.
Chainman, $30, $37.50.
Chainman-foreman, $45, $50.
Checker, $30, $35, $40.
Clerk, $30, $35, $40, $45, $50, $60, *$75.
Coachman, *$75.
Coalman, $30.
Coalpasser, $40.
(Note—Coalpassers shall be employed only on seagoing dredges.)
Cook, $20, $25, $30, $35, $40, $45, $50, $60, $75.
(Note—The maximum entrance rate for cook on marine equipment in the Dredging Division is $40. In all other cases, the maximum entrance rate shall be $25.
Dairyman, $25, $30.
Engineer:
  Marine (dredge), $67.50, $75.
  Marine (clapet), $65, $75.
    (steam launch,) $75.
  Steam, $30, $35, $40, $45, $50, $55, $60, *$75.
  (Note—$75 rate for steam roller only.)
Farrier, $40, $50.
Fireman, $25, $30, $35, $40, $45, $50, $60.
(Note—The maximum entrance salary for fireman on dredges, tugs, and clapets shall be $45; for fireman at the

Cristobal power plant, $40; and for standard gage locomotives, $35.)

Foreman, $25, $30, $35, $40, $45, $50, $60, *$75.

(Note—The maximum entrance rate for white foreman shall be $50. A flat rate of $50 entrance and maximum is allowed for dock foremen.)

Gardener, $30.

Helper, $10, $12.50, $15, $17.50, $20, $25.

(Note—The designation "Helper" will apply to cooks' helpers, kitchen helpers, scullions, scrubbers, and other employes performing helpers' duties for which distinct designations are not provided.)

Hostler, $25, $30, $35, $40, *$50.

Janitor, $17.50, $20, $25, $30.

Janitor, head, $37.50.

Keeper, $75, $60.

Assistant, $60, 42.50.

Laundress, $15, $17.50, $20, $22.50, $25, $30, $35.

Laundryman, $25, $30, $35, $40, $45, $50.

Leverman, $42.50.

(Note—Panama railroad.)

Luggerman, $25, $30, $35, $40, $45.

(Note—The rating of luggerman shall be confined to men handling ice, meat, and other cold storage supplies.)

Maid, $12, $15.

(Note—The $15 rate shall be confined to maids at the Ancon insane asylum and the quarantine station on Culebra Island.)

Mate: dredge, $80; clapet, $75.

Messenger, $17.50, $20, $25, $30, $35, $40.

(Note—The maximum entrance rate for messengers shall be $25.)

Money counter, $50, *$65, *$75.

Oiler, $30, $35, $40, $45, $50, $55.

(Note—On dredges, tugs, and clapets, oilers may be appointed at a maximum entrance salary of $50. The $55 rate shall be confined to oilers on seagoing dredges, pipeline dredges, and tugs; the $50 rate shall be confined to oilers on other marine equipment. The maximum rate for oilers on land shall be $45.)

Operator:

Motor boat, $30, $35, $40, $45, $50, $55, $60, *$75.

Filter, $50.

Telephone, $30.

Pump, $50.

(Note—The rating for operator (pump) at $50 shall be confined to employes in pump stations where there is no white supervision.)

Patrolman, $35, $40, $50.

Policeman, $40, $45, $50.

Saddler, $30, $40, $50.

Salesman, $30, $35, $40, $45.

Scavenger, $32.50.

Seaman, $30, $35, $40, $55.

(Note—The $55 rate for seaman is not allowed if subsistence is furnished.)

Stableman, $30.

Steward, $37.50, $50, $62.50, $75.

Storeman, $25, $30, $37.50, $42.50, $50.

(Note—The $42.50 rate is for commissaries only.)

Teacher, $50, $60.

(Palo Seco), $5.

Teamster, $35, $40.

Trainman, $30, $35, *$40.

(Note—The $40 rate is for porter and special policeman, P. R. R.)

Waiter, $15, $17.50, $20.

Waiter, head, $25, $30, $37.50.

Watchman, $20, $25, $30, $37.50.

Watertender, $55.

Wheelwright, $50.

Winchman, $50, $55.

Wrecker, $30, $35, $50, *$60.

(Note—The $50 rate for wrecker shall be confined to white employes.)

*Special—See Paragraph 21.

THE PANAMA RAILROAD COMPANY.

	Rate. Hour. *Cents.*	Rate. Mo. *Dollars.*
Road employes:		
Baggagemaster	.25	
Fireman	.25	
Flagman	.20	
Brakeman (local freight)	.20	
Brakeman	.18	
Leverman	.13	
Porter (parlor car)		50.00
Yard employes:		
Engineer	.25	
Foreman	.25	
Switchman	.18 .16	
Fireman	.15	
Clerk (yard)		75.00
Flagman (crossing)		37.50
Lamplighter		37.50
Dock employes:		
Trucker	.11	
Stower	.12	
Longshoreman	.12	
Coal handler	.13	
Winchman	.15 .17	
Gangwayman	.16 .20	
Foreman	.18 .20 .22	
Paint and call boy		37.50
Car recorder and sealer		45.00
Telephone employes:		
Operator, $30, $35, $40, $45, $50.		
Line employes:		
Agent, assistant		75.00
Agent		50.00 60.00

GEO. W. GOETHALS,
Governor.

Steamboat Inspection Service.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., May 1, 1914.

CIRCULAR No. 644:

Rules and Regulations in relation to the Board of Local Inspectors, The Panama Canal, including the inspection of steam and other vessels, and matters relating to the issuance of licenses for officers of vessels and others.

1. These rules and regulations in reference to the Board of Local Inspectors, and its duties, have been compiled in accordance with the various laws, orders, and ordinances in relation thereto.

2. The Governor of The Panama Canal, may, from time to time, establish such other rules and regulations as he may see fit, in relation to the inspection of vessels or any of the other duties of the Board of Local Inspectors, and may modify or nullify any of the existing rules, provided that it be not contrary to law. Due notice will be given of any such changes or modifications.

ORGANIZATION AND JURISDICTION OF BOARD.

3. The Board of Local Inspectors shall consist of three members appointed by the Governor; two of whom shall have the necessary qualifications to entitle them to hold a master's certificate, and the remaining member an engineer's certificate, all for unlimited tonnage.

4. The members of the board shall be employes of The Panama Canal or the Panama Railroad Company.

5. There shall be a recorder of the board whose duty shall be to keep a record of its proceedings; of all applications for licenses; of those issued, refused, suspended, extended, or modified, together with the name, grade, date, and serial number of all such licenses; and of all casualties, collisions, founderings, sinkings, fires, and other disasters or matters of interest that may come before the board. Under the direction of the Chairman, he shall prepare, submit, and register all licenses and certificates of inspection, and the reports hereinafter mentioned.

6. The board shall have supervision over the application, examination, classification, and recommendation for the issuance of all licenses and modifications thereof for masters, mates, pilots, and engineers of steam vessels, all other vessels propelled by machinery, and sailing vessels upon the waters under the jurisdiction of the Canal Zone; for navigators of motor boats upon the said waters; and for chauffeurs within the said Zone.

7. Upon recommendation in writing, the Superintendent of Transportation shall issue such licenses as may be recommended by the board.

8. It shall have jurisdiction over the inspection of all vessels navigating the waters of the Canal Zone, except public vessels of the United States and other countries; such inspection shall include hulls, boilers, machinery, appliances, and equipment of every kind; this jurisdiction extends to the inspection of all floating plant belonging to The Panama Canal and the Panama Railroad Company, except the steamers of the latter company, which are regularly inspected and licensed by the inspectors at the home port of the steamers in the United States.

9. It shall investigate and report to the Governor, through the Superintendent of Transportation, all marine accidents, and casualties of interest affecting vessels in Canal waters; in order to make such investigations thorough and complete, for the purpose of making investigations in regard to licenses, and for any other reason relating to matters coming under its jurisdiction, the board is authorized to summons such witnesses to appear before it as it may see fit.

10. The board shall meet at stated intervals and shall give due notice of such meeting to any candidate who may desire to appear before it.

11. The board may convene, however, at any other time, upon summons of the chairman to do so; the presence of two members shall constitute a quorum.

12. Each member is authorized to administer such oaths as may be necessary for conducting the business of the board.

REPORTS BY THE BOARD.

13. The Board of Local Inspectors shall keep a record of its proceedings, and at the end of each fiscal year, make a report to the Governor of The Panama Canal, of the number of licenses issued in each grade and class, stating in each case the name, grade, date, and serial number of the license; of all licenses revoked, suspended, extended, modified, or refused; of all casualties, collisions, founderings, sinkings, fires, or other disasters or matters of interest; or any information or recommendations in reference to anything pertaining to the duties of the board.

14. The board shall also report monthly to the Governor the names of all applicants for licenses, together with the grade, date, serial number of licenses issued; or, if refused, the reason therefor; all modifications or renewals of licenses previously issued, with explanatory remarks whenever necessary; and any other matters of interest in relation thereto.

15. This monthly report must be submitted by the fifth day of the following month.

16. In case of serious accident or casualties, as previously mentioned, or any matters of importance, the board shall make an immediate investigation and report the result to the Governor at once.

17. All reports to the Governor shall be made in duplicate and forwarded through the Superintendent of Transportation, who will place such endorsements thereon as he may see fit, retain one copy, and forward the other.

APPRAISALS.

18. In addition to the duties hereinbefore mentioned in relation to the inspection of vessels and the issuance of licenses, the Board of Local Inspectors and the surveying officer will be charged with the appraisal of all of the floating equipment of the Canal and the Panama Railroad Company whenever any part of such plant is to be transferred from one department or division to another; in general, the price at which it is to be transferred will be based upon a depreciation of 15 per cent per annum on the original cost, including any extraordinary repairs or improvements that may have been made thereto; but this shall not be interpreted to prevent the local board and the surveying officer from making such modifications in this estimate as the occasion may demand.

19. This appraisal refers refers particularly to transfer only, but before any such floating equipment be sold, the Board of Local Inspectors alone shall make a reappraisal on the basis of its actual value at the time of such sale.

INSPECTION AND EQUIPMENT OF STEAM VESSELS.

20. *Vessels to be inspected*—Every vessel propelled in whole or in part by machinery shall be deemed a steam vessel within the meaning of these rules, and all vessels navigating the waters of the Canal Zone, except public vessels of the United States and other countries, and the steamships of the Panama Railroad Company, shall be subject to the provisions thereof.

21. *Hulls*—The Board of Local Inspectors shall cause the hull of each steam vessel navigating the waters of the Canal Zone to be carefully inspected at least once every year, and shall satisfy themselves that every such vessel, so inspected, is of a suitable structure for the service in which she is to be employed, and has suitable accommodations for passengers and crew, and is in a condition to warrant the belief that she may be used in navigation with safety to life, and that all of the requirements of law in regard to fire, boats, pumps, hose, life preservers, floats, signals, and other things are faithfully complied with, and if they deem it expedient they may cause the vessel to be put in motion and adopt any other suitable means to test her efficiency and that of her equipment.

22. *Equipment*—Whenever the board shall find on board any vessel subject to the provisions of these rules, any equipment, machinery, apparatus, or appliance which does not conform to the requirements of the law, it shall require the same to be placed in proper condition by the owner or master of the vessel, and if the said board shall find in any such vessel any life preserver or fire hose so defective as to be incapable of repair, it shall require the same to be destroyed in the presence of some person appointed by the board to represent it.

23. *Boilers*—The board shall cause the boilers and all appurtenances of steam vessels to be carefully inspected before the same shall be used, and at least once every year thereafter, and shall subject all boilers to the hydrostatic test in the ratio of 150 pounds to the square inch to 100 pounds to the square inch of the working steam power allowed.

24. All steam vessels shall be required to have their boilers well made, of good and suitable material, design suitable for the service in which employed, and to be equipped with the proper safety appliances, and of such construction, shape, condition, arrangement, and material that they may be safely employed in the service proposed without peril to life; and the board shall cause an examination to be made to satisfy itself that the requirements of these regulations have been complied with.

25. *Certification*—When the inspection of a steam

vessel shall have been completed and the board approves the vessel and her equipment, the chairman of the board shall make and subscribe to the Collector a certificate in accordance with the form to be prescribed by the board. Every certificate granted to steamers carrying passengers shall state the number of passengers of each class for which any such steamer has accommodations and can carry with prudence and safety.

26. If the board refuses to grant a certificate of approval, the chairman thereof shall make a statement in writing and give his reasons for such disapproval, and shall sign the statement as such chairman, and file the same in the records of the board, giving a copy thereof to the owner or master of the vessel.

27. *Foreign vessels*—All foreign private steam vessels carrying passengers to or from any port or place within the limits of the Canal Zone shall be subject to the provisions of these rules: *Provided*, that if any foreign passenger steamer of a country which has inspection laws approximating those of the United States has an unexpired certificate of inspection duly issued by the authorities of the country to which the vessel belongs, the said vessel shall not be subject to an inspection other than that necessary to satisfy the board that the condition of the vessel, her boilers, and life saving equipment are as stated in her certificate of inspection, but no such certificate of inspection shall be accepted as evidence of lawful inspection unless like privileges are granted to steam vessels of the United States under the laws of the country to which such vessels belong.

28. *Private vessels*—Private vessels duly registered in the United States, having unexpired certificates of inspection issued by the proper authorities in the United States, shall not be subject to inspection hereunder.

29. *Certificates*—The Collector shall retain on file all of the original certificates of inspection required to be delivered to him by the board and shall give to the master or owner of the vessel therein named three certified copies thereof, two of which shall be placed by such master or owner in a conspicuous place in the vessel where they will be most likely to be observed by passengers and others, and there be kept at all times framed under glass; and the other shall be retained by such master or owner as evidence of the authority thereby conferred.

30 *Fees*—Before issuing an inspection certificate to any vessel, the Collector shall demand and receive from the master or owner of such vessel the following compensation for inspection and examination made for the year, in addition to any fees for issuing enrollments and licenses now, or which may hereafter be, allowed by law:

For each steam vessel under 15 gross tons..	$5.00
For each steam vessel over 15 gross tons and not exceeding 100 gross tons............	10.00
For each and every gross ton in excess of 100 gross tons...........................	.05

The fees herein provided for shall cover the cost of the certificate, as well as the cost of inspection and examination of the vessel, and shall be used for the benefit of The Panama Canal.

31. *Certificates to be exhibited*—Whenever a passenger is received on board of any steam vessel not having the certified copies of the certificate of approval placed and kept as required by these rules, such vessel shall be liable to a fine of $100 for each passenger received, to be so recovered in any competent court in which the vessel may be found, and the money so recovered shall be a lien upon the vessel, which may be seized and sold to satisfy the same, as well as all costs of the proceedings.

32. *Officers*—No steamer carrying passengers shall depart from any port or place in the Canal Zone unless it shall have in its service a full complement of licensed officers and a full crew, which, in the judgment of the board, may be sufficient at all times to manage the vessel.

33. No certificate will be granted to a steamer carrying passengers to a home or foreign port unless the said steamer carries a licensed master, first and second mates, and a chief engineer and assistant.

34. *Life saving apparatus*—Every vessel licensed under the provisions of these rules shall have on board in an accessible place one life preserver for every person allowed to be carried, in addition to those provided for the crew of such vessel; and if a greater number of passengers than is stated in the certificate be taken on board of any vessel within the waters of the Canal Zone, the master or owner of such vessel shall be liable to any person suing for the same to refund the passage money and $10 for each passenger beyond the number allowed.

35. If any passenger steamer engages in excursions within or from the waters of the Canal Zone, the board shall issue to such steamer a special permit in writing for the occasion, in which shall be stated the additional number of passengers that may be carried and the number and kind of life saving appliances that must be provided for the safety of such additional passengers, and it shall also, in its discretion, limit the route and distance of such excursions.

36. *List of passengers*—The master of every passenger steamer shall keep a correct list of all passengers received on board the vessel, which record shall be kept open to the inspection of the inspectors and the officers of the customs at all times, and the correct number of passengers shall be furnished to the Inspectors as often as called for.

37. Every master of a passenger steamer who fails through negligence or design to keep a list of passengers as required by the preceding section, shall be liable to a fine of $100, to be recovered in a competent court in which the vessel may be found.

38. *Certain persons excluded from pilot house*—Masters and pilots of steamers carrying passengers for hire, or otherwise, shall exclude from the pilot house and navigating bridge of such steamers, all persons, except officers of the inspection service: *Provided*, That licensed officers of steamers, persons regularly engaged in learning the profession of pilot, officers of the United States Navy, United States Coast and Geodetic Survey and Lighthouse Service, and engineer officers connected with the improvement of rivers or harbors, or The Panama Canal, may be allowed in the pilot house or upon the navigating bridge, upon the responsibility of the officer in charge. No one shall be allowed in the pilot house of ferry steamers, except the crew on duty there, or the Board of Local Inspectors.

39. *Notices to be kept posted*—The master of every steamer shall keep three printed copies of this notice posted in conspicuous places on the vessel, one of which shall be kept posted in the pilot house. Copies of these rules can be obtained on application to the Board of Local Inspectors.

40. *Fire apparatus*—Every steam vessel carrying passengers shall be provided with two good, double acting fire pumps which may be worked by hand; each chamber of these pumps shall have a capacity of not less than 100 cubic inches, and they shall be placed in the most suitable part of the vessel for efficient service; and each be supplied with a suitable, well-fitted hose equal in length to one-half that of said ship, such hose to be in good condition, coupled to the pumps, and stowed on a reel, or in such other manner that it may be instantly led out in case of fire or necessity. Steamers of less than 200 tons burden are required to have only one such pump and fittings.

41. All steam vessels shall have double acting steam fire pumps or their equivalents, according to their tonnage, as follows:

Vessels over 20 gross tons, but not over 150 tons, at least 40 cubic inches pump cylinder capacity.

Vessels over 150 gross tons, but not over 3,000 tons, at least ¼-cubic inch pump cylinder capacity for each gross ton.

Vessels of 3,000 gross tons and over, at least 700 cubic inches pump cylinder capacity.

42. Each fire pump shall be supplied with water by a suitable pipe connection passing through the side of the vessel so low as to be under water at all times, and no fire pump thus provided shall be placed below the lower deck of the vessel. Every steamer shall also be provided with a pump which shall be of sufficient strength and suitably arranged to test the boilers thereof.

43. Sufficient fire mains shall be led from the pumps to all decks; at the outlets thereof, suitable hose, in good condition, shall be provided, so that every part of the vessel may be reached with a full stream.

44. All piping, valves, engines, and the accessories to the same, as well as accessories to the boilers, and the provisions of lights, anchors, and the like, and arrangements for use of same, shall be such as to insure efficiency and safety. In order to test the efficiency of the vessel in all or any respect, and the efficiency of the equipment, the Board of Local Inspectors may cause the vessel to be put in motion, and may adopt any other suitable means. Thus the performance of fire or boat drill may be required, and practice of the same is enjoined upon masters.

45. *Speaking tube*—In addition to gong or other signals between pilot house and engine room, there must be provided an efficiency speaking tube or telephone service; gong signals shall be audible in the pilot house, as well as the engine room.

46. Extra steering apparatus of satisfactory character must be carried by every steamer of over 15 gross tons.

47. *Lifeboats and rafts*—Every vessel coming within the provisions of these rules shall be provided with such number of lifeboats, floats, rafts, and best means of propelling them, line-carrying projectiles, lights, drags, anchors, and with other equipment, as, in the judgment of the board, will best procure the safety of all persons on such vessels in case of disaster. And every such vessel shall have the lifeboats required by these rules provided with suitable boat-disengaging apparatus, so arranged as to allow such boats to be safely launched while such vessels are under way, or otherwise, so as to allow such disengaging apparatus to be operated by one person, disengaging both ends of the boat simultaneously by the tackle by which it may be lowered to the water; and the board shall determine the kind of lifeboats, floats, rafts, and means of propelling same, lights, drags, anchors, and other equipment which are to be used on the vessel; and also, the kind and capacity of the pumps for freeing the vessel from water in case of heavy leakage, the capacity of such pumps being suited to the navigation in which the vessel is employed.

48. The owner or master of any such vessel who refuses to provide such lifeboats, floats, rafts, and means of propelling them, line-carrying projectiles, drags, pumps, or appliances which, under the provisions of the preceding sections, are required by the Board of Local Inspectors, shall be fined $1,000, and the same may be enforced against the owner of the vessel personally, or as a lien upon the vessel, which may be seized and sold to satisfy such fine and costs of court.

49. *Enforcement of rules*—The board shall have the power to enforce the requirements of these rules, first, by not granting a certificate; and, second, by revoking the certificate already issued to the vessel. The owner or master of the vessel may appeal from the action of the Board of Local Inspectors to the Superintendent of Transportation at any time within 10 days after the final action of the board; and the Superintendent of Transportation may modify or set aside the action of the board, but he shall certify his ruling to the board for observance in each case.

50. *Report of defective equipment, etc*—In case where any master, mate, or engineer of any vessel whatsoever, shall note or have reason to believe that any part of any vessel's hull, engines, boilers, boats, or equipment of any kind, is in such a condition that it may be a menace or danger to the safety of the vessel or the lives of the crew or passengers, it shall be his duty to immediately report such fact, through the proper channels, to the Board of Local Inspectors, and request that an inspection be made in relation therto. Any violation of this regulation on the part of any officer of any vessel shall, upon his conviction, render him liable to a fine not to exceed $1,000 and one year's imprisonment.

51. *Life saving apparatus and equipment of the same*—Every lifeboat shall be substantially built, of a suitable model, and in a fair state of preservation and repair; upon each boat shall be plainly indicated the number of the boat, the date of its construction, the cubical capacity of the boat, and the number of persons that it may carry. To determine the cubical capacity, measure the length and breadth outside of the planking or plating, and the depth inside at the place of minimum depth, and multiply the product of these dimensions by 0.6. Divide the last result by 10 to ascertain the number of persons the boat may carry; provided, however, that in all cases the boat shall have sufficient room, freeboard, and stability to carry such number, which fact may be ascertained by actual experiments. Each lifeboat shall be provided with satisfactory air tanks.

52. Each life raft shall be substantially built and in good condition, and shall have plainly marked upon it the number of persons it may carry, which may be determined by experiment.

53. Each and every steam vessel, except launches under five gross tons, navigating the ocean, must be provided with sufficient lifeboat capacity to accommodate every person on board, including passengers and crew, except infants in arms. Each sailing vessel carrying passengers, if of more than five gross tons, shall have similar lifeboat capacity. Each steamer navigating only the terminal harbors, The Panama Canal, and Gatun Lake shall carry lifeboats of a capacity, as follows:

	Cubic feet.
Vessels over five and not over 10 gross tons.	60
Vessels over 10 and not over 30 gross tons..	75
Vessels over 30 and not over 50 gross tons..	90
Vessels over 50 and not over 100 gross tons.	135
Vessels over 100 and not over 150 gross tons	165
Vessels over 150 and not over 200 gross tons	200
Vessels over 200 and not over 300 gross tons	300

54. The lifeboat required for vessels over five and not over 10 tons, referred to in the foregoing table, must be carried or towed at all times by vessels when being navigated with passengers on board. For not more than one-third of the lifeboat capacity required on any vessel, there may be substituted its equivalent in approved life rafts.

55. Lifeboats required on Canal and harbor steamers, and on ocean steamers under 150 gross tons shall be equipped with: Two life preservers; one suitable painter; one boat hook; one axe; a properly secured life line on each side, festooned in bights not longer than three feet each, with a float in each bight; full complement of oars, and a spare one; full complement of rowlocks, each attached to boat with separate chain, and two spare rowlocks; steering oar with rowlock, or becket, or a rudder properly equipped; one bucket with lanyard; wooden boats, in addition, two plugs for each drain hole, attached to the boat with chains.

56. Lifeboats required on ocean steamers of 150 gross tons and over shall have the equipment enumerated above, and, in addition: One sail bent to a yard with necessary rigging, protected by a suitable canvas cover; one mast with necessary rigging and gear; one bailer; one efficient liquid compass; one lantern filled and ready for use; one gallon illumination oil in substantial can; one box matches in waterproof package, and carried in box attached

under stern thwart; 15 gallons fresh water in substantial wooden breaker; one substantial metal can, watertight, with screw cap opening, containing 25 pounds hard bread or its equivalent; one canvas bag containing sailmaker's palm and needles, sail twine, marlin, marlinspike, and hatchet, and six sufficient night distress signals, properly protected in metal case.

57. Collapsible lifeboats shall be equipped, and their cubical capacity and contents shall be computed, as for lifeboats. The equipment of lifeboats shall always be stored aboard same.

58. Life rafts must be equipped with: Two oars; two paddles; three rowlocks attached to raft with chains; one steering oar with attached rowlock; one boat hook; one suitable painter; a life line around sides and ends, festooned in bights of three feet or less, with a suitable float in each bight.

59. The equipment of life rafts shall always be stored aboard same.

60. Each steam vessel and every other craft carrying passengers for hire shall be equipped with a good life preserver for each person carried; every life preserver shall be readily adjustable and attachable to the person, of good materials and in good condition, and when immersed shall be capable of sustaining a downward pull of 18 pounds for 24 hours. They shall be stowed where and in such manner that they will be always ready for use, and notices shall be conspicuously posted, describing the method of their use.

61. Whenever the local inspectors deem it necessary, ring buoys, not to exceed four, shall be carried.

62. Every ocean steamer carrying passengers, and over 160 gross tons, shall be provided with at least three suitable line-carrying projectiles, and efficient means of propelling them, and with 3-inch manila line auxiliary thereto always ready for use, 800 feet thereof if the steamer be under 500 gross tons, and 1,500 feet if the steamer be of greater tonnage.

63. All steamers over five gross tons, and all other craft carrying passengers for hire, shall carry fire buckets and axes, as follows:

	Buckets.	Axes.
All steamers over five and not over 10 gross tons	2	1
All steamers over 10 and not over 50 gross tons	4	1
All steamers over 50 and not over 200 gross tons	8	2
All steamers over 200 and not over 500 gross tons	16	4
All steamers over 500 and not over 1,000 gross tons	20	6
All steamers over 1,000 gross tons	25	8

64. Fire buckets and axes must be conveniently placed and ready for use, and must not be used for general purposes. When practicable, buckets shall always be filled with water.

65. All steamers and other craft carrying passengers for hire, if of more than 15 tons, shall carry efficient fire extinguishers, as follows:

Over 15 and not over 50 gross tons	1
Over 50 and not over 100 gross tons	2
Over 100 and not over 500 gross tons	3
Over 500 and not over 1,000 gross tons	6
Over 1,000 gross tons	8

66. All articles of equipment of a steamer, such as buckets, hose, axes, boats, oars, rafts, and life preservers, shall be plainly marked with the name of that steamer.

67. *Request for inspection*—Whenever a steamer engaged in carrying passengers to or from the Canal Zone enters the waters of the Canal Zone, it shall be the duty of the Captain of the Port to notify the master or agent of such vessel that the same is subject to the inspection laws of The Panama Canal; and, after being so notified, it shall be the duty of said agent or master to make a written request to the Board of Local Inspectors for the inspection of the vessel and her equipment, in accordance with the provisions of these rules. Any agent or master of a vessel who fails or refuses to make the written request as herein provided for, after receiving the notice abovementioned from the Captain of the Port, shall be liable to a fine of $50 upon his conviction in the court having jurisdiction, in which said agent or master may be found.

68. *Violation of rules*—Any violation of any of the provisions of these rules for which a specific punishment is not prescribed herein, shall subject the owner or master of the offending vessel to a fine not exceeding $1,000, or by imprisonment in jail not exceeding six months, or by both such fine and imprisonment in the discretion of the court.

69. *Fines and penalties*—The fines and penalties imposed under these rules shall constitute a lien on the vessel in each case, and upon judgment for any such fine or penalty execution may issue therefor, as in civil cases against such vessel, and same shall be sold to satisfy such execution; and the court may order the provisional detention of such vessel to abide the judgment of the court; but a bond, to be approved by the judge of the court, may be given to secure the payment of any judgment that may be rendered, and the vessel shall be released thereon.

70. *Standard for inspection*—The hull of each steam vessel shall be such as to satisfy the inspectors that it is of a suitable structure for the service in which she is to be employed, and has suitable accommodations for passengers and crew, and is in a condition to warrant the belief that she may be used in navigation with safety to life. In passing upon the hull. the board shall not fix specific requirements, but will be governed by their best judgment in all cases, and will be satisfied by conformity to any well established and acceptable standard; all boilers shall conform to the requirements previously mentioned, but the Board will not fix specific ones; conformity to any approved standards, such as those prescribed by the United States Board of Supervising Inspectors, will be acceptable.

EXAMINATION OF BOILERS FOR INSPECTION.

71. Before a boiler is inspected it shall be cooled down, filled with cold water, allowing all air to escape, and a pressure of 10 pounds be shown on the steam gage; tubes must be thoroughly cleaned, all bridge walls, including bricks, castings, and grade bars, be removed from the furnaces and combustion chambers, which shall then be thoroughly cleaned, so that every part of the furnaces may be readily inspected; floor plates, castings, and shields in front of and around any part of the boiler shall be removed, so as to permit a thorough inspection of any and all parts of the shell, saddle, and braces; bilges around and under the boiler must be clean and dry, and the proper gags placed upon the safety valve, before the test will be applied. The internal inspection will be made after all the water has been let out and the sediment removed from the belly, and all handhole and manhole plates have been removed. If the inspector deems it necessary, he may order any part or the whole of the lagging to be removed, in order to ascertain the true condition of the shell. Failure to comply with any part of these rules will be sufficient cause for the inspector to refuse to make the inspection until the requirements herein set forth have been complied with.

INSPECTION OF THE FLOATING PLANT OF THE CANAL AND PANAMA RAILROAD COMPANY.

72. The Board of Local Inspectors shall regularly inspect all floating plant belonging to the Canal and the Panama Railroad Company, at least once every six months, except as to the steamers of the latter company, which are regularly inspected and licensed by the inspectors at the home port of the steamers in the United States.

73. *Scope of inspection and report*—(*a*) The inspection shall cover the hull, equipment, boilers, and motive power of every character and description, used in the work of the Canal or the Panama Railroad Company, except as noted in the preceding paragraph, with a view to the preservation of life and property, and the upkeep of the plant under all conditions. The board shall make a report of its findings, as soon as possible, to the Governor, through the Superintendent of Transportation, and shall specifically recommend such changes, repairs, and alterations in the hull, equipment, boilers, and motive machinery, as, in their opinion, may be necessary for the proper care of life and property, and the upkeep of such floating plant.

(*b*) Copies of such reports shall be forwarded direct to the division heads in the case of Canal property. and to the superintendent and chief engineer of the Panama Railroad Company in the case of Panama railroad property.

74. *Notice of repairs to be made*—No general repairs shall be undertaken on any piece of marine plant of over fifteen (15) tons burden until the same has been inspected and reported on by the Board of Local Inspectors, which report shall be taken as a guide as to the work to be done; and to expedite this inspection, it is required that the board shall receive notice of the retirement from service of any piece of plant, as above stated, at least 10 days before the time of undertaking such repairs; and at the time the board receives notice of said retirement, a list of required repairs, prepared by the marine engineer, master, or supervisor in immediate charge of the plant to be repaired, shall be filed in the office of the board for their information and guidance in making the above inspection.

75. *General repairs*—The term "General repairs" is intended to cover the periodic replacing of worn equipment, and such other repairs as may be authorized and made at such time, and does not cover the emergency repairs necessary at any time for the renewal of broken parts, or the running repairs made from day to day.

76. Compliance with the recommendations of the board is not obligatory on the part of the officials operating the floating equipment until approved by the Governor. This is not intended, however, to prevent such action as may be considered necessary in the board's recommendations without specific approval.

77. *Boilers*—The inspection of boilers by the local board shall be confined exclusively to those of the floating equipment, and does not include locomotive boilers, stationary and portable boilers, or any others used exclusively on shore.

78. *Monthly report*—The Board of Local Inspectors, in addition to the report submitted immediately after inspection, shall prepare a monthly report of work done by them under the terms of these regulations, which report shall be filed with the proper authorities by the 10th day of the month succeeding.

EQUIPMENT OF THE FLOATING PLANT OF THE CANAL AND PANAMA RAILROAD COMPANY.

79. The following equipment shall be carried by the vessels and floating plant of the Canal and the Panama Railroad Company:

Pipeline suction dredges—Four life rings, one on each corner of boat, on lower deck; one life ring for every 300 feet of floating pontoon pipe; one life belt for each member of crew; one working boat; 12 fire buckets, on roof, filled; two 700-pound anchors, in addition to the number usually carried, to be operated with cable instead of chain; one fire hydrant, at least, and 100 feet of hose, on roof. *On berth deck*—Four hydrants, to be spaced to best advantage to sweep entire deck; and 200 feet of fire hose; four chemical fire extinguishers, properly distributed; six fire axes; 24 fire buckets, filled. *Main deck*—Two hydrants and 100 feet of hose; four barrels of sand, stored in suitable box in proper location; six axes. All hydrants should be fitted with standard couplings.

Floating piledrivers—One life belt for each member of crew; 50 feet of hose; two fire axes; six fire buckets, filled; one working boat with sufficient capacity to carry all of the crew; two life rings; two 300-pound anchors, in addition to the number usually carried, to be operated with chain.

Launches, Birdena type—Two life rings, one aft and one forward; one life belt for each person carried; one boat compass; one suitable anchor and chain, ready for service at all times; one hand lead and line, properly marked; one set anchor lights, oil; one set running lights, oil; one fire axe; three fire buckets, kept filled and ready for use; one fog horn and bell, in addition to steam whistle; one red lantern; one red flag.

Launches, Ruth C. and Mary S. types—One life ring; one life belt for each person; one boat compass; one suitable anchor and chain, ready for service at all times; one hand lead and line, properly marked; one set anchor lights; one set running lights; one fire axe; one fire bucket, kept filled; one red lantern; one red flag; two oars; two rowlocks; one boat hook.

Seagoing dredges—One steering compass; one standard compass; two suitable anchors and at least 90 fathoms of chain for each anchor, chain to be shackled to anchor and to be ready for service at all times; one hand line, properly marked; one set running lights, oil; one set anchor lights, oil; one Lyle gun, standard, to be purchased under United States inspection, with proper accessories for same; 12 life rings distributed, as follows: Two forward on each bow; one on each side aft on the main deck; one on each side of the bridge; one in the center on the upper deck; one on each side of the drag bridge; and one in the center; one on each side on rail which is abaft the funnel; (all these rings to be on hooks, not to be lashed, so that they can be easily detached at any time required, and to be properly equipped with beckets on same); one life belt for each member of crew, to be properly distributed through their respective quarters, placed in suitable racks, not to be locked or fastened; 300 feet of 2½-inch fire hose, with suitable nozzles, to be used for fire purposes only; 36 fire buckets, filled with water, in suitable racks and locations; four chemical fire extinguishers placed, as follows: One in petty officers' quarters; one in pilot house; two in after deck house; eight fire axes distributed, as follows: Two in petty officers' quarters; two in pilot house; two in engine room; two in after deck house; one fog horn; one fog bell; one set of Coston distress signals or rockets showing stars, or both; one code book, with one set of international signals of suitable size.

Tugboats—One suitable lifeboat to carry all the crew, properly equipped with oars and boat hooks; one steering compass for tugs that only go to dumping ground; one standard compass in addition to steering compass for tugs that take outside voyages; one suitable anchor and chain, which must be ready for service at all times; one hand lead and line, properly marked; one set running lights, oil; one set anchor lights, oil; 100 feet fire hose with nozzle, to be used for fire purposes only; four fire axes, placed in proper brackets; 12 fire buckets, to be filled and ready for use; three chemical fire extinguishers—one in engine room, one in mess room, one in pilot house; one fog horn; one fog bell; four life rings, two forward and two aft, in suitable hangers; one life belt for each member of the crew; one set Coston distress signals or a set of rockets showing stars, or both; one duplex double action, long lever hand pump, 2½-inch suction, should be installed and properly connected with the bilges, in suitable location. If tugs are used beyond dumping ground, each should equipped with international code book and set of signal flags of suitable size.

Tug Bolivar—The following list applies to the

Bolivar only, owing to the fact that she is materially different from all of the other tugs: One standard compass; one set running lights, oil; one set anchor lights, oil; one hand lead and line, properly marked; one lifeboat sufficient to carry the crew; six life rings, properly distributed—one on each side forward, one on each side aft of the upper deck, one on each side aft of the main deck; one life preserver for each member of the crew; 24 fire buckets placed in racks in suitable location, filled with water; five fire axes on upper deck, in proper brackets, six fire axes on main deck, in proper brackets; five chemical fire extinguishers—two on upper deck, one forward and one aft; three on main deck, forward, aft, and amidship; one set Coston distress signals or rockets showing stars, or both; four lengths of 2½-inch fire hose with four nozzles, to be used only in case of fire on the ship, and to be entirely separate from her wharf fire-fighting equipment; one hand pump, long lever, duplex, connected with the bilges.

Clapets—One life raft properly equipped to accommodate entire watch, so placed that it can be readily put into the water when needed; two life rings, one on each side of the bridge; one life belt for each member of watch, not to be lashed or locked; two fire axes, one in engine room and one in after quarters; one chemical fire extinguisher in after cabin; nine fire buckets filled with water, in proper racks; one steering compass; one hand lead and line, properly marked; one set running lights, oil; one set anchor lights, oil; one suitable anchor and 30 to 45 fathoms of cable, ready for service at all times; one fog horn; one fog bell; one set Coston distress signals; suitable life lines on at least one side, to be stretched at all times when clapet is under way.

Ladder dredges—One life raft, having three oars, one boat hook, and three rowlocks, same to be certified to accommodate one entire watch, and so placed on the dredge that it can be readily thrown overboard when needed; four life rings, distributed one on each corner of dredge in a conspicuous and convenient position on hooks, not to be lashed; one life belt for each member of the watch, kept in suitable racks and located where they can be easily reached by all members of the crew, not to be locked or fastened; two chemical fire extinguishers; 12 fire buckets, to be kept filled; 100 feet standard fire hose; two hose nozzles; four fire axes. All these items of fire equipment to be used in case of fire only.

Drill boats, dipper dredges, and rock breakers—One working boat, certified to carry one entire watch, to be available alongside the dredge at all times when in service; four life rings, distributed one on each corner of the dredge in a conspicuous and convenient position, on hooks, not to be lashed; one life belt for each member of crew, to be kept in suitable racks where they can be easily reached by all members of the crew, not to be fastened or locked; one fire extinguisher; six fire buckets; 100 feet standard fire hose; one nozzle; two fire axes. All these items of fire equipment to be used in case of fire only.

Barges—One suitable anchor that will hold the barge in a heavy sea; 30 fathoms of chain on the Pacific slope; 60 fathoms of chain on Atlantic slope; one life ring placed in a convenient hanger; all barges should be equipped with life lines on one side, fore and aft; one life preserver for each member of the crew; one heaving line. Barges when towed to points beyond the dumping ground should also carry a small unsinkable boat, tested to bear the entire crew of barge when filled with water, with necessary oars and rowlocks.

80. Gasoline launches belonging to the Canal or the Panama Railroad Company shall be equipped in the same way as hereinbefore provided for motor boats, and in addition thereto, shall carry one red flag and one red lantern.

INSPECTION OF MOTOR BOATS.

81. Any boat or vessel operated by means of gas, gasoline, naptha, or other like fluid, or by electricity, is deemed a motor boat.

82. All motor boats navigating the waters of the Canal Zone, except those owned by the United States or other countries, are subject to inspection at least once each year.

83. The hull shall be of a structure suitable for the service in which it is to be employed, and shall be in a condition to warrant the belief that it may be used in navigation with safety to life.

84. (*a*) Motors, tanks, piping, steering apparatus, and other fittings shall be well made, suitably fixed in the boat, of a design adapted for the service in which employed, equipped with proper safety appliances, and of such construction, shape, condition, arrangement, and material that they may be safely employed in the service proposed without peril to life.

(*b*) Motor boats shall be divided into classes, as follows, according to length, which shall be measured from end to end:

Class I. Less than 26 feet.

Class II. Twenty-six feet or over, but less than 40 feet.

Class III. Forty feet or over, but less than 65 feet.

(*c*) Motor boats, Class I, shall carry one good lantern and make suitable provision for exhibiting it, so that a white light may be placed aft to show all around the horizon; and, in addition, one suitably combined lantern (red and green) with arrangements for holding it, by which red may be shown to port and green to starboard from right ahead to two points abaft the beam, on their respective sides.

(*d*) Motor boats, Classes II and III, shall carry one good lantern and an arrangement for exhibiting it near the bow, which will show a bright white light from right ahead to two points abaft the beam on each side, the glass or lens to be of not less than 19 square inches in the case of Class II, and not less than 31 square inches in the case of Class III; one lantern and provision for exhibiting it, so that a bright white light may be placed aft and show all around the horizon; two lanterns and provision for exhibiting them, so that a green light may be exhibited from right ahead to two points abaft the beam to starboard, and a red light from right ahead to two points abaft the beam to port, in each case with the inboard screens, not less than 18 inches long in the case of Class II, and not less than 24 inches long in the case of Class III, to prevent the lights from being seen across the bow, the glasses or lenses to be fresnel or fluted, and of at least 16 square inches in the case of Class II, and 25 square inches in the case of Class III.

(*e*) Every motor boat of Class II or III shall be provided with an efficient fog horn and with an efficient fog bell not less than eight inches across the mouth.

85. In addition to the running lights, whistle, fog horn, and bell previously mentioned, each motor boat shall be provided with the following: Three oars; three rowlocks, with sockets; one bucket; one bailer; two sacks containing at least 50 pounds of sand each, one to be stowed near the engine; suitable lines, anchor, and cable; a good life preserver, life ring, or buoyant cushion for each person carried, to be placed, so as to always be ready for use. In addition, Classes II and III shall carry at least one suitable fire extinguisher.

86. The certificate in the case of each motor boat will state the number of persons that the boat may carry with prudence and safety, and the waters she may navigate; this certificate must be posted under glass on board at all times.

87. Each motor boat shall have a name or number neatly painted on each side of the bow in suitable letters or numbers.

88. Every motor boat shall have on board at all times two copies of the *Rules for the navigation of the Panama Canal.*

89. Motor boats of Class III or longer, if of more than 10 gross tons, shall carry life rafts of sufficient capacity to carry crew and passengers.

90. Motor vessels for hire, longer than those of Class III, which carry passengers, shall comply not only with these requirements, but also with all requirements for steam vessels, in so far as they may be reasonably applicable.

IN GENERAL.

91. The names, numbers, or other distinguishing marks of all floating plant should be neatly painted on the hull, in order that they may be readily identified at all times.

92. All pieces of floating plant, whether selfpropelling or otherwise, should be provided with a red light at night and a red flag by day, to be violently waved as a distress signal should necessity arise.

93. The life belts, life rings, and life floats on any of the floating equipment of the Canal or the Panama Railroad Company shall at no time be lashed or locked, but shall be readily accessible to every one at all times.

94. All life rings should be provided with proper beckets.

95. All anchors should be shackled to chain, and be kept in position to be readily tripped.

96. Chemical fire extinguishers should not have the instructions on them covered by paint.

97. Hereafter, on all selfpropelling vessels equipped with fire and life saving appliances, drills shall be held at least once a week, as the superintendent may direct, and a report in relation thereto shall be submitted to the superintendent and a copy forwarded to the Board of Local Inspectors.

98. In case where any of the apparatus or appliances fails to work properly, a report should be made calling attention to the fact, and stating what steps have been taken to remedy the defects.

99. The number of passengers to be carried on the individual boats, belonging to the Canal or the Panama Railroad Company, is not definitely stated, but the officer in command is directed to see that the safety limit is not exceeded, and that there is a life preserver in the proper place and easily accessible, for all of the crew and every passenger carried; and that there are a sufficient number of lifeboats or rafts to take care of and land all of the crew and passengers, in case it may be necessary.

LICENSES.

100. *Applicants to appear before the board*—All applicants for any licenses whatsoever must appear in person before the board and take the examination prescribed by these regulations before any licenses will be issued; in addition thereto, masters, mates, pilots, and engineers must take the oath of office before a member of the board or such other person as may be authorized to administer it.

101. *Filing of applications*—All applications must be filed with the records of the board.

102. *Endorsements*—Whenever practicable, applicants for a license as master, mate, or pilot shall have the written endorsement of some other master; in the case of an applicant for an engineer's license he should have the endorsement of some other engineer; in both cases they should have the endorsement of the head of the department in charge of the work in which they may be engaged.

103. *General qualifications of applicants*—No original license will be issued to any master, mate, pilot, or engineer who can neither read nor write; nor to any person who is addicted to the use of intoxicants, or who is mentally, morally, or physically unfit to hold such a license.

104. *Notices of examination*—Application for original license shall be made on the prescribed forms and comply with the requirements of law; the board will furnish applicants with a written or printed notice of the time and place of examination.

105. *Refusal of license*—If the board shall decline to grant the applicant the license asked for they shall furnish him a statement, in writing, setting forth the cause of their refusal to grant the same.

106. *Examination of applicant*—Whenever a person applies to be licensed as master, mate, engineer, or pilot of any steam vessel propelled upon the waters within the jurisdiction of the Canal Zone, the board shall make diligent inquiry as to his character and shall carefully examine the applicant, as well as the proof he presents in support of his claim, and if upon full consideration they be satisfied that his character, habits of life, knowledge, and experience in the duties of master, mate, engineer, or pilot are all such as to authorize the belief that he is a suitable and safe person to be entrusted with the powers and duties of such station, they shall recommend that a license be issued to him, authorizing him to be employed upon any vessel propelled upon the waters within the jurisdiction of The Panama Canal, in such duties, for the term of three years; but such license shall be suspended or revoked upon satisfactory proof of negligence, unskillfulness, or intemperance.

107. Mates, engineers, and pilots, shall be designated by classes, and upon recommendation of the board, shall be licensed accordingly.

108. The grades or classes, together with the requirements for each, may be varied from time to time as the board may see fit.

109. The Canal authorities shall not engage for permanent employment upon any of its vessels propelled by machinery, any master, mate, pilot, or engineer who shall not be duly licensed by the United States, or the Government of The Panama Canal, and who is not a citizen of the United States or the Republic of Panama, unless an American citizen be not available.

110. *Issue of license to aliens*—The Government of The Panama Canal may issue licenses as masters, mates, pilots, or engineers to persons who are not citizens of the United States.

111. All licenses issued to masters, mates, pilots, and engineers shall be filled out on the face with pen and black ink, instead of being typewritten, a broad pen and black ink mark to be drawn through all unused spaces in the body thereof, to prevent illegal interpolation.

112. *Loss of license*—In case of loss of license of any class, from any cause, the inspectors, upon receiving satisfactory evidence of such loss, shall issue a certificate to the owner thereof, which shall have the authority of the lost license for the unexpired term, unless in the meantime the holder thereof shall have the grade of his license raised under due examination, in which case a license in due form for such grade may be issued.

113. *Written examination*—No master's, mate's, pilot's, or engineer's license shall be issued or grade increased, except upon written examination, which written examination shall be placed on file in the records of the office of the board, except that masters, mates, pilots, and engineers, in the Canal or the Panama railroad service, who have satisfactorily served in the capacity for which they seek a license, for not less than two years, and are certified to by a competent medical authority as being physically fit for the service, may, at the distion of the board, be examined orally, and on proving their fitness, may be licensed.

114. *Reexamination*—No applicant for license who has been duly examined, found deficient and refused a license, shall be authorized to again come before the Board of Local Inspectors for the same examination until after a period of one year shall have elapsed.

115. *Renewal*—Any officer holding a Canal license may get it renewed at its expiration, providing he gives satisfactory evidence to the Board of Local Inspectors that he has served satisfactorily during the time of his previous license, and is in good physical condition; on

receiving his new license, he shall return the old one to the board.

116. Whenever a member of the Board of Local Inspectors shall find on board any vessel in the Canal Zone, a licensed officer of the Panama Canal under the influence of liquor or other stimulant to such an extent as to unfit him for duty, or when any licensed officer aforesaid shall use abusive or insulting language to any inspector, or assaults any inspector while on official duty, such officer shall then and there be informed that his license is suspended or revoked, as the case may be, without further trial or investigation. This action shall be immediately reported to the Board of Local Inspectors.

117. The fact that a licensed officer is under the influence of liquor in the presence of the inspector or inspectors to such an extent as to unfit him for duty while on board a vessel, shall be sufficient cause for such suspension or revocation.

118. *Revocation*—When the license of any master, mate, pilot, or engineer is revoked such license expires with such revocation, and any license subsequently granted to such person shall be considered in the light of an original license; upon the revocation or suspension of the license of any such officer, said license shall be surrendered to the Board of Local Inspectors ordering such suspension.

119. The suspension or revocation of a license shall debar the person holding the same from the exercise of its privileges therein granted as long as such suspension or revocation remains in force.

120. All masters and pilots of steam vessels shall, when receiving their licenses, either original or renewal, be furnished a copy of the *Rules and regulations governing the navigation of The Panama Canal.*

SUSPENSION AND REVOCATION OF LICENSES.

121. The board shall, when charges have been duly filed against any licensed officer of vessel, furnish the accused with a copy thereof, setting forth specifically their character, and a copy of the rules of the board which have been violated.

122. Subpœnas shall be in the prescribed form, one copy of which shall be furnished the witness.

123. All testimony shall be reduced to writing; the accused shall be allowed to cross-examine witnesses, and in case of exceptions to questions for any cause, the board shall note the exceptions in the margin of the depositions. The deposition shall be signed by the witness and sworn to before an officer authorized to administer oaths.

124. The accused may have the hearing of the case continued upon the presentation of reason satisfactory to the board, and the board may, in like manner, continue the hearing from day to day.

125. During the trial the witnesses shall be examined separately, but if the accused be also a witness, he shall not be subject to this rule.

126. At any time before the conclusion of the evidence, the charge or charges (if being tried on charges), may be amended, notice of said amendment being furnished to the accused of the nature of such amendment, but no amendment shall be permitted after the conclusion of the evidence.

127. The board shall furnish the accused with a statement, in writing, of its findings in the premises.

128. The board shall record in a well-bound book, to be furnished for that purpose, the charge or charges against the accused, the testimony of all the witnesses, and their decision in the premises, which record shall be signed by the inspectors.

129. The accused shall have the right of appeal from the decision of the Board of Local Inspectors to the Superintendent of Transportation, and through him to the Governor: *Provided*, said notice of appeal is given in writing to the board within 30 days from the date of the board's decision, when it shall become the duty of the board to forward a certified copy of their decision, together with the charges and all evidence, in writing, on file in its office.

130. For all purposes of the inspection service, the Board of Local Inspectors, or any one of them, is authorized to administer the necessary oaths.

CLASSIFICATION OF LICENSES.

Masters.

131. *Class I*—Masters of steam launches: By steam launch is meant any selfpropelling craft less than 50 tons burden and over 15 tons.

Class II—Masters of selfpropelling hopper barges, not exceeding 750 gross tons.

Class III—Masters of towboats or selfpropelling crane boats, not exceeding 1,000 gross tons.

Class IV—Masters of steam vessels, plying as passenger boats between Canal Zone ports and adjacent ports in the Republic of Panama, less than 100 tons.

Class V—Masters of ladder dredges.

Class VI—Masters of suction dredges.

Class VII—Masters of dipper dredges.

Class VIII—Masters of steam vessels, not exceeding 3,000 tons, gross tonnage.

Class IX—Masters of seagoing steam vessels of any tonnage.

Mates.

Class I—Mates of selfpropelling hopper barges, not exceeding 750 gross tons.

Class II—Mates of towboats or selfpropelling crane boats, not exceeding 1,000 gross tons.

Class III—Mates of steam vessels, plying as passenger boats between Canal Zone ports and adjacent ports in the Republic of Panama, less than 100 tons.

Class IV—Mates of ladder, suction, and dipper dredges.

Class V—Mates, first, second, and third, of steam or sailing vessels of any tonnage.

Pilots.

Class I—Pilots of steam launches.

Class II—Pilots of selfpropelling hopper barges, not exceeding 750 gross tons.

Class III—Pilots of towboats or selfpropelling crane boats, not exceeding 1,000 tons.

Class IV—Pilots of steam vessels, plying as passenger boats between Canal Zone ports and adjacent ports in the Republic of Panama, less than 100 tons.

Class V—Pilots of seagoing steam or sailing vessels of any tonnage.

Engineers.

Class I—Engineers of steam launches.

Class II—Engineers, chief, first, and second, of selfpropelling hopper barges, not exceeding 750 gross tons.

Class III—Engineers, chief, first, and second, of towboats or selfpropelling crane boats, not exceeding 1,000 tons.

Class IV—Engineers of steam vessels, plying as passenger boats between Canal Zone ports and adjacent ports in the Republic of Panama, not exceeding 100 tons.

Class V—Engineers, chief, first, second, and third of seagoing dredges; and all engineers on ladder, dipper, and suction dredges.

Class VI—Engineers, chief, first, second, third, and fourth of seagoing steam vessels of any tonnage.

Navigators of Motor Boats.

Class I—Navigators of motor boats of less than 15 tons.

Class II—Navigators of motor boats of 15 gross tons or over.

Chauffeurs.

Chauffeurs of all automobiles.

QUALIFICATIONS OF APPLICANTS.

132. The qualifications and requirements of applicants for license, in general, are, as follows:

Masters and Mates.

(*a*) *Masters, Classes I and II; mates, Classes I, II, and III*—Knowledge of the rules of the road, whistle and fog signals, elementary piloting and navigation, handling, care, and maintenance.

(*b*) *Masters, Classes III and IV; mates, Class IV*—Knowledge of the rules of the road, whistle and fog signals, navigation, piloting, handling, care, preservation, and maintenance.

(*c*) *Masters, Classes V, VI, and VII; mates, Class IV*—General knowledge of the operation, care, preservation, and maintenance of the plant.

(*d*) *Masters, Classes VIII and IX; Mates, Class V*—Thorough knowledge of the rules of the road, whistle and fog signals, astronomical and other common forms of navigation, piloting, coasting, handling, care, preservation, and maintenance of seagoing vessels.

(*e*) Any applicant for master's license must have had at least one year's experience upon the coast waters of the United States, Gulf of Mexico, or Canal Zone, a portion of which experience must have been obtained within the three years next preceding his application for such instrument, and the fact must be verified by satisfactory documentary evidence to be filed in the office of the Board of Local Inspectors. Practical service in the deck department of a seagoing or coastwise steam yacht shall be accepted, when offered in documentary evidence by any person applying for an original license. No original license will be issued to any applicant for master until satisfactory evidence shall have been produced that he has had sufficient sea experience in the lower grades to fully qualify him for the higher license.

(*f*) The license must show upon its face the waters in which the applicant is qualified to act.

(*g*) No person shall receive an original license as mate of the various steamers provided for under the Canal Zone classification without having had at least two years' experience on a vessel of the class for which he asks license, or a higher class, either as quartermaster or sailor.

Pilots.

(*h*) *Pilots, Classes I, II, III, and IV*—Knowledge of the rules of the road, whistle and fog signals, elementary navigation, steering and handling, and a familiarity with the aids to navigation, channels, and waters covered by their licenses.

(*i*) *Pilots, Class V*—Thorough knowledge of the rules of the road, whistle and fog signals, astronomical and the common forms of navigation, coasting, handling vessels around wharves and through the locks, and hold a master's unlimited license for seagoing (or lake) steamers.

(*j*) The following requirements will be necessary before an original pilot's license will be issued to any one:

(A) For vessels of any class or kind of 3,000 tons or over: At least three years' experience in the deck department of steam or sailing vessels, one year of which must have been as steersman.

(B) For selfpropelling barges, towboats, and vessels over 65 feet in length, or of 100 tons burden or over: At least two years' experience in the deck department of a steam or sailing vessel, one year of which must have been as steersman.

(C) Pilots of motor boats and launches, as hereinbefore described, need not of necessity have had any definite length of experience, but must demonstrate their fitness to the board, before such license will be granted.

(D) Whenever a pilot desires an extension of his license to other waters, he shall make written application to the board, stating the extension so desired, and after having been examined in writing and found to be qualified, he shall receive such extension and the same shall be endorsed upon his original license.

(*k*) Pilots of steam vessels while in the discharge of their duties must be governed by the rules of the board, and not by instructions emanating from any inspector or other unauthorized person.

(*l*) It shall be unlawful for any person to pilot or navigate a vessel propelled by machinery, of any size or kind whatsoever, in the waters of the Canal Zone, without having first obtained a proper license to do so, and any one who shall be convicted of a violation of this law is liable to a fine not to exceed $100.

Engineers.

(*m*) *Engineer, Classes I, II, and IV, first and second of Class III, first, second, and third of Class V, and third and fourth of Class VI*—General knowledge of boilers, their care and preservation, method of staying and testing, use of water gage, pressure gage, thermometer and salinometer, method of testing and altering slide valves, general knowledge of the engines and auxiliaries, and have a working knowledge of how to make temporary and permanent repairs.

(*n*) *Engineers, chief of Classes III and V, chief, first, and second of Class VI*—Thorough knowledge of marine engines, boilers, and auxiliaries, their operation, care, preservation, maintenance, and repair.

(*o*) *Engineers of all grades in ladder, dipper, and suction dredges, Class V*—A thorough knowledge of the boilers, engines, and machinery of the plant, their operation, care, preservation, maintenance, and repair.

(*p*) No person shall receive an original license as engineer or assistant engineer (except for launches, motor, or other small boats), who has not served at least three years in the engine department of a steam vessel, a portion of which experience must have been obtained within the three years next preceding the application: *Provided*, that any person who has served three years as apprentice to the machinist trade in marine, stationary, or locomotive work, any person who has served for a period not less than three years as locomotive or stationary engineers, any person graduated as mechanical engineer from a duly recognized school of technology, may be licensed to serve as engineer of steam vessels after having had one year's experience in the engine department of steam vessels, a portion of which experience must have been obtained within the three years preceding his last application, which fact must be verified by certificate, in writing, of the licensed engineer or master under whom applicant has served; said certificate to be filed with the application of the candidate, and no person shall receive a license as above (except for special license), who is not able to determine weight necessary to be placed on the lever of a safety valve (diameter of valve, length of lever, distance from center of valve to fulcrum, weight of lever and weight of valve and stem being known), to withstand any given pressure of steam in the boiler, or who is not able to figure or determine strain brought on braces of a boiler with a given steam pressure (the position and distance apart of braces being known), such knowledge to be determined in writing, and report of such examination filed with application in the office of the Board of Local Inspectors; and no engineer or assistant engineer now holding a license shall have the grade of the same raised without possession of the above qualifications. No original license shall be granted any engineer or assistant engineer who does not understand plain rules of arithmetic, except that original licenses may be issued to those persons in the Canal and the Panama railroad service, who have satisfactorily served two years in the grade for which they receive licenses.

(*q*) All candidates for the position of engineer in any grade must give satisfactory evidence to the Board of Local Inspectors, that they have sufficient knowledge of the engines, boilers, and machinery of the class of vessels in the grade for which they make application for such license.

(*r*) It shall be the duty of the engineer when he assumes charge of the boilers and machinery of a steamer to forthwith thoroughly examine same, and if he finds any part thereof in bad condition, caused by neglect or inattention on the part of his predecessor, he shall immediately report the facts to the officer in charge of the work, or the master, owner, or agent, and to the Board of Local Inspectors, who shall thereupon investigate the matter, and if the former engineer has been culpably derelict in his duty, they shall suspend or revoke his license.

133. Steamshovel employes in the service, and ex-employes with steamshovel experience, will be eligible for positions on the dipper dredges operated by The Panama Canal, subject to the following requirements:

(*a*) Steamshovel engineers will be eligible for appointment to position of mate (craneman) on dipper dredges upon passing examination before the Board of Local Inspectors and securing necessary license for the service.

(*b*) Steamshovel cranemen will be eligible for appointment to position of dipper dredge engineer upon passing examination before the Board of Local Inspectors and securing necessary license for the service.

(*c*) All applicants for positions on dipper dredges will be required to secure necessary license from the Board of Local Inspectors; marine licenses, as issued by the Department of Commerce, will not be accepted for this service.

All applications for dipper dredge service should be forwarded to the Resident Engineer, Dredging Division, enclosing license (which will be returned), and appointments will be made, when vacancies exist, in the order of the receipt of such applications.

134. Licensed officers serving under a three years' license shall be entitled to a raise of license into a higher grade, after one year's experience in the grade for which they are licensed, on satisfactory evidence of their capability: *Provided*, that the original license be returned to the Board of Local Inspectors.

Navigators of Motor Boats.

135. (*a*) *Classes I and II*—The applications must he made upon the forms prescribed by the Board of Local Inspectors; the applicant must be 18 years of age or over, of sober habits, able to read and write either the English or Spanish language, have his application endorsed by two reputable citizens of the Canal Zone, or the cities of Colon or Panama, vouching for his sobriety and trustworthiness, and prove to the satisfaction of the board that he has the necessary knowledge, skill, and judgment for the safe and skillful navigation of motor boats.

(*b*) The board shall examine the applicant in regard to his knowledge of the use of gasoline, gas, naptha, and other like fluids, and electricity in the operation of motors and machinery, and of the mechanism and operation of motor boats, as well as upon his knowledge of the English or Spanish language, and upon the laws and regulations of the Canal Zone relating to the navigation of the aforesaid waters, and to the operation of motor boats and other vessels upon said waters. In order to determine the skill of any applicant, said board may require him to make a practical demonstration thereof.

(*c*) Coincident with the issuance of any navigator's license herein provided for, the Collector, upon the recommendation of the Superintendent of Transportation, shall deliver to the licensee a metal check or badge having stamped thereon the serial number of the licensee's license and the words and letters "Navigator's license, C. Z." It shall be the duty of each person holding such license to wear or carry with him such check or badge when he is operating any motor boat in the waters of the Canal Zone. For such badge and license, each such licensee shall pay to the Collector $1, same to become a part of the revenues of The Panama Canal. Upon the request of any Canal Zone police officer any such licensee, while in charge of any motor boat in the waters of the Canal Zone, shall exhibit such badge. In addition to wearing such badge, the licensee shall have framed and carried on any motor boat which he may be navigating the license issued to him as aforesaid.

(*d*) The navigator's license shall continue in force until it may be revoked for cause, but if at any time it may be shown that the holder of the license for motor boats should not be further entrusted with the operation of such boats in the waters of the Canal Zone, on account of drunkenness, lack of skill in operating motor boats, or for any other good and sufficient reason, his license may be revoked.

(*e*) Any candidate who fails to pass the required examination and qualify for a navigator of motor boats will not be allowed to again appear before the board until an interval of at least six months shall have elapsed.

(*f*) No navigator's license will be issued for any motor boat over 65 feet in length.

(*g*) Any person who operates a motor boat in or upon the waters of the Canal Zone without first having obtained a license as herein provided for, or without complying with any other requirement of this ordinance applicable to him, shall be guilty of a misdemeanor, and on conviction thereof shall he punished by a fine not to exceed $500, or by imprisonment in the district jail for not more than six months, or by both such fine and imprisonment, in the discretion of the court.

(*h*) Any boat or vessel operated by means of gas, gasoline, naptha, or other like fluid, or electricity, is deemed a motor boat.

Chauffeurs.

136. (a) *Class I*—The requirements for a chauffeur's license are in the main the same as those for a navigator of motor boats, except that he shall have had experience in the operation of automobiles, and gasoline and electric machinery, but is not required to have any knowledge of motor boats or Canal Zone waters.

(*b*) The board shall examine the applicant in regard to his knowledge of gasoline and electric motors and machinery, the mechanism and operation of automobiles, his knowledge of the English and Spanish language, and the laws and regulations of the Canal Zone relating to the operation of automobiles over the streets and roads of the Canal Zone.

(*c*) In order to determine the skill of any applicant, he may be required to make a practical demonstration thereof.

(*d*) Coincident with the issuance of any chauffeur's license, the Collector, upon the recommendation of the Superintendent of Transportation, shall deliver to the licensee a metal check or badge having stamped thereon the serial number of the licensee's license and the words and letters "Chauffeur's license, C. Z.," It shall be the duty of each person holding such chauffeur's license to wear or carry with him said check or badge when he is driving an automobile over Canal Zone streets or roads. For such badge and license, each licensee shall pay to the Collector $1, same to become a part of the revenues of The Panama Canal . Upon the request of any Canal Zone police officer any such licensee, while in charge of an automobile on Canal Zone streets or roads, shall exhibit such badge.

(*e*) The said chauffeur's license shall continue in force until it may be revoked for cause, but if at any time it may be shown that the holder of the chauffeur's license should not be further entrusted with the operation of automobiles in the Canal Zone, on account of drunkenness, lack of skill in operating automobiles, or for any good and sufficient reason, his license may be revoked.

(*f*) Any candidate who fails to pass the required examination and qualify for chauffeur, will not be allowed to again appear before the board, until an interval of at least three months shall have elapsed.

(*g*) Any person who operates an automobile over the streets and roads of the Canal Zone without first having obtained a license as herein provided for, and without complying with any other requirement of this ordinance applicable to him, shall be guilty of a misdemeanor, and upon conviction thereof shall be subject to a fine of not less than $25; and upon any subsequent conviction may, in addition to having such fine adjudged against him, be confined in the district jail for a period not to exceed 30 days.

(*h*) The term "Automobile" as herein used, shall apply to all vehicles of automobile, or similar construction and operation.

GEO. W. GOETHALS,
Governor.

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Sale of Obsolete Metal Checks.

THE PANAMA CANAL,
OFFICE OF DEPOT QUARTERMASTER,
CRISTOBAL, C. Z., May 21, 1914.

Sealed bids will be received at the office of the Depot Quartermaster, Mount Hope, until 2 o'clock p. m., Saturday, June 6, 1914, when they will be opened in the presence of attending bidders, for miscellaneous lot of approximately 1,500 old series metal checks.

These may be seen on any working day between the hours of 7 and 11 a. m., and 1 to 5 p. m., on application to this office.

Bids must be plainly marked "Proposal to purchase old metal checks, to be opened June 6, 1914," and addressed to the Depot Quartermaster, Mount Hope, C. Z. The right is reserved to reject any or all bids.

C. H. MANN,
Depot Quartermaster.

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Sale of Combined Pool and Billiard Table.

THE PANAMA CANAL,
OFFICE OF THE DEPOT QUARTERMASTER,
MOUNT HOPE, C. Z., May 28, 1914.

Sealed bids will be received at the office of the Depot Quartermaster, Mount Hope, until 2 o'clock p. m., Saturday, June 13, 1914, when they will be opened in the presence of attending bidders, for one combined pool and billiard table complete, with one set billiard balls, one full set pool balls, fourteen (14) cues, one cue ridge, one cue rack, buttons, and chart.

The table may be seen on any working day at the Cristobal shop store (near the colored commissary building) between the hours of 7 and 11 a. m., and 1 and 5 p. m.

Bids must be plainly marked "Proposal to purchase combined pool and billiard table, to be opened June 13, 1914." and addressed to the Depot Quartermaster. Mount Hope, C. Z. The right is reserved to reject any or all bids.

C. H. MANN,
Depot Quartermaster.

MOVEMENTS OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

		Sails.	*Arrives.*
NEW YORK TO CRISTOBAL.			
*Allianca	P. R. R.	May 28	June 3
*Cristobal	P. R. R.	June 3	June 10
*Advance	P. R. R.	June 9	June 16
*Panama	P. R. R.	June 15	June 21
*Allianca	P. R. R.	June 20	June 26
*Colon	P. R. R.	June 27	July 3
*Advance	P. R. R.	July 3	July 10
*Panama	P. R. R.	July 10	July 16
*Allianca	P. R. R.	July 16	July 22
CRISTOBAL TO NEW YORK.			
†Panama	P. R. R.	June 3	June 9
†Allianca	P. R. R.	June 9	June 15
†Cristobal	P. R. R.	June 18	June 25
†Advance	P. R. R.	June 22	June 29
†Panama	P. R. R.	June 28	July 4
†Allianca	P. R. R.	July 3	July 9
NEW YORK TO COLON.			
Zacapa	U. F. C.	May 27	June 3
*Pastores	U. F. C.	May 30	June 5
Prinz Sigismund	H.-A.	May 30	June 9
Almirante	U. F. C.	June 3	June 10
*Tenadores	U. F. C.	June 6	June 12
Danube	R. M.	June 6	June 14
Prinz Joachim	H.-A.	June 6	June 15
*Santa Marta	U. F. C.	June 10	June 17
*Calamares	U. F. C.	June 13	June 19
Prinz Eitel Friedrich	H.-A.	June 13	June 23
COLON TO NEW YORK.			
†Calamares	U. F. C.	June 3	June 9
Metapan	U. F. C.	June 4	June 11
Tagus	R. M.	June 9	June 17
Prinz August Wilhelm	H.-A.	June 9	June 17
†Pastores	U. F. C.	June 10	June 16
Zacapa	U. F. C.	June 11	June 18
Prinz Sigismund	H.-A.	June 14	June 23
†Tenadores	U. F. C.	June 17	June 23
Almirante	U. F. C.	June 18	June 25
Prinz Joachim	H.-A.	June 23	July 1
Oruba	R. M.	June 23	July 1
NEW ORLEANS TO COLON.			
Heredia	U. F. C.	May 27	June 3
*Atenas	U. F. C.	May 30	June 4
Parismina	U. F. C.	June 3	June 10
*Turrialba	U. F. C.	June 6	June 11
COLON TO NEW ORLEANS.			
‡Abangarez	U. F. C.	June 4	June 9
Heredia	U. F. C.	June 4	June 11
‡Atenas	U. F. C.	June 11	June 16
Parismina	U. F. C.	June 11	June 18

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

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Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun and Miraflores Lakes for the week ending midnight, Saturday, May 30, 1914. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela	Gamboa.	Gatun Lake.	Miraflores Lake.
Sun., May 24	132.90	97 50	84.90	84.95	51.07
Mon., May 25	128.70	94.92	84.73	84.76	50.97
Tues., May 26	134.70	98.70	85.00	85.01	51.25
Wed., May 27	129.55	95.60	84.95	85.01	51.22
Thurs., May 28	128.75	94.80	84.76	84.86	51.02
Fri., May 29	128.10	94.20	84.80	84.89	51.08
Sat., May 30	126.55	93.00	84.80	84.90	51.10
Height of low water to nearest foot	125.0	91.0			

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Tide Table.

The following table shows the time of high and low tides at Panama for the week ending June 13, 1914:

DATE.	Low	High	Low	High	Low
	A.M.	A.M.	A.M.	P.M.	P.M.
June 7	......	2.25	8.37	2 40	9.06
June 8	......	3.19	9.30	3.31	9.56
June 9	......	4.09	10 20	4.21	10.46
June 10	......	4.57	11.10	5.10	11.33
June 11	......	5.46	11.58	6.00	......
			P.M.		
June 12	12 21	6.33	12.48	6.49	......
June 13	1.10	7.21	1.39	7.38	......

75th meridian time.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, JUNE 10, 1914. No. 42.

The Canal Record

Official publication of The Panama Canal.

The Canal Record is published weekly free of charge, one copy each, to all employes of The Panama Canal and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

First Earnings of the Canal.

Commercial use of The Panama Canal began on May 18, when three barges loaded with sugar diverted from the Tehuantepec route by the American-Hawaiian Steamship Company, left Balboa in tow for Cristobal. Since that time barges have been going through the Canal in tow more or less regularly, and will probably continue to do so as long as the car shortage exists, or until the Canal is permanently opened for the passage of ocean going vessels. The total earnings in Canal tolls on cargo and ballast tonnage from the date abovementioned until the end of the month is placed at $7,356.12, divided, as follows:

	Tons.	*Tolls.*
On cargo handled from Balboa to Cristobal	3,276.00	$3,931.20
Cargo handled from Cristobal to Balboa	184.39	221.27
Ballast tonnage Cristobal to Balboa	2,494.71	2,993.65
Ballast tonnage on barge No. 14, Paraiso to Balboa	175.00	210.00
Total	6,130.10	$7,356.12

The only cargo handled from Cristobal to Balboa was a load of angle iron transported through the Canal on barge *No. 15* on May 25. Under the existing arrangement, the Panama Railroad Company is charged with all tolls, and, in addition, pays for towage, but the latter charge is confined as nearly as possible to actual cost. The charge for tolls on cargo tonnage is $1.20 per net ton of 100 cubic feet; the tolls collectible on the net ballast tonnage is 60 per cent of the net cargo tonnage charge.

The "Paraiso" Working at Cucaracha Slide.

The new 15-cubic yard dipper dredge *Paraiso*, which had been lying alongside the dredging wharf at Paraiso since May 25 for the erection of its parts, was towed past the pontoon bridge at Cucaracha slide and placed at work on Saturday, June 6. It is excavating rock near the south side of Gold Hill, in the part of Cucaracha slide adjacent to the hill, and is working with general satisfaction.

The *Gamboa*, twin of the *Paraiso*, and the dipper dredges *Chagres* and *Mindi* are also working at the base of the slide. All are excavating rock, and six well drills, mounted on pontoons, are drilling the heavy masses for blasting. The ladder dredges have been transferred to other parts of the Cut, north of Gold Hill. Of the two pipeline suction dredges formerly working at the slide, *No. 85* has been working during the past month in Miraflores Lake, and *No. 86* is now being overhauled at Paraiso.

The minimum width of the Canal channel opposite Cucaracha slide on Tuesday, June 9, was 180 feet, and its minimum available depth was 30 feet.

Completion of Dry Excavation on Canal Proper.

Steamshovel operations in the removal of material as a preventive against slides, which have been in progress for several months past on the east bank of the Cut between Culebra villlage and Rio Grande, were permanently suspended on Monday June 8, thus bringing to an end all steamshovel excavation in connection with the Canal proper. One shovel was taken out on Saturday and the remaining one on the following Tuesday. All tracks will be taken up as far as the north yard at Rio Grande. Ten train crews were connected with the work, the suspension of which will result in some reduction in force in the Transportation Department.

Increase in Number of Lock Operations.

On account of beginning of regular commercial service through the Canal, in handling ship's cargo arcoss the Isthmus in barges, the number of lockages during the month of May was greatly in excess of the number for any preceding month, as may be seen from this summary of lockages made to June 1, 1914:

Month.	*Gatun.*	*Pedro Miguel.*	*Miraflores.*
September	2	0	0
October	6	3	4
November	5	4	2
December	11	2	4
January	9	4	8
February	7	2	2
March	11	2	2
April	7	6	9
May	19	19	20
Total	67	42	51

Towing locomotives were used in handling all vessels at all these locks, and for the most of the lockages at Gatun and Pedro Miguel, the machinery was operated from the table in the control house. The first commercial lockage was made on May 18 at Miraflores; the first at Pedro Miguel and Gatun, on May 19.

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The erection of a stable in the vicinity of the Ancon corral, for the use of impounded animals, and animals which have to be isolated on account of disease, has been authorized.

READY TO USE THE CANAL.

Steamship Lines Arranging to Use Shorter Route as Soon as Canal is Available.

In anticipation of the opening of the Canal to commercial traffic, the Pacific Steam Navigation Company has directed the establishment of a fortnightly service from Liverpool around South America. The route is to be from Liverpool to the east coast of South America, thence through the Strait of Magellan and up the west coast to Panama, and through the Canal back to Liverpool. The first vessel plying in this service, the steamship *Orcoma*, is due to arrive at Balboa from south ports about July 3. If it should not be able to go through the Canal within a few days after its arrival, it will sail for Liverpool by way of the Strait of Magellan, but as soon as available the Canal route will be used for the home voyage. The *Orcoma* is a freight and passenger vessel of 11,376 tons gross burden.

The Luckenbach Steamship Company, with four steamers now plying regularly between San Francisco and Balboa, and six in irregular service along the Atlantic coast of North America, has been awaiting the opportunity to merge all ten into a regular line between San Francisco and New York. These are vessels of from 5,000 to 10,000 tons cargo capacity. Two of them, the *J. L. Luckenbach* and the *San Mateo* are under temporary charter to the Panama Steamship Line, plying between New York and Cristobal, but their charters will be revoked as soon as the Canal is opened. The steamship *Demara*, due at Balboa from San Francisco about June 16, has been loaded with its cargo for Panama on top, so that if it can be put through the Canal it can discharge its local freight quickly and proceed direct to New York with the bulk of its cargo. It is the present intention of the company to make Balboa, instead of Colon, its point of transferring freight.

W. R. Grace and Company, now operating their *Santa Clara*, *Santa Cruz*, *Santa Cecilia*, and *Santa Catalina* from New York to San Francisco around South America, will divert them through the Canal as soon as possible. The *Santa Clara*, due to arrive from San Francisco on June 17, and allowed a week on its schedule for the discharge of cargo at Balboa, including about 4,000,000 feet of lumber for The Panama Canal, is charted to go through the Canal to New York. The same course, with less time for discharging at Balboa, is scheduled for the *Santa Catalina*, due at Balboa on July 3. The time for this line between New York and San Francisco is now about 60 days, around the continent; it is anticipated that, by the use of the Canal. it will be cut to 20 days.

The local representative of the Salvador Railway Steamship Line, recently established between Salina Cruz, Mexico, and Balboa, calling at the principal Central American ports, will send its vessels through the Canal as soon as possible, to discharge at Colon for transfer to Atlantic vessels. This company is operating the steamships *Acajutla* and *Salvador*, and a third vessel for this service is building in England.

The management of the Harrison Line has been keeping in touch with the Canal situation and intends, as soon as possible, to divert through the Canal the steamers now plying in its "Magellan route", from Great Britain to ports on the Pacific coast of the United States and Canada. This firm also operates a "Panama route," making Colon and transferring cargo by way of the Panama railroad to Pacific lines, and a "Tehuantepec route," in which the service has been suspended on account of the troubled conditions there; it is probable that the vessels of these routes may be diverted to the Canal within a few months.

The American-Hawaiian Line, operating 26 steamships in Atlantic and Pacific trade, and already using the Canal by having cargo lightered through, has advertised its intention of sending its vessels through the Canal as soon as possible. This line had been using the Tehuantepec route. Its vessels will ply between New York, San Francisco, Seattle, and Hawaii.

◆

Lockage of the "Allianca."

The *Allianca* of the Panama Railroad Steamship Line was passed through Gatun Locks from the Atlantic channel to Gatun Lake and return on Monday forenoon, June 8, making it the first ocean going passenger vessel to enter or pass the locks of the Canal. It carried a number of people in addition to the officers and crew, and officials who were concerned in its operation. The ship arrived in the approach channel to the locks at 6.45 a. m., and towing was begun by locomotives Nos. 641, 642, 643, and 644 at 7.17 a. m. The ship left the locks on the up lockage at 8.48 a. m., and after describing a wide circle in the lake returned to the approach. Towing on the down lockage was begun at 9.52 a. m., and the ship entered the approach channel from the lower lock at 11.33 a. m., returning to its dock at Cristobal immediately thereafter. During the progress of the vessel through the locks it was wholly under the control of the lock operating force. Dynamometers were attached to the towing lines during a part of the trip to register the pull of the towing machines. The Canal tug *Cocoli* was locked up to Gatun Lake with the *Allianca*. The official log of the lockage is, as follows:

UP LOCKAGE.

Elevations:

Lower level—.03 feet (sea channel) to 27.7 feet.
Middle level—27.7 feet to 56.6 feet.
Upper level—56.6 feet to 84.9 feet.

Operations:

7.27. Gates Nos. 7 and 8 closed; were opened night before.
7.28:30. Rising stem valve No. 210 opened.
7.29. Rising stem valve No. 211 opened.
7.30. Rising stem valve No. 232 opened.
7.32. Rising stem valve No. 233 opened.
7.45. Gates Nos. 15 and 16 opened.
7.55. Gates No. 15 and 16 closed.
7.57:30. Rising stem valve No. 232 closed.
7.58. Rising stem valve No. 233 closed.
7.59. Rising stem valve No. 248 opened.
8.02. Rising stem valve No. 249 opened.
8.12. Gates Nos. 23 and 24 opened.
8.12. Gates Nos. 27 and 28 opened.
8.21. Gates Nos. 23 and 24 closed.
8.21. Gates Nos. 27 and 28 closed.
8.23. Rising stem valves Nos. 248 and 249 closed.
8.25. Rising stem valve No. 260 opened.
8.27. Rising stem valve No. 261 opened.
8.39. Gates Nos. 36 and 40 opened.
8.39:30. Gates Nos 33 and 39 opened.

DOWN LOCKAGE.

Elevations:

Upper level—84.9 (Gatun Lake level) to 55 feet.
Middle level—55 feet to 28 feet.
Lower level—28 feet to level of sea channel.

Operations:

9.38. Rising stem valve No. 260 closed.
9.39. Rising stem valve No. 261 closed
10.04. Gates Nos. 36 and 40 closed.
10.04:30. Gates Nos. 33 and 39 closed.
10.06. Rising stem valve No. 248 opened.
10.07. Rising stem valve No. 249 opened.
10.18. Gates Nos. 27 and 28 opened.
10.18. Gates Nos. 23 and 24 opened.
10.23. Rising stem valve No. 248 closed.
10.24. Rising stem valve No. 249 closed.
10.29. Rising stem valve No. 232 opened.
10.30. Rising stem valve No. 233 opened.
10.40. Gates Nos. 15 and 16 opened.
10.45. Rising stem valve No. 232 closed.
10.46. Rising stem valve No. 233 closed.
10.50. Gates Nos. 15 and 16 closed.
10.52. Rising stem valve No. 210 opened.
10.53. Rising stem valve No. 211 opened.
11.10. Gates Nos. 7 and 8 opened.
11.15. Rising stem valve No. 210 closed.
11.16. Rising stem valve No. 211 closed.
11.32. Gates Nos. 7 and 8 closed.

Lower guard or sea gates were already opened and vessel passed out into the approach channel.

"Ancon" To Pass Gatun Locks.

The steamer *Ancon* will be locked through at Gatun on Thursday forenoon, June 11, the operation being similar to that of the *Allianca*.

◆

Miraflores Lake to go to Normal Level.

The valves controlling the auxiliary culverts at Pedro Miguel Lock were opened on Monday evening, June 8, and water from Gatun Lake will be allowed to flow through them uninterruptedly until Miraflores Lake reaches its normal level of 54¾ feet. The elevation of the lake's surface at the time the valves were opened, about 5.15 p. m., was 50.77 feet. The highest level to which the lake had attained previously since the closing of Miraflores Spillway was 52.61 feet in February of this year.

◆

Sale of the "Acapulco."

The steamship *Acapulco* of the Pacific Mail Steamship Company has been sold to Capt. J. H. Rinder of San Francisco. This vessel was built at the yards of Harlan and Hollingsworth in Wilmington, Del., in 1873, and had been many years in service along the west coast. Its last arrival at the port of Balboa was on September 12, 1913, and it left on its last voyage to San Francisco on September 20. It has been succeeded in the Balboa-San Francisco service by the *Newport*.

◆

Alterations to the "Advance."

It was stated in THE CANAL RECORD of April 15, 1914, that the steamship *Advance* of the Panama Railroad Steamship Line would be converted into a freight vessel, with an insulated magazine, for carrying explosives, and that the vessel would be operated on a "Wildcat" schedule. Since that time, the approved plans have been changed. The magazine for explosives was installed, but the accommodations for passengers were not removed. For the present, the *Advance* will be continued in passenger service, but whenever it should be necessary to ship explosives on the vessel, passengers will not be carried on such voyages.

◆

New Office Building for Hamburg-American Line.

Foundations are being completed for the new office building of the Hamburg-American Line, on a lot on the waterfront of Cristobal, just east of the entrance to the new terminal piers and adjoining the new office building of the United Fruit Company. The work is being performed by R. W. Hebard and Company, Incorporated, who also prepared the plans for the building.

The site is a reclaimed area, adjoining Roosevelt avenue, and piles were driven to support the foundations. The building will be of reinforced concrete, two stories high and finished in an adaptation of American colonial architecture, with heavy Doric, 2-story columns flanking the verandas. The ground floor will be occupied by offices for the manager and the cashier and the claim, filing, and freight departments. The second floor will be made into an apartment for the local manager.

◆

Postal Savings Transactions.

A statement of postal savings transactions at Canal Zone post-offices for the month of May, follows:

OFFICE.	Amount issued.	Amount paid.
Ancon	$14,607.00	$15,714.00
Balboa	23,144.00	25,674.00
Corozal	21,680.00	30,887.00
Cristobal	10,526.00	9,420.00
Culebra	4,230.00	7,326.00
Empire	5,362.00	10,540.00
Gatun	10,408.00	11,509.00
Las Cascadas	2,103.00	1,735.00
Paraiso	12,590.00	14,663.00
Pedro Miguel	4,150.00	7,212.00
Station B	780.00	1,566.00
Total	109,580.00	136,246.00

Balance on hand May 1, 1914	$555,027.00	
Deposited during May, 1914	109,580.00	
Withdrawn during May		$136,246.00
Balance on hand June 1, 1914		528,361.00
	$664,607.00	$664,607.00

Estates Being Settled.

◆

The following estates of deceased employes of The Panama Canal or the Panama Railroad Company are now in process of settlement by the office of the Administrator of Estates, Ancon, C. Z., and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings, or postal money order deposits, or any other moneys due them, should be presented at his office at once, in order that the estate may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once.

Name.	*Check No.*	*Native of*	*Isthmian residence.*	*Employed by*	*Date of Death.*
Rafael Castro	215812	Ecuador	Panama	Dredging Div.	May 29
Victor S. Dahl	197166	Sweden	Paraiso	Dredging Div.	May 29
David (James) Francis	29024	Jamaica	La Boca	P. R. R.	May 28
John Hinds	205799	Barbados	Panama	Permanent Blds.	May 29
Milton (Nathan) Johnson	76556	Jamaica	Pedro Miguel	P. R. R.	May 29
Ernest J. Richards	42340	Antigua	Empire	Q. M. D.	May 31
Andrew Thomas	56241	Jamaica	Colon	P. R. R.	May 30
Isaac Wilson	201737	Jamaica	New Gatun		May 30

SOCIAL LIFE OF THE ZONE.

Close of Canal Zone High School Year.

The last month of the Canal Zone high school will be marked by several events in connection with the closing year of the high school life of the graduating class. The functions will begin with senior class day to be held at Pedro Miguel clubhouse on Friday evening, June 12. The program follows:

Song—*'Tis our festal day*	High school
Class history	William Fraser
Piano solo	Dorothy Magnuson
Poem	Miriam Stevens
Song—"*Awake! arise!*"	High school
Class prophecy	James Loulan
Song—"*All through the night*"	Girls' chorus
Class will	Eleanor Comber
Piano solo	Marion Blake
"A senior's lament"	Blossom Compton
Song—"*Italia*"	High school

Music will be furnished by the Guatemalan orchestra.

The class president is Eva Swinehart.

A 3-act comedy entitled "The strange adventures of Miss Brown," will be played by the pupils, according to this schedule: Empire clubhouse, Tuesday evening, June 16; Pedro Miguel clubhouse, Thursday evening, June 18; Corozal clubhouse, Friday evening, June 19; National Theatre, Panama, Saturday evening, June 20, by courtesy of the Government of Panama; Gatun clubhouse, Monday evening, June 29; Cristobal clubhouse, Tuesday evening, June 30 The cast of the play contains 16 characters, who are being trained by Miss Jessie E. Daniels, principal of the Ancon school, and Miss Marie E. Bayless, principal of the Gatun school. The commencement exercises will be at the National Theatre, Panama, on Friday evening, June 26, beginning at 8.30 o'clock.

The annual number of the high school paper, *The Zonian*, will be ready for issue on senior class day. The receipts from the performances of "The strange adventures of Miss Brown" will be used to defray its cost.

Church Notes.

The Church Periodicals Club of New York City has sent a large donation of books to the Sunday school of St. Luke's Hospital chapel, and these books have been placed on the shelves for distribution. Owing to a conflict in time with the girls' club, the library hours have been changed from Wednesday afternoons, to Saturday mornings from 8.30 to 11 o'clock. The small library of books for mission study have been received. These books will be used primarily by the mission study class, but those interested in the work of the Christian church in foreign mission fields may withdraw books upon application to the chaplain.

The junior auxiliary meets in the Sunday school room at St. Luke's chapel on the first and third Wednesdays in each month, and in Ancon Hall for physical culture, on the second and fourth Wednesdays. It has been decided to open the physical culture class to nonmembers on payment of 25 cents, United States currency, a month. Instruction in physical culture to members is free. Application for paid membership in the class must be made to a member of the club.

The Woman's Altar Guild of St. Luke's Hospital chapel met at the home of Mrs. Joseph Bucklin Bishop on Tuesday morning, June 2. This is the only meeting to be held in June. Over five dozen garments for church institutions in the United States have been made since the beginning of Lent. The guild has entered upon a few weeks' vacation.

Children's Day, June 7, was observed in the Gatun Sunday school, when an interesting program was given at the service which was held in the Government chapel in the evening. All the pupils in the school participated in the exercises, and, in addition, pieces were recited by two members of the Tenth Infantry.

The Rev. Edward J. Cooper, rector of Christ Church, Colon Beach, will return from his annual vacation spent in Guatemala on Friday, June 26. The Woman's Altar Guild of the parish is preparing to hold a sale for the purpose of raising money for the payment of its quarterly assessment for church improvements.

The ladies' aid society of the Union Church, Cristobal will hold a bazar for the sale of useful and fancy articles, cake, candy, and ice cream. The proceeds are to go toward purchasing books for the Sunday school library. The bazar will be held on Saturday afternoon and evening, June 13, at the Union chapel, Cristobal.

Activities at St. Ferdinand's Church, Empire.

The parish festival of St. Ferdinand's church, Empire was celebrated on Saturday and Sunday, May 30 and 31. The West Indian section of the parish held an entertainment in the parish hall on Saturday evening. On Sunday, solemn high mass was celebrated at 9.30 a. m. Representatives of the Order of St. Vincent, the Reverend Visitor, and the Reverend Superior of Guatemala assisted at the services. The parish priest, the Reverend Father Allot, has returned from his visit to San Salvador, where he went in April on business connected with the church.

Call to New Union Church Pastorate.

A call to the pastorate of the Union Church of the Canal Zone has been accepted by the Rev. William Frammer of Covington, Ky. Mr. Frammer will assume his duties on his arrival on the Isthmus.

Woman's Board at World's Fair.

The Panama Branch of the Woman's Board of the Panama–Pacific International Exposition is open to receive applications for membership. Membership in the branch costs $2, and the pin, which is the official badge of the woman's board, costs $1. Membership in the branch entitles the holder to the use of the tea and rest rooms in the California Host Building, and gives official standing to women visiting the exposition. The money for membership and pins will be devoted to the traveler's aid fund, which is being formed for the purpose of carrying on work for the protection of women and young girls attending the exposition. Membership in the branch does not depend upon club membership; the branch is an independent organization, and there will be no meetings. Membership cards will be issued on payment of dues, and later, cards of admission to the rooms in the California Host Building will be forwarded to each member. Further information concerning membership may be obtained upon application to Miss Beattie, Ancon.

Applications for Church Sites at Balboa and La Boca.

Applications for sites for the purpose of building churches in the permanent town of Balboa, and the new town of La Boca, have been received by the committee appointed by the Governor of The Panama Canal for the consideration of this matter. The following churches and denominations were represented in the applications: Methodist Episcopal, Wesleyan Methodist, Baptist, the Southern Baptist Convention and the National Baptist Convention, Episcopal, and Roman Catholic. The Union Church of the Canal Zone has applied for building site and a site for the projected residence for its minister. The Salvation Army, which comes under the head of churches, was also an applicant for a site for the erection of a hall for public meetings. Other applicants for sites were the agent of the American Bible Society, and a representative of the Masonic fraternity.

Knights of Columbus.

A regular meeting of Cristobal Council, Knights of Columbus, will be held in the Cristobal lodge hall, building No. 1, on Sunday, June 13, at 2 o'clock.

A. P. E. DOYLE, *Grand Knight.*

CRISTOBAL, C. Z., *June 7, 1914.*

Panama Council, No. 1371, Knights of Columbus, will hold its regular meeting in Ancon lodge hall, on Sunday, June 13, at 10.30 a. m.

THOS. F. CHARNLEY, *Grand Knight.*

BALBOA, C. Z., *June 7, 1914.*

Dry Season Rainfall.

The precipitation during the dry season recently drawn to a close has been below normal everywhere except on the Pacific coast, where it has been slightly above the average. As compared with the corresponding period of 1912-1913, less rain fell throughout the Zone, although the Pacific coast had an increase in rainfall amounting to more than one hundred per cent of the amount recorded last year.

The following table shows the accumulated rainfall at selected stations, and for the whole Canal Zone, during the period from December, 1913, to April, 1914, inclusive, compared with the fall during the dry season of 1912–1913, and with the station normals for the same period:

STATION	Normal Rainfall Dec. to April.	Years of Record	Accumulated Dec. 1913 to April 1914.*	Per cent of Normal	Accumulated Rainfall Dry Season 1913 (Dec. 1912 to Apr. 1913.)	Per cent of Normal.
Ancon	9.36	17	9.98	107	4.58	49
Culebra	13.83	24	2.71	20	8.50	61
Gamboa	13.64	30	4.09	30	8.11	59
Alhajuela	12.08	15	3.63	30	4.18	35
Colon	23.30	44	14.25	61	23.41	100
Porto Bello	38.95	7	18.68	48	22.90	59
Average for Zone (six stations)	18.53	..	8.89	49	11.92	60

*Settled dry season weather did not begin this year until January, but the period from December to April, inclusive, is used for comparison with the previous dry seasons, some of which have continued from December to April, inclusive.

EXECUTIVE ORDER

Setting Aside Area of Land in Canal Zone for Radio Station and Other Naval Uses.

The area of land hereinafter described, situated in the Canal Zone, is hereby set apart and assigned to the uses and purposes of a radio station and other naval purposes under the control of the Secretary of the Navy; but said area shall be subject to the civil jurisdiction of the Canal Zone authorities in conformity with the Panama Canal Act.

The said area is described, as follows:

BALBOA NAVAL RADIO STATION.

> Starting at a concrete and rail monument marked "W" on the map, and located at the southeast corner of the oil fuel storage site on Balboa dump, go on an azimuth of 307°–40′ for a distance of 1,050 feet to a similar monument marked "Z" on the map; thence on an azimuth of 217°–40′ for a distance of 7,800 feet to a similar monument located on top of the dump on the shore of the bay and marked "V" on the map; thence along the top of the dump following the shore to a similar monument marked "Y" on the map; thence on an azimuth of 37° –40′ and for a distance of 1,120 feet to the point of the beginning;

all as shown by the blue print, No. 3836, dated January 30, 1914, issued by the Department of Construction and Engineering, Isthmian Canal Commission, office of the Assistant to the Chief Engineer.

WOODROW WILSON.

THE WHITE HOUSE,
May 26, 1914.
[No. 1948.]

◆

English Company Desires Representation at Canal Opening Ceremonies.

The West India Company of London, through its secretary, Algernon E. Aspinwall, has expressed its desire to be represented at the official opening of The Panama Canal. This company is the doyen of the colonial bodies in England, having been established before 1750; it was incorporated by Royal Charter by King Edward VII in 1904. The request has been referred to the newly appointed committee for the formal and official opening of The Panama Canal for proper consideration.

◆

Panama Railroad Laborer Awarded Life-saving Medal.

The Governor of The Panama Canal has presented to Timothy Williams, check No. 57427, a colored laborer in the employ of the Panama Railroad Company, a medal, granted by the United States Treasury Department for the saving of human life. On August 18, 1913, a French colored dock laborer named Joseph Louis, in the employ of the Panama railroad, was knocked into the water from Dock 11 by a sling of iron pipes. Williams, who was nearby, jumped in and rescued the man from drowning at the risk of his life.

◆

Homicide.

Patrick J. Garvin, a naturalized American employed as a molder in the Mechanical Division at Balboa, was fatally injured about 4.30 p. m., on Sunday, June 7, while sitting in the bar of the American Hotel in Panama, by a blow delivered on the head by a man named William Hopkins. His assailant made his escape, but was afterward captured by the Canal Zone police in the vicinity of East Balboa. Extradition of his person has been asked for by the Panama authorities. The victim was a native of St. Johns, New Brunswick, but made his home at Yonkers, N. Y., for several years before coming to the Isthmus. He was 48 years of age, unmarried, and had been in the Canal service since August 7, 1906. His mother, Mrs. Elizabeth Garvin, and a brother, John J. Garvin, reside at No. 60 Warburton avenue, Yonkers. The funeral was held on Monday afternoon at the Ancon Catholic chapel, under the auspices of Local No. 131 of the Iron Molders Union. Interment was at the Corozal cemetery.

◆

Visit of the "Nuernberg."

The German cruiser *Nuernberg*, Commander Von Schoenberg, arrived in Panama Bay from Mazatlan, Mexico on Saturday, June 6, for the purpose of coaling and exchanging a part of the crew for new men due to arrive on the Hamburg-American steamer *Schwarzwald*. The officers of the vessel were afforded the usual facilities for seeing the Canal.

◆

Emigration Figures for May.

The May report of the quarantine service shows an excess in emigration from the Isthmus during May of 626 persons, a falling off as compared with the preceding month of 871. The total net emigration from the Isthmus during the 10 months ending May 31, 1914, was 14,883, or an average of about 1,488 persons a month. The greater part of the people leaving the Isthmus for good consisted of Canal employes.

The total number of steamship passengers embarking from the ports of Colon and Cristobal for foreign ports during May was 4,414, consisting of 2,109 cabin, and 2,305 steerage passengers. The number of persons landing from foreign ports was 3,566, consisting of 1,754 cabin, and 1,802 steerage passengers. The excess of persons who embarked over those who landed from these ports was 848.

Europe contributed the fewest immigrants in the steerage class of any month since the present exodus began, only 21 arriving during May. The greater part of the deck passengers, as usual, came from the West India islands, the total being 1,307. Forty-eight steerage passengers disembarked at Colon from Colombia; 41 from Cuba; 121 from Guatemala; 94 from Costa Rica, and 69 from the United States. The number of persons arriving at the Atlantic ports "In transit," mostly all tourists, was 1,544, as compared with 1,512 in April.

The number of persons arriving at the ports of Panama and Ancon from foreign ports during May was 711, consisting of 573 cabin, and 138 steerage passengers. The number of persons embarking for foreign ports was 489, consisting of 340 cabin, and 149 steerage passengers. The excess of those who landed over those who embarked was 222.

The total number of vessels arriving at Colon during May was 106; at Ancon, 26.

◆

Anemometer and Anemoscope at Darien Radio Station.

An anemometer and anemoscope are to be installed shortly at Darien radio station by forces of the meteorological and hydrographic section of the Department of Operation and Maintenance. This is for the purpose of observing velocities and direction of wind currents during the erection of the 600-foot towers of the station.

◆

The removal of the superstructure of the former pile trestle, bridge No. 57½, at Paraiso, has been completed. The anchor bolts, concrete foundations, etc., at the bottom of the Canal are being removed with dynamite, in order to make the channel uniform.

◆

Change in Location of District Quartermasters' Offices.

The office of the district quartermaster at Cristobal has been moved from its old location north of the shops, to a building in front of the ice plant, to one side of the depot commissary's office. The lower floor of the commissary at Gatun has been converted into an office for the district quartermaster in that village.

◆

Joint Land Commission.

The following is a calendar of cases set for hearing by the Joint Land Commission for the week ending June 20:

TUESDAY, JUNE 16.

Docket No.	*Claimant.*	*Docket No.*	*Claimant.*
210	Eusebio A Morales	240	Cabino Acosta
213	Edward Brice	246	Juan Gonzalez
216	Alexander White	247	Lucia Acosta
238	Luisa Castillo	250	Juan Tinco
239	James Canady	251	Juana Josefa Marina

WEDNESDAY, JUNE 17.

253	Filomena Bacus	361	Juan Dias
254	Joseph Lyon	375	Santos Vegambre
262	Fabian Bayonne	387	Sam Marmorsin
345	Cenon Cortes	388	George Beopood
354	David Kerr	389	Frank Thompson

J. A. LANGSTON,
Secretary, pro tempore.

◆

Red Cross Finances.

The financial statement of the Canal Zone Chapter, American National Red Cross for the month of May is, as follows:

RECEIPTS.		
May 1, Balance on hand	$4,030.10	
May 3, Membership dues	1.00	
May 29, Interest for March, April and May	20.84	
Total receipts		$4,051.94
DISBURSEMENTS.		
May 2, Relief of former employe.	15.00	
May 13, Relief of a Norwegian in ill health	50.00	
May 28, Postage, secretary	2.00	
Total disbursements		$67.00
May 31, Balance on hand		$3,984.94

T. L. CLEAR,
Treasurer.

Approved:
ERNEST E. LEE,
Acting Chairman.

◆

Strangers Club.

Saturday evening, June 13, has been appointed as the date for the next informal dance of the Strangers Club.

FRANK SCOTT, *Chairman,*
Entertainment Committee.

◆

Cristobal Dancing Club.

The next regular dance of the Cristobal Dancing Club will be held on Saturday evening, June 13, at the Cristobal clubhouse.

WM. H. MARSH, *Secretary.*

◆

The gasoline launch *Santa Rita* has been transferred from the Division of Terminal Construction, Atlantic section, to the Department of Health, and will be used in the quarantine service for the ports of Balboa and Panama.

◆

A shipment of champagne donated by the Italian Swiss Colony of San Francisco has been received on the Isthmus, the shipper advising that it was sent for use at the ceremonies in connection with the passage of the first ship through the Canal.

TREES FOR ORNAMENTATION.

Mr. Henry Pittier Submits List and Advocates Use in Adornment of Permanent Towns.

The following communication relative to ornamental trees suitable for adornment of the permanent Canal Zone villages has been received at the office of the Governor from Mr. Henry Pittier of the Bureau of Plant Industry, United States Department of Agriculture, who is now on the Isthmus:

UNITED STATES DEPARTMENT OF AGRICULTURE, BUREAU OF PLANT INDUSTRY.

PANAMA, R. P., May 21, 1914.

Col. GEO. W. GOETHALS,
Governor of the Panama Canal,
Culebra, C. Z.

SIR: As a modest contribution toward the embellishment of the new towns along the Panama Canal, I propose to form a list of the ornamental trees, fruit trees, palms, and shrubs which could and should be used in parks and private grounds, as well as along roads.

If it should be the desire of the Panama Canal Government, I am also willing to help in procuring seeds, establishing nurseries, and supervising the planting to the extent permitted by my other duties. In doing so, I will only act in accordance with the instructions received from the Honorable the Secretary of Agriculture, that I should put myself at the disposal of the Canal authorities in case my collaboration should be needed in connection with agricultural problems of any kind.

If allowed to do so, I would suggest that in the choice of trees and plants preference be given to native species, so that in time the several parks and grounds would become a sort of epitome of the flora of the country. It also seems advisable that the work undertaken by Lieutenant-Colonel Mason, former superintendent of Ancon Hospital, of labeling the trees and plants, should be continued. It implies a small expense, of no amount if compared with the useful information which is spread in that way.

I shall be glad to help in collecting or procuring seeds for the nurseries, at least while I am on the Isthmus. In most cases, this can be done free of expense, but in others a small amount may have to be paid.

As to the question of the nurseries and other ones with which I may become connected, it would, of course, be necessary that I be given the necessary authority in regard to supervision.

I am giving a first list of ornamental trees, which will be followed as soon as possible with the ones of palms, fruit trees, and shrubs.

Respectfully,
H. PITTIER.

Ornamental Trees.

1. VERTICILLATAE.

Casuarinae sp. pl.—Pine-like trees of small or middle size, native also of Australia. They are practically shadeless, but form a striking feature of many parks in the semiarid districts of the tropics. There are several species.

2. URTICALES.

Morus Alba, L.—*Mulberry tree*—The common or white mulberry tree thrives perfectly in the tropics. It is a quick growing, shapely tree, with a dense foliage and cool shade, and quite adapted for shrubbery grouping in small parks. It is propagated by cuttings, and as there are several specimens of the species in Panama, these could be easily procured.

Ficus sp. pl.—*Fig trees*—The group of the wild fig tree is represented in Panama by at least 30 indigenous species, to which should be added three or four introduced ones. All are hardy trees, more or less indifferent to soil and climate, of very rapid growth and mostly large size. Among the introduced species may be mentioned *Ficus elastica,* the favorite india rubber plant cultivated indoors as a favorite pot shrub in the United States, but reaching in the tropics a considerable size. In order to keep them with the usual large leaves, they must be cut back all the time. Other desirable species are *Ficus religiosa,* the sacred tree of the Buddhists, of which there are good specimens in the Cathedral Park in Panama, and *Ficus rhizophoras,* which bears in the trunk and limbs thick tufts of roots.

Castilla panamensis, Cook—*Panamanian rubber tree*—Of little economical value, but nteresting and ornamental when not bared of

LABOR FORCE AND QUARTERS IN APRIL.

The force report for April 29 shows the actual working force of The Panama Canal on that date to have been 27,391; of the Panama railroad, 4,262; and of contractors, 41; a total working force of 31,694, a decrease of 507, as compared with the statement for March 25. The gold force on the Canal work, composed almost exclusively of white Americans, was 4,429, divided, as follows: The Panama Canal, 4,005, and Panama railroad, 424. The force in the commissary department is counted with the Supply Department. A statement of The Panama Canal force, by departments, follows:

DEPARTMENT OR DIVISION.	SILVER EMPLOYES*													Total silver	Total gold.	Grand total.
	Artisans						European laborers		West Indian laborers.							
	Monthly	44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents.	7 & 5 cents.			
Operation and Maintenance..	3,643	6	6	323	1,180	3,328	468	617	46	52	3,504	2,343	152	15,668	2,599	18,267
Executive Office	104	..	..	...	.....	.....	.....	.....	...	...	.....	.....	....	104	291	395
Health	486	..	..	.	1	1	.....	.....	...	4	33	290	45	860	235	1,095
Supply	2,212	..	..	345	738	1,006	3	.....	7	...	1,067	1,321	41	6,740	748	7,488
Disbursing Office	6	..	..	...	.....	.....	.....	.....	..	...	.....	.....	....	6	16	22
Accounting	8	..	..	...	.....	.....	.....	.....	...	...	....	.....	....	8	116	124
Total......	6,459	6	6	668	1,919	4,335	471	617	53	56	4,604	3,954	†238	23,386	4,005	27,391
Month previous.	5,803	6	6	652	1,671	4,487	789	520	66	45	4,328	3,267	‡201	21,844	3,527	25,368

*All wages are stated in United States currency. †Includes 182 at five cents. ‡Includes 169 at five cents.

The force report of the Department of Operation and Maintenance, including the employes of contractors, as of April 29 follows:

DIVISION.	SILVER EMPLOYES*													Total silver	Total gold.	Grand total.
	Artisans						European laborers		West Indian laborers.							
	Monthly	44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents.	7 & 5 cents.			
Div. of Erection	107	..	..	66	279	707	8	1	...	...	575	337	11	2,091	327	2,418
Div. of Terminal Construction.	940	..	..	36	263	967	242	401	...	...	883	665	54	4,451	476	4,927
Div. of General Construction.	175	..	..	10	96	107	174	157	46	35	83	481	23	1,337	185	1,572
Dredging Div...	1,714	..	..	7	24	51	11	14	...	5	131	2	3	1,961	318	2,279
Electrical Div..	62		..	3	30	38	8	......	...	...	129	151	....	421	145	566
Fortifications Division	159	..	..	60	140	378	1	......	...	...	402	151	4	1,295	168	1,463
Municipal Engineering. ...	200	..	..	62	223	376	2	29	...	...	306	459	32	1,789	105	1,894
Mechanical Div.	186	6	6	79	125	704	22	15	...	13	995	97	25	2,273	875	3,148
U. S. Steel Products Co.....	......	..	..	...	.....	.....	......	......	...	...	.....	......	....	6	26	32
Chicago House Wrecking Co.	......	..	..	...	....	.....	......	......	...	...	.....	......	....	7	2	9
Total......	3,643	6	6	323	1,180	3,328	468	617	46	52	3,504	2,343	†152	§15,668	§2,599	§18,267
Month previous	3,598	6	6	306	1,077	3,411	781	517	44	45	3,327	1,891	‡119	§15,128	§2,416	§17,544

*All wages are stated in United States currency. †Includes 116 at five cents. ‡Includes 93 at five cents.
§Employes of contractors are not included in the totals.

QUARTERS.

A report of Panama Canal and Panama railroad quarters occupied on April 30, follows:

PLACE.	Gold.			Europeans.			West Indians.		
	Men	*Women*	*Children*	*Men*	*Women*	*Children*	*Men*	*Women*	*Children*
Ancon[1]	811	331	264	....	....	....	400	39	4
Balboa	543	31	24	519	16	23	1,280	202	309
Corozal[2]	828	223	209	386	....	....	576[3]	40	28
Cristobal[6]	815	357	382	114	....	....	1,177	169	363
Culebra[4]	657	383	374	85	29	40	849	319	442
Gatun	331	187	177	166	5	14	471	37	47
Paraiso	283	74	81	96	5	17	350	106	167
Pedro Miguel	196	115	130	137	....	......	220	....	......
Porto Bello	58	27	22	80[9]	1	2	204	3	7
Toro Point	71[8]	9	5	43	....	......	384		......
Total	4,593	1,737	1,668	1,656	56	96	5,911	915	1,367

(1) Includes Sabanas police station, Taboga Island, Culebra Island, and Palo Seco. (2) Includes Miraflores. (3) Includes 60 Panamanians (4) Includes Empire, Las Cascadas, and Bas Obispo. (5) Includes eight American negroes (6) Includes Colon Beach and Colon Hospital. (7) Includes 25 East Indians, nine American citizens, and 94 Panamanians. (8) Includes 20 Coast Artillery men. (9) Includes nine Asiatics. Gold force of contractors (included above), 64 bachelors.

its leaves. Judging by the few specimens at Ancon, it can be used to advantage in park landscapes.

3. PROTEALES.

Grevillea robusta, R. Br.—This is an introduced species, a native of eastern Australia. Although it is quick growing and very ornamental, and although it grows very well from low altitudes up to 6,000 feet above sealevel, it is hardly known in Panama. There is a striking specimen of it in the Ancon Hospital grounds (near Ward 3). It is a good timber, often used for reforestation.

4. ROSALES—LEGUMINOSAE.

Dialium divaricatum, Vahl—*Wild tamarind*—The wild tamarind of the natives of Darien. It is a pretty, very ornamental tree, worth the while being propagated. The wood is tough and hard and takes a fine polish. As it is primarily a forest tree, growing usually on hills, it should be tried in shaded and slopy exposures.

Tamarindus indica, L.—*The tamarind*—A native of the East Indies now acclimatized all over the tropical belt. When fully grown it has a noble appearance and gives a fine shade. Its natural habitation is along the seashore, but it does fairly well on hillsides. It forms a fine group by itself and should always be planted in isolated individuals, in the center of small squares, etc.

Poinciana regia, L.—*The flamboyant*—A native of the West Indies and very likely one of the earliest importations into the Ancon Hospital grounds. It is deciduous, and keeps blooming profusely all through April and May, forming bright scarlet spots on the green background of Ancon Hill. It does not rise much above the ground and has a flat spreading crown, which is very convenient for shade in grass plots. On account of its hardiness, it can be grown almost anywhere, except in marshy ground in the *tierra caliente*.

Pithecolobium Saman, Benth—*The rain tree*—The rain tree or Guango of the West Indies is also a native on the Pacific coast of Central America. It is known from Nicaragua to Costa Rica, but I have not observed it in wild condition in Panama. The Roman Catholic church at Ancon is built under the shade of a large specimen of *Saman*, which shows the possibilities of the tree when planted so as to have an ample space for its growth.

5. GERANIALES.

Melia Azedarach, L.—*Umbrella tree*—The umbrella tree of the Southern States is a very quick growing tree with pretty lilac flowers. It could be used provisionally in parks and avenues, while the permanent species, mostly of slow growth, attain a certain size.

Swietonia Mahagonia, L.—*Mahogany tree*—Not only an important economical tree, but also a fine addition for park adornment or for planting along roads. This would serve also the purpose of the people getting acquainted with a useful representative of the flora.

Vochysia ferruginea, Martius—*Chilate negro*—A middle sized tree, growing on wooded hills all over the Canal Zone and in bloom in May and June. It is regularly shaped, with a straight trunk and the very abundant flowers, disposed in innumerable erect spikelets, have a very showy effect.

Hevea sp.—*Para rubber tree*—There are a few specimens presently seeding in the Ancon Hospital grounds. As this is a species of considerable economic value, it should be propagated. There is no reason why it could not be used in parks or along roads.

Hura crepitans, L.—*Sandbox tree*—The sandbox tree is a very quick grower, almost indifferent to soil and exposure. As the trunk of the young trees are densely covered with spines and all parts contain a very caustic latex, this tree should not be allowed in private grounds, nor in close proximity of schools. It attains considerable dimensions and is hardly desirable at all, except perhaps as a temporary shade tree between permanent species of slow growth.

6. MALVALES.

Cavanillesia platanifolia, R. and P.—*Cuipo*—A spectacular and original feature of the Pacific Coast, south of the Canal, but hardly an ornamental tree for small parks on account of its towering size. It would do fine to form an alameda on a long stretch of straight road, and isolated specimens could be planted at a few elevated places. It is deciduous, and the abundance of its fruits, the core of which turns into a jelly mass as they reach the ground, may prove a real nuisance. The piece of *Cavanillesia* landscape near the Miraflores pond should be reserved and kept clean, as a characteristic representative of the flora of the Zone.

Ochroma Lagopus, Sw.—*Balsa tree*—The balsa, or West Indian cottonwood. It is one of the so-called tree weeds, *i. e.*, which appear everywhere and in large numbers when the primitive forest has been destroyed. The balsa, so-called because its wood is the best and lightest for the construction of rafts, often attains large dimensions; its leaves are broad and give a good shade and its use is indicated in most cases in a provisional way.

Sterculia carthagenensis, Jacq.—*Panama tree*—The "Panama," or the tree which gave Panama City its name. A straight trunk, a more or less rounded crown, large palmatilobate leaves forming a dense shade, bunch of queerly built flowers, with a yellow cup-like corolla spotted with dark purple dots, and the fruits, usually five together, radiating from a thick, common peduncle, characterize this species, which is a desirable addition to the dendrological flora of tropical parks.

7. MYRTIFLORAE.

Melaleuca leucadendron, Muell—Exotic and introduced in tropical America from South Africa, it is a hardy, quick growing tree, proper for the hillsides and sunny exposures. It gives but little shade.

Eucalyptus sp. pl.—The eucalyptus, all of Australian origin, are not exactly ornamental trees, being usually lanky and twisted, and with little or no shade. Besides, most of the numerous species require a cooler and drier climate. Some of them, however, adapt themselves to the semidry and warm climate of the Pacific side of Panama, and as these trees have the reputation of exercising certain advantageous influence on the soil and the air, their cultivation should be encouraged. There is now an eucalyptus in full bloom near the police station at Ancon, the seeds of which should be watched and gathered.

8. TUBIFLORAE.

Jacaranda filicifolia, D. C—A slender and elegant tree, which, in March and April, covers itself with an abundance of blue flowers. It is an inhabitant of the hills and probably would not thrive on low grounds.

Tabebuia guayacan, Hemsley.—*The false lignum vitæ*—A beautiful deciduous tree, which covers itself, in March or April, with a glorious crop of orange-yellow, finger-shaped bells. The trunk is usually quite straight and the timber one of the hardest, and more durable when in contact with the soil. This tree does not grow on low grounds, but mixed with a few specimens of *Jacaranda*, *Tabebuia pentaphylla*, *Poinciana regia*, and *Vochysia ferruginea*, Mart, it would highly contribute to the beautifying of the built-up part of Ancon Hill.

Tabebuia pentaphylla, Hemsley.—*Roble de savana*—A near relation to *Tabebuia guayacan* to which it resembles somewhat in habit, differing mainly by the pale pink flowers. It is less peculiar as to soil, and may be made to grow on low flats, although it would do better in the hills, mixed with other trees of profuse blooming.

9. RUBIALES.

Posoqueria latifolia, Benth.—*Boca vieja*—A small tree of the coffee family, the flowers of which emit at night a very sweet perfume. There are at least individuals of it in the Ancon Hospital grounds, where seed could be obtained about the middle of June. The tree likes sunny exposures.

◆

Work on Chiriqui Railroad.

Since the formal dedication of the Chiriqui railroad by the President of Panama and other officials of the government, on April 5, the contractor for the construction of the road, R. W. Hebard and Company, Incorporated, has kept forces in the field, engaged in preliminary work. About 250 men, mostly natives, are now engaged in grading the roadbed between the port of Pedregal and David, a distance of five miles, and in the erection of laborers' quarters, warehouses, and an office building. A construction plant, consisting of 150 dump cars of 1-cubic yard capacity, and eight miles of light track, has arrived from the United States and together with practically the entire plant used in the construction of the dike at Caño saddle, No. 4, will be transferred to Pedregal. It is probable that the contractor will purchase from the Supply Department a considerable quantity of construction equipment retired from the Canal work, a survey having been made recently to determine what is available for the purpose.

Two engineering parties are now in the field, engaged in making the final location for the line, and in cross-sectioning the part which has been fixed. It is expected to have construction work thoroughly under way, with 1,000 men in the field, by August 1.

At the request of the Secretary of Public Works of Panama the contractor is making an examination of an alternate line leading into Boquete, known as the "Portrerillos" route.

Effective May 1, 1914, Mr. A. K. Anderson has been appointed general superintendent of the Chiriqui railroad contract, with headquarters at David, reporting to Mr. R. W. Hebard, president of R. W. Hebard and Company, Incorporated, the railroad contractor. Mr. Anderson will have entire and direct charge of all work in Chiriqui province, including construction, engineering, and accounting, and holds, until further advice, full power of attorney for the contractor. Mr. Anderson was field superintendent in the construction of the Madeira and Mamoré railroad in Brazil.

◆

The dispensary at Gatun has been moved into a Type-5 building, formerly used as bachelor quarters, near the post-office. The change brings it nearer the center of the present population.

FOURTH OF JULY CELEBRATION

Cristobal Selected as Place for Holding the Exercises—Chairmen of Committees.

A meeting of representatives of various departments of The Panama Canal, the Panama railroad, and of the military organizations now on the Isthmus, was held at the Hotel Tivoli on Sunday afternoon, June 7, to discuss general plans for holding a celebration of the Fourth of July. Mr. C. A. McIlvaine officiated as chairman of the meeting.

Ancon and Balboa were considered as places for holding the celebration, but it was decided that it would be impossible to provide and adequate program of sports in either of those settlements, and that the relative advantages of Cristobal were so great as to outweigh the one disadvantage of distance from the present center of population, therefore, that town was selected.

The following chairmen of committees were appointed: Capt. F. O. Whitlock, assistant chief quartermaster, entertainment; Mr. John H. McLean, disbursing officer, finance; Mr. F. R. Blunt, trainmaster, Panama Railroad Company, transportation; Mr. Ralph Sartor, music and dance; Capt. Alfred A. Maybach of the Coast Artillery Corps, Fort Sherman, fireworks; Mr. John K. Baxter of the Executive Office, publicity and printing. The chairmen were authorized to appoint the members of their respective committees, and such subcommittees as may be required.

In view of the fact that there is a surplus of about $6,000 remaining from the funds collected for previous celebrations, it was resolved not to solicit contributions this year, but that Fourth of July tickets be sold at 25 cents each, good for one round trip from any point on the Panama railroad to either Panama or Colon, these tickets to be sold only to gold employes and Americans residing on the Isthmus. It is expected that the amount realized from the sale of special tickets, together with the surplus on hand, will not only defray all of the expenses of this year's celebration, but will leave a small surplus to be carried over to next year, as well.

It was decided that the fireworks, now on order, be distributed between Cristobal, Culebra, and Ancon, with a small allotment to the Palo Seco leper asylum, as has been the custom of previous years. The details of the distribution will be left entirely to the fireworks committee.

◆

Obituary.

Victor S. Dahl, a Swede employed in the Dredging Division, was run over and killed by a train, about 100 yards south of the Corozal station, on Friday, May 29. He was born in the province of Delarne, Sweden, September 22, 1884, was unmarried, and had been on the Isthmus since March, 1909. His mother, Mrs. E. Z. Dahl, resides at Lillst rup. Mocksjard, Delarne, Sweden.

◆

Indictments in Commissary Case.

A copy of the indictments and bench warrants issued by the United States District Attorney for the Southern District of New York, together with affidavits of District Attorney W. K. Jackson of the Canal Zone, were filed in the Magistrate's Court at Ancon on Tuesday, June 2, charging Robert Wilcox, a merchant of Colon, and Isaac Brandon, a merchant of Panama, with felonious conspiracy to defraud the United States Government. The defendants appeared in court, submitted to a technical arrest, and furnished a bond in the sum of $10,000 each. Indictments have been returned also against John Burke, former manager of the commissaries, and Jacob Salas, a merchant of Colon. The papers were served on the defendants personally in the United States, and bond was furnished by each; by the former in the sum of $24,000. The indictments are the result of the Government's investigations in the alleged commissary irregularities.

◆

Tourist Parties Coming.

A party of about 100 members of the Travelers' Protective Association, from Galveston, Tex., will arrive at Colon on June 18, on the steamship *Abangarez* of the United Fruit Company's line for a visit of two days to the Isthmus.

Fifty school teachers from the city of London, England, will arrive at Colon about August 16, on a vessel of the Elder and Fyffes' service.

◆

Changes in Line Stations on Panama Railroad.

The department of bridges and buildings of the Panama railroad will erect a standard shelter and alighting platform at Darien flag station. The shelter will be built of old material, taken from storage. It will be generally similar to that recently erected at Miraflores Locks station; this shed was formerly alongside the siding, north of the Calidonia bridge, which was the Panama terminus for labor trains before the opening up of the new station.

The old Miraflores station, which stood about 200 feet from the north end of the tunnel, has been transferred to Gamboa. Alighting platforms, with shelters, have been built at the Bishop's Hollow and Tivoli road stops for trains on the Panama-Balboa line. An alighting platform has been built at the new stopping point for Paraiso, and the erection of a shed was completed last week. The shed at Corozal station has been lengthened.

◆

Location of New Asphalt Mixing Plant.

The asphalt mixing plant recently bought for use in connection with the construction of roads at the Pacific end of the Canal, particularly at the Balboa townsite, has been erected on the first level at Ancon quarry, east of the former cemetery grounds. It is expected that sufficient material can be delivered at the mixing plant during the night to keep it running during the day, in which case no new trackage will have to be laid, the present dump track serving all purposes.

◆

Monthly Inspections at Fire Stations.

A special order issued from the office of the Police and Fire Division provides for regular inspection of fire stations in the Canal Zone, personnel, uniforms, and equipment (in the houses), by the fire inspector. Inspections will be made according to the following schedule: Ancon and Balboa, on the first Monday of each month; Corozal, Empire, and Culebra, on the second Monday in each month; Pedro Miguel and Paraiso, on the third Monday in each month; Cristobal and Gatun, on the fourth Monday in each month. The exact hour of the inspection will be arranged beforehand by the fire inspector with the officers in command of the respective stations.

◆

Additional Balboa-Panama Labor Train.

Effective May 27, an additional labor train was placed in service between Balboa and Panama. It leaves Balboa shops at 11.10 a. m., making its first stop at Bishop's Hollow; returning, it leaves Panama at 12.35 p. m., with no stop between Bishop's Hollow and the shops. Its only other trip during the day is when it leaves the shops for Panama at 5.10 p. m., running express to Bishop's Hollow. This train which is intended for the accommodation of the men working on the new dock, engine house, and permanent quarters, starts from the inner yard track at Balboa, at a point north of the foundry. About 600 gold employes and about 1,500 silver employes are now transported on labor trains between Balboa and Panama

◆

Fares on Hamburg-American Vessels.

The agent of the Hamburg-American Line at Colon announces that, effective June 1, 1914, no more quarter fares for children will be charged, and that on and after that date children from three to 12 years of age will be required to pay half fare.

CLASSIFIED EXPENDITURES—ISTHMIAN CANAL COMMISSION.

A statement of classified expenditures of the Isthmian Canal Commission to February 28, 1914, follows:

PERIODS.	Department of Civil Administration.	Department of Law.	Department of Sanitation.	Department of Construction and Engineering	General Items.	Fortifications.	Total.
Total to June 30, 1909	3,427,090.29	....	9,673,539.28	69,622,561.42	78,022,606.10	....	160,745,797.09
Total—Fiscal year, 1910	709,351.37	....	1,803,040.95	26,300,167.05	2,863,088.83	....	31,675,648.20
Total—Fiscal year, 1911	755,079.44	....	1,717,792.62	27,477,776.19	3,097,959.72	....	33,048,607.97
Total—Fiscal year, 1912	820,398.57	24,729.16	1,620,391.12	28,897,738.10	2,819,926.53	1,212,881.66	35,396,065.14
Total—Fiscal year, 1913	681,389.06	20,253.11	1,435,400.96	33,017,852.99	1,063,322.52	1,901,475.86	38,119,694.50
July, 1913	61,472.81	1,597.91	121,487.47	2,138,540.39	237,534.13	131,333.71	2,691,966.42
August, 1913	57,950.95	1,469.10	112,892.29	2,299,554.75	244,860.32	150,364.19	2,867,091.60
September, 1913	63,469.40	1,835.57	106,731.16	2,276,467.78	242,779.94	149,735.89	2,841,019.74
October, 1913	66,063.85	1,502.47	107,280.12	2,154,953.40	413,883.08	147,589.32	2,891,272.24
November, 1913	58,728.48	1,387.60	85,696.96	1,774,974.81	160,575.73	113,307.35	2,194,670.93
December, 1913	63,433.93	1,781.65	91,197.03	1,787,820.21	136,525.07	174,216.01	2,254,973.90
January, 1914	69,525.61	1,835.50	86,263.15	2,188,791.94	155,386.12	168,495.83	2,670,298.15
February, 1914	68,034.57	2,229.37	89,936.86	1,937,064.36	170,675.68	173,734.79	2,441,776.83
Grand total	6,902,038.33	58,621.44	17,051,559.94	201,874,263.39	89,629,124.97	4,323,184.6	209,338,792.71

OFFICIAL CIRCULARS.

Port Captains.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., May 25, 1914.

CIRCULAR No. 660-11:

1. The captains of the ports, under the Superintendent of Transportation, will be charged with the general supervision and enforcement of the rules and regulations relating to the navigation of the Canal, terminal ports, and waters adjacent thereto; with the enforcement of harbor regulations, berthing, and mooring of vessels, inspection and admeasurement of vessels, pilots, dispatch and transit of vessels through the Canal, and will have general supervision and direction over all shipping and floating equipment which has not been assigned to some other division.

2. They shall have supervision over the mooring space of all wharves used for commercial purposes, which are not specially assigned to other Canal departments.

3. They will be charged with the entrance and clearance of all commercial vessels that enter or clear in the terminal ports of the Canal Zone.

4. The offices of the captains of the ports shall be general clearing houses for the transaction of business with shipping, through which the bills to vessels from the various departments of The Panama Canal and the Panama Railroad Company are presented for settlement, and to facilitate this there shall be a representative of the collector in or near the offices of the captains of the ports.

5. They shall assist the various departments of The Panama Canal in the delivery of stores, supplies, provisions, fuel, etc., and furnish such floating transportation as may be necessary when called upon to do so.

6. They shall collect, prepare, and keep corrected to date, all information in regard to vessels entering Canal waters, including names, nationality, line or company, measurement, tonnage, character of cargo, time of arrival and departure, port of departure and destination, and all other information in relation thereto which may be of interest.

7. They shall be prepared, as far as practicable, to keep all other departments informed on matters of interest to them in relation to shipping, and to furnish shipping with information in relation to Canal affairs.

8. They shall furnish tugs for towage through the Canal, handling vessels, and shifting berths, as may be necessary, and shall be prepared to furnish tugs, barges, lighters, and other floating equipment for the use of vessels in the terminal ports, or for other departments in any part of the Canal waters.

9. They shall keep on hand a set of charts, corrected to date, a light list, sailing directions, and such other data as are usually kept in the United States Branch Hydrographic offices, and be prepared to give information to masters and others in relation to the navigation of Canal waters and the usual steamship routes.

10. They shall keep standard time of the 75th meridian, corrected to date, and furnish chronometer comparisons when requested.

11. They shall assist in protection against fire of shipping in the harbor, the wharves, and all buildings along the water front.

12. Through the pilots, tug masters, and others, they will carefully note any accidents, collisions, groundings, or damages to vessels, floating equipment, wharves, aids to navigation, etc., which may be the cause of complaint or be liable for damages, and be prepared to give evidence or recommend adjustment, as the case may warrant.

13. Vessels in Canal waters should address inquiries regarding these rules, tolls, other charges, supplies, and similar matters, to the captains of the ports.

GEO. W. GOETHALS,
Governor.

Payment for Services for Vessels, Employes, and Others.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., June 1, 1914.

CIRCULAR No. 672:

CASH PAYMENT OR DEPOSIT REQUIRED.

1. No manufacturing or repair job shall be undertaken, or miscellaneous service rendered, by The Panama Canal unless cash is paid at the time the service is rendered or work performed, or a deposit is made in cash or in the form of a certified check on a bank satisfactory to the Auditor, to cover the estimated cost of the work including the usual surcharges and approximately 10 per cent additional with the exceptions hereinafter noted.

INDEBTEDNESS OF CANAL OR RAILROAD SECURITY.

2. The current indebtedness of The Panama Canal or the Panama Railroad Company to any contractor with the Canal or railroad company, or to any steamship company, will be considered as security for the payment of bills for services to the amount of such indebtedness.

HOSPITAL, ETC., TREATMENT.

3. Necessary hospital, surgical, and medical treatment may be furnished to employes and families, and to others in emergency cases, without requiring a deposit in advance.

QUARANTINE SERVICE.

4. Until otherwise provided, quarantine charges may be collected in accordance with the method in effect prior to April 1, 1914.

CHARGES FOR BOARDING ANIMALS IN CORRALS.

5. Monthly charges for corral service shall be paid in advance on or before the 5th of each month. Before an animal is placed in a corral, the charges for the first calendar month, or if the animal is placed in the corral after the first of the month, the charges for the remainder of the month shall be determined and paid in accordance with the rules relating to rental of quarters.

6. The monthly charge will not be reduced and no refund will be made unless an animal is removed from the corral prior to the 26th of the month. In case of removal of an animal from the corral prior to the 26th, a charge will be made for five days more than the actual time the animal is in the corral, the amount due for any part of the month to be computed in accordance with the rules relating to the rental of quarters.

REQUESTS FOR WORK.

7. Requests for the performance of work by the Supply Department will be submitted either to the Chief Quartermaster directly, or through the nearest district quartermaster.

8. Blanket authority may be given by the Chief Quartermaster for "Shoeing animals and services of the veterinarian," and for "Moving personal or household effects of employes." For other services, special authority shall be issued in each case.

9. Requests for the performance of shop work will be made direct to the superintendent, Mechanical Division.

10. For pilots and for service of tugs in taking vessels in or out of harbors and in changing their positions, application should be made to the port captain under whose direction such services will be performed.

ADVICE OF SECURITY.

11. The Auditor will advise departments and divisions as to the security necessary or available to cover the cost of work for which request is made.

GEO. W. GOETHALS,
Governor.

Operation Construction Railways Under Panama Railroad.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., May 28, 1914.

CIRCULAR No. 660-13:

1. Effective June 16, 1914, all standard gage transportation of The Panama Canal, as regards operation only, will be placed under the transportation department of the Panama railroad, with Mr. F. R. Blunt as superintendent of railroad transportation.

2. The maintenance of such standard gage railroad tracks of The Panama Canal as are not under the immediate jurisdiction of an existing construction division, will likewise be transferred to the Panama railroad, effective June 16, under Roadmaster Connolly.

3. Any further directions or information necessary in the execution of the foregoing will be given later.

GEO. W. GOETHALS,
Governor, The Panama Canal.
President, The Panama Railroad Company.

Notaries Public.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 661-1:

The notaries public of the Canal Zone in office on March 31, 1914, are hereby reappointed as such notaries public to continue in office to the end of their respective terms to which they were heretofore appointed, and they shall have the same powers and duties as those exercised by and imposed on the notaries public of the Canal Zone under preexisting laws. They shall continue to use their present official seals and to charge and collect the fees authorized under the preexisting laws and orders.

GEO. W. GOETHALS,
Governor.

Tonnage Certificates.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., May 26, 1914.

CIRCULAR No. 673:

1. It is important that vessels which expect to use The Panama Canal should provide themselves with the proper tonnage certificate, based upon the rules laid down for Panama Canal measurement. The rules, regulations, and laws which govern this measurement vary from those for similar measurement on the Suez Canal, and in the United States and foreign countries, and vessels require a remeasurement, in order to conform to the Panama rules.

2. The Collector of Customs at New York, the collectors in some of the other large cities of the United States, and certain properly designated officials abroad have been authorized to measured vessels under the Panama rules and issue the required certificate; and, in order to avoid delay and measurement upon their arrival at the Canal, it is strongly recommended that all vessels provide themselves with the proper certificate before their arrival in Canal waters.

3. In case a vessel has failed to provide herself with the proper tonnage certificate, it will be of great assistance and save time if she be provided with a full set of blue prints of her plans and a copy of the measurements which were made when she received her tonnage certificate, and also the tonnage certificate itself.

4. Vessels which have the proper certificate will probably suffer no delay in transit, but those which are not so provided will be delayed until the proper measurements can be made.

5. Foreign vessels may be measured not only in their home ports, but also in the Port of New York and probably in other large American ports, without any additional charge, but those desiring such measurement should give sufficient notice in advance and appoint a date when they will be empty, so as to facilitate the measuring.

6. Under any conditions the Canal authorities reserve the right to check and correct any measurement or certificate issued elsewhere.

GEO. W. GOETHALS,
Governor.

Treatment in Hospitals and Elsewhere.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., June 1, 1914.

CIRCULAR No. 618-Revised:

EMPLOYES OF THE PANAMA CANAL AND THE PANAMA RAILROAD COMPANY.

1. Employes in case of illness or injury will receive free treatment in the hospitals of The Panama Canal, except in cases of alcoholism or venereal disease, and for operations of election.

2. Employes will be admitted to such hospitals upon request made by a physician in the employ of the Health Department, or the official head of the department or division in which they are employed.

3. In sending sick employes to local physicians for treatment, request must always be properly filled in, so as to give the physician the necessary information in case he wishes to send the employe to hospital The necessities of patients will be given first consideration, and no one in urgent need of hospital care will be refused admission.

4. Officials who issue forms for admission to hospitals will see that they bear not only the brass check number, but the name of the employe as it appears on the pay roll. Special care should be used in case of foreign names, as much difficulty is experienced in identifying employes (on account of incorrect names being given) who have been sick, or who have died in hospitals.

5. Employes living with their families in Government quarters who, in the opinion of the visiting physician, cannot safely or conveniently report at the dispensary for treatment shall, if they so desire, be treated at their homes without charge, except when, in the opinion of the district physician, convalescence may be unduly prolonged.

FAMILIES AND SERVANTS OF EMPLOYES.

6. The family of an employe shall be understood to include those persons who are members of his immediate household, and dependent upon him. A male over 21 years of age will not be considered a dependent member of an employe's family.

7. The members of families of employes may consult any of the physicians of the Health Department at any of the hospitals or dispensaries, free of charge

EMPLOYES OF CONTRACTORS UNDER THE PANAMA CANAL.

8. Unless otherwise provided in the contract employes of any corporation or firm having a contract for work to be performed on the Isthmus under The Panama Canal, receiving more than $100 gold per month, and members of families of such employes, shall be treated as pay patients. Those receiving $100 gold per month or less shall be treated as employes of The Panama Canal, and their families shall be treated as families of employes of The Panama Canal.

INDIGENT SICK, INSANE, AND LEPERS OF THE CANAL ZONE.

9. The indigent sick, insane persons, or lepers of the Canal Zone shall be admitted to such hospital as may be designated for their reception, bills being rendered

against The Panama Canal by the Chief Health Officer.

ARMY, NAVY, AND MARINE CORPS.

10. Officers and enlisted men of the United States Army, Navy, and Marine Corps, stationed for duty in the Canal Zone, or cruising in waters adjacent thereto, who are not on the pay rolls of The Panama Canal or the Panama Railroad Company, and members of their families and their servants, may be admitted to The Panama Canal hospitals at the same rates provided for families of employes.

11. Civilian employes of the above services, and their families, may be admitted to hospitals of The Panama Canal under the same circumstances as for officers and enlisted men.

OTHER EMPLOYES OF THE UNITED STATES.

12. Other employes of the United States, their families and servants, may be admitted to the hospitals of The Panama Canal on the same basis as families of employes.

AMERICAN SEAMEN.

13. American seamen may be admitted to The Panama Canal hospitals upon the request of a representative of the Public Health Service.

PERSONS WITH CONTAGIOUS OR INFECTIOUS DISEASES.

14. Persons having, or suspected of having, contagious or infectious diseases, who are sent to hospital for the protection of the public, shall receive treatment without charge.

PATIENTS OF THE REPUBLIC OF PANAMA.

15. The indigent sick, insane, and lepers of the Republic of Panama, shall be admitted to such hospitals as may be designated for their reception, upon the request of a duly authorized official of the Republic, bills to be rendered against the Republic of Panama.

PRIVATE PAY PATIENTS.

16. Private pay patients shall include all persons treated by physicians of the Health Department, or admitted to the hospitals of The Panama Canal, not otherwise described above. They may be treated by physicians of The Panama Canal, or admitted to hospitals of The Panama Canal as far as the facilities may permit, without interfering with the treatment of employes.

CHARGES FOR TREATMENT.

17. Charges for treatment of all the above classes are shown in the attached table:

	Ordinary care and treatment—Wards—Per day.	Care of alcoholism and venereal diseases—Wards—Per day.	Private rooms—Per day.	Special nurse—Each—Per day.	Special maid or attendant—Each—Per day.	Obstetrical cases—Hospital.	Obstetrical cases—Outside hospital.	Surgical operations—Elective.	Surgical operations—Others.	Office consultation—Hospital or dispensary.	Home visit—First—If unable to go to dispensary.	Home visit—After first.	Home visit—To married employe when approved.
Employes of The Panama Canal and the Panama Railroad Company:													
Salary $50 or less.	Free	$0.75	$1.50	$3.00	$1.00	.....	......	(1)	Free	Free	Free	$1.00	Free
Salary more than $50	Free	1.50	1.50	3.00	1.00	.....	......	(2)	Free	Free	Free	1.00	Free
Families and servants of employes:													
Family: Salary of employe $50 or less—													
Male	.75	......	3.00	3.00	1.00	.....	......	(1)	Free	Free	1.00	1.00	.....
Female	1.00	......	3.50	3.00	1.00	Free	10.00	(1)	Free	Free	1.00	1.00	.....
Family: Salary of employe more than $50—													
Male	1.50	......	3.00	3.00	1.00	Free	......	(1)	Free	Free	1.00	1.00	.....
Female	2.50	......	3.50	3.00	1.00	Free	15.00	(3)	Free	Free	1.00	1.00	.....
Servant—													
Black	.75	......	......	3.00	1.00	.....	......	(1)	Free	Free	1.00	1.00	.....
White	1.50	......	......	3.00	1.00	.....	......	(2)	Free	Free	1.00	1.00	.....
Employes of contractors under The Panama Canal:													
Salary $50 or less.	Free	.75	1.50	3.00	1.00	.....	......	(1)	Free	Free	Free	1.00	Free
Salary more than $50 and not more than $100	Free	1.50	1.50	3.00	1.00	.....	......	(2)	Free	Free	Free	1.00	Free
Salary more than $100	3.00	3.00	6.00	4.00	1.50	.....	......	(4)	(4)	3.00	5.00	5.00	5.00
Indigent sick, lepers, and insane of The Panama Canal:													
Black	.75	......	......	......	......	.....	......	....	.....	.....	.....	......	.....
White	1.50	......	......	......	......	.....	......	....	.....	.....	.....	......	.....
Army, Navy, and Marine Corps:													
Officers and enlisted men	1.50	1.50	3.00	3.00	1.00	.....	......	(2)	Free	Free	Free	1.00	Free
Families of officers—													
Male	1.50	......	3.00	3.00	1.00	.....	......	(3)	Free	Free	1.00	1.00	.....
Female	2.50	......	3.50	3.00	1.00	Free	15.00	(3)	Free	Free	1.00	1.00	.....
Families of enlisted men—													
Male	.75	......	3.00	3.00	1.00	.....	......	(1)	Free	Free	1.00	1.00	.....
Female	1.00	......	3.50	3.00	1.00	Free	10.00	(1)	Free	Free	1.00	1.00	.....
Civilian employes and their families	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
Other employes of the United States	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
American seamen	1.00	1.00	3.00	3.00	1.00	.....	......	Free	Free	Free	.....	......	.....
Persons with contagious and infectious diseases	Free	......	(6)	(6)	(6)	(6)	......	(6)	Free	.....	.....	......	.....
Patients of the Republic of Panama	.75	......	......	......	......	.....	......	....	.....	.....	.....	......	.....
Private pay patients	3.00	3.00	6.00	4.00	1.50	(4)	(4)	(4)	(1)	3.00	5.00	5.00	.....

(1) Five per cent of approved schedule of operative charges.
(2) Ten per cent of approved schedule of operative charges.
(3) Twenty per cent of approved schedule of operative charges.
(4) As per approved schedule.
(5) Same as families of employes of The Panama Canal and the Panama Railroad Company.
(6) According to class.
(7) Those at Colon Hospital, per capita cost preceding month.

18. Children five years of age and under shall be charged at the rate fixed for male adults of the class to which they belong.

EXCEPTIONS TO RULES.

19. In case of an emergency, and where humanity or the public good requires it, a physician may depart from these regulations, but in each such case a written report shall be made immediately to the Chief Health Officer. Similarly, the superintendent of Ancon Hospital may make such reductions from the minimum charges for operations as may be necessary on account of lack of means of the patient, or omit them entirely in case of destitution. A written report of all such cases shall be made immediately to the Chief Health Officer, and a copy forwarded to the Auditor of The Panama Canal.

GEO. W. GOETHALS,
Governor.

Discontinuance of Breakage Allowance on China and Glassware.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., May 29, 1914.

Sir: You are informed that the breakage allowance on china and glassware will be discontinued effective June 1, 1914.

GEO. W. GOETHALS,
Governor.

Panama Railroad Docks and Piers—Design and Construction.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., June 3, 1914.

CIRCULAR No. 660-14:

Effective this date, all work connected with the design and construction of Panama railroad piers Nos. 7, 8, 9 and 10 at Cristobal, and all Panama railroad dock and pier construction that may be hereafter authorized will be performed by the forces of the Panama railroad under Mr. T. B. Monniche, engineer of docks, who as such, will report directly to Mr. H. H. Rousseau, Engineer of Terminal Construction.

All work connected with the maintenance and repair of piers and docks of the Panama railroad will remain as at present under the superintendent of the Panama railroad.

GEO. W. GOETHALS,
Governor, The Panama Canal.
President, The Panama Railroad Company.

Copies of Form C. E. 160-1 to be Destroyed.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., May 29, 1914.

HEADS OF DEPARTMENTS AND DIVISIONS:

Please destroy all copies of form C. E. 160-1, "Application for increase of force or pay." Forms P. C. 471 and P. C. 472 are now available, and should be used whenever application is made to change the status of an employe.

GEO. W. GOETHALS,
Governor.

Superintendent, Panama Railroad.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., June 1, 1914.

CIRCULAR No. 661-9:

Effective June 1, 1914, Mr. Charles H. Motsett is appointed superintendent of the Panama railroad, vice Lieut. Frederick Mears, resigned.

GEO. W. GOETHALS,
President.

Aids to Navigation.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., May 27, 1914.

CIRCULAR No. 643-1:

REGULATIONS GOVERNING VESSELS APPROACHING THE PONTOON BRIDGE AT PARAISO.

1. Large vessels, as far as practicable, will give advance notice of the probable time of arrival at the pontoon bridge.

2. Seagoing vessels steaming through Culebra Cut toward Pedro Miguel shall invariably have the right-of-way, and the pontoon bridge be opened upon their approach.

(NOTE.—This is necessary, as it would be extremely awkward to keep control of a large vessel in the narrow channel if much time were taken or delay caused by not opening the bridge promptly.)

3. Seagoing vessels, when in Pedro Miguel Lock, shall not leave the lock until after communicating with Paraiso, and arranging for an open draw.

4. Vessels, as far as practicable, will attempt to regulate their speed so as not to pass Paraiso at regulart rain time.

5. Signals from a steamer requesting that the draw

be opened will be one prolonged blast of 10 seconds' duration.

6. Canal craft and small vessels will also give notification, when practicable, but if they approach immediately before train time, will slow down or stop until after the train has passed.

7. Large vessels will invariably slow down or stop when approaching the pontoon, and proceed at dead slow speed when passing.

8. The pontoon bridge will be lighted, as follows:

(*a*) A red light on each abutment on the northwest side and one on each abutment on the southeast side.

(*b*) The pontoon is provided with red and green lanterns, each showing a green light when the bridge is open, and a red light when the bridge is closed, placed at an elevation of 15 feet above the railroad track and close to the ends of the pontoon.

GEO. W. GOETHALS,
Governor.

Quarantine Rules and Regulations.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., May 1, 1914.

CIRCULAR No. 626:

The following additional quarantine rules and regulations of the Canal Zone and the cities of Colon and Panama, are published for the information and guidance of all concerned.

GEO. W. GOETHALS,
Governor.

FOREIGN.

SPECIAL REGULATIONS ON ACCOUNT OF CHOLERA—FOREIGN.

1. At ports where cholera prevails, special care should be taken to prevent the water and the food supply from being infected. The drinking water, unless of known purity, should be boiled, and the food thoroughly cooked and protected against contamination by flies, etc.

2. The latrines of vessels must be so arranged that they, including their discharge pipes, can be made and kept mechanically clean.

3. Unless unavoidable, vessels should not take water ballast from a source contaminated or suspected of contamination by cholera. When unavoidable, the facts will be noted on the bill of health.

4. Certain food products, viz., unsalted meats, sausages, dressed poultry, fresh butter, fresh milk (unsterilized), fresh cheese, coming from cholera-infected localities or through such localities, if exposed to infection therein, should not be shipped. Fresh fruits and vegetables from districts where cholera prevails, shall be shipped only under such sanitary supervision as will enable the inspector to certify that they have not been exposed to infection.

5. Steerage passengers and crew coming from cholera-infected districts should be detained five days in suitable houses or barracks located where there is no danger from infection, and all baggage inspected and, if necessary, disinfected.

6. Steerage passengers and crew, from districts not infected with cholera, shipping at a port infected with cholera, unless passed through without danger of infection and no communication allowed between such persons and the infected locality, and especially no foodstuffs allowed to be obtained from the infected locality, should be treated as those in the last paragraph.

7. Cabin passengers coming from cholera-infected districts embarking at a clean or an infected port should produce satisfactory evidence as to their exact place of abode during the five days immediately preceding embarkation. And if it appears that they or their baggage have been exposed to infection, the baggage should be disinfected, and the passengers detained under medical supervision a sufficient time to cover the period of incubation since last exposure.

8. Should cholera appear in the barracks or houses in which passengers are undergoing detention, no passenger from said houses or barracks who has presumably been exposed to this new infection, should embark until after the expiration of the period of incubation of the disease in question subsequent to the last exposure to infection and the application of all necessary sanitary measures.

SPECIAL REGULATIONS ON ACCOUNT OF YELLOW FEVER—FOREIGN.

9. At ports where yellow fever prevails, precautions should be taken to prevent the introduction of mosquitoes (stegomyia) on board the vessel. Water tanks, water buckets, and other collections of water about the vessel should be guarded in such a manner that they shall not become breeding places for mosquitoes. The vessel should lie at an anchorage where it will be impossible for stegomyia to gain access to it from the shore. If the vessel lies at an anchorage which, in the opinion of the inspecting officer, renders it liable to the access of mosquitoes, fumigation should be carried out to destroy the mosquitoes that may have come on board, so that the quarantine of the personnel of the vessel could be counted from this date or that of sailing.

SPECIAL REGULATIONS ON ACCOUNT OF PLAGUE—FOREIGN.

10. At ports or places where plague prevails in men or rodents, every precautions hould be taken to prevent rats, fleas, or other vermin from getting aboard. At such ports or places, the vessels should not lie at a dock or tie to the shore or anchor at any place where rats may gain access to the vessels. Lighters should not harbor rats, and the introduction of rats from them should be very carefully guarded against.

11. In case lines are led to the shore, they should be freshly tarred, and provided with inverted cones or such other devices as may prevent rats passing to the ship.

12. If the vessel docks, the lines should be treated as directed in the last paragraph; the vessel must be breasted off six feet from the wharf, and the gangplank kept raised at night, and all parts of the vessel fumigated, simultaneously, if possible, for the purpose of killing rats and other vermin, before sailing.

13. Vessels arriving at a foreign port in transit, having previously lain in a plague-infected port without taking proper precautions to prevent the ingress of rats and fleas, should be fumigated to kill such vermin, provided effective fumigation for killing such vermin has not already been done and that this fumigation can be done efficiently.

14. Articles which harbor or are liable to harbor rats or rat fleas, should not be shipped until freed of such vermin, either by the use of chemicals, fumigation, or solutions, or by preventing the access of rats for 15 days before shipment. The nature of the merchandise and the place and method of stowing prior to shipment must be considered in determining its liability to be a rat or vermin carrier, thus: Bundles of hides, bags of grain, etc., so stowed as to be used as nesting places for rats, would be flea, and might be rat, carriers.

15. Bags of grain (wheat, rice, barley, oats, corn, and bran) should not be received as cargo unless the same has been stored in ratproof warehouses, or has originated and has been stored in places where rats cannot gain access to it. *When the cargo of a vessel consists of grain or other rat food, extra precautions should be taken to prevent rats from going aboard.*

16. Hides and skins from plague-infected ports should not be received unless the same have been stored in ratproof warehouses for a period of 15 days prior to shipment, unless the same have been chemically cured, or unless the same have originated in clean districts and loaded directly on board the ship without the possibility of rats gaining access to them. Hides chemically cured, and single or loosely baled, are less liable to harbor rats or rat fleas, and might be received as cargo.

17. All baggage of passengers or crew shipped at plague-infected ports, shall be subject to inspection and, if necessary, disinfected to destroy vermin

SPECIAL REGULATIONS ON ACCOUNT OF SMALLPOX—FOREIGN.

18. Steerage passengers and crew coming from districts where smallpox prevails in epidemic form, or who have been exposed to smallpox, should be vaccinated before embarkation, unless they show satisfactory evidence of having acquired immunity to smallpox by previous attack, or successful vaccination within one year, and their baggage inspected and, if necessary, disinfected.

SPECIAL REGULATIONS ON ACCOUNT OF TYPHUS FEVER—FOREIGN.

19. The baggage of steerage passengers and crew who embark at places where typhus fever prevails, should be disinfected to insure the destruction of vermin.

SPECIAL REGULATIONS ON ACCOUNT OF LEPROSY.—FOREIGN.

20. No one who is suffering from leprosy should be allowed to embark unless specially authorized to do so and he is proceeding to his own country.

REQUIREMENTS AT SEA.

The following requirements at sea are largely advisory in character, but a true and careful compliance with them will tend to relieve largely the stringency of the quarantine measures at the port of arrival.

21. The master of a vessel should observe the following measures on board his vessel:

(*a*) The water closets, forecastle, bilges, and similar portions of the vessel liable to harbor infection should be disinfected and frequently cleansed.

(*b*) Free ventilation and rigorous cleanliness should be maintained in all portions of the ship during the voyage, and measures taken to destroy rats, mice, fleas, flies, mosquitoes, and all vermin.

(*c*) A patient sick of a communicable disease should be isolated, and one member of the crew detailed for his care and comfort, who, if practicable, should be immune to the disease.

(*d*) Communication between the patient or his nurse and other persons on board should be reduced to a minimum.

(*e*) Used clothing, body linen, and bedding of the patient and nurse should be immersed at once in boiling water, or in a disinfecting solution.

(*f*) The compartment from which the patient was removed should be disinfected and thoroughly cleansed. Articles liable to convey infection should remain in the compartments during the disinfection when gaseous disinfection is used.

(*g*) Any person suffering from malaria or yellow fever should be kept under mosquito bars, and the apartment in which he is confined closely screened with mosquito netting. All mosquitoes on board should be destroyed by fumigation with sulphur. Mosquito larvæ (wiggles and wiggle tails) should be destroyed in water barrels, casks, and other collections of water about the vessel by the use of petroleum (kerosene); where this is practicable, use mosquito netting to prevent the exit of mosquitoes from such breeding places.

(*h*) In the case of plague, special measures must be taken to destroy rats, mice, fleas, flies, and other vermin on board.

(*i*) In the case of typhus, special measures should be taken in addition to disinfection to destroy vermin.

(*j*) In the case of cholera, typhoid fever, or dysentery, the drinking water should be boiled and the food thoroughly cooked. The discharges from the patient should be immediately disinfected and thrown overboard.

22. An inspection of the vessel, including the steerage, should be made by the ship's physician once each day.

23. Should cholera, yellow fever, smallpox, typhus fever, plague, or any other communicable disease appear on board a ship while at sea, those who show symptoms of these diseases should be immediately isolated in a proper place; the ship's physician should then immediately notify the captain, who should note same in his log, and all of the effects liable to convey infection, which have been exposed to infection, should be destroyed or disinfected.

24. The hospital should be disinfected as soon as it becomes vacant.

25. The dead, except those dead of yellow fever, should be enveloped in a sheet saturated with one of the strong disinfecting solutions, without previous washing of the body, and at once buried at sea or placed in a coffin hermetically sealed.

25. A complete clinical record should be kept by the ship's surgeon of all cases of sickness on board, and the record delivered to the quarantine officer at the port of arrival.

27. The following disinfecting solutions are recommended for use at sea: Bichloride of mercury, 1-1000; carbolic acid, five per cent. It is suggested that a vessel should carry for every 100 passengers: Bichloride of mercury, five pounds; carbolic acid, 10 pounds; alcohol, 10 pounds,: formalin, 10 pounds; 100 pounds sulphur; 50 pounds pyrethrum, and 12 Dutch ovens, about 12 inches in diameter.

QUARANTINE.

28. Vessels arriving under the following conditions shall be placed in quarantine:

(*a*) With a quarantinable disease on board, or having had such a disease on board during the voyage.

(*b*) Any vessel which the quarantine officer considers infected with quarantinable disease.

(*c*) Vessels arriving from infected ports in which the regulations prescribed to be observed in foreign ports have not been carried out.

(*d*) In the case of vessels arriving from infected ports without sickness on board, the personnel shall be detained under observation at quarantine to the period of incubation of the disease against which quarantine is directed.

29 Vessels entering the port for the purpose of passing through the Canal without discharge of cargo or disembarking passengers at the ports of Balboa and Cristobal, or the ports of Panama or Colon in the Republic of Panama, will be given free *pratique* to proceed without detention, provided the special regulations prescribed for observation in foreign ports have been carried out and no diseases of a quarantinable nature have occurred during the voyage.

30. Passengers or crews on vessels falling under the heading (29) who disembark at the ports of Balboa or Cristobal, or the ports of Panama or Colon in the Republic of Panama, will be held under observation in quarantine a sufficient number of days to complete the period of the incubation of the diseases against which quarantine is directed.

31. Vessels entering the ports for passing through the Canal that have had cases of quarantinable diseases on board during the voyage, will be allowed to proceed to the port of destination after the persons sick of the quarantinable disease have been removed and the necessary disinfection carried out. In such cases, the vessel should be passed through the Canal in quarantine.

32. In the case of vessels coming under Section 31, a statement of the nature of the disease removed at quarantine and the measures of disinfection carried out, shall be communicated to the health officer of the next port to which the vessel is going; a sealed letter at-

tached to the bill of health, and forming a part of the ship's papers, should be addressed to the health officer of the port of destination, and the *pratique* granted the vessel shall have a notation of the facts entered thereon.

GENERAL REQUIREMENTS AT QUARANTINE.

33. Pilots will be detained in quarantine a sufficient time to cover the period of incubation of the disease for which the vessel is quarantined if, in the opinion of the quarantine officer, such pilots have been exposed to infection. The dunnage of pilots shall be disinfected when necessary.

34. No direct communication shall be allowed between any vessel in quarantine and any other vessel or place outside, and no communication whatever with the vessel in quarantine shall be had by any person, except by permission and under the supervision of the quarantine officer.

35. After a vessel has been rendered free from infection, it may be furnished with a fresh crew and released from quarantine, while all or part of the personnel are detained. Under these circumstances, the quarantine officer must exercise the greatest care that the vessel shall not become reinfected, especially by contact with persons in quarantine, or infected objects.

36. The form of certificate which shall be issued to a vessel by the quarantine officer when he releases her from quarantine shall be prescribed by the Governor of The Panama Canal, and shall embody the statement that the vessel has in all respects complied with the quarantine regulations prescribed by the Canal Zone Government, and that, in the opinion of the quarantine officer, she will not convey quarantinable disease, and that said vessel is granted free *pratique* to enter her port of destination, the name of which shall be embodied in the blank.

37. The persons detained shall be inspected by the physician twice daily, and be under his constant surveillance, and no intercourse will be allowed between different groups while in quarantine.

38. Cleanliness of quarters and of person shall be enjoined and daily enforced. Disinfection shall be practiced where there is any possibility of infection.

39. Water closets, urinals, privies, or troughs, shall be provided.

40. In any group in which communicable disease appears, the sick will be immediately isolated in hospital, and the remaining persons in the group and their effects, appropriately treated, and then removed to other quarters, if possible, and the compartments disinfected.

41. No convalescent shall be discharged from quarantine until after a sufficient time has elapsed to ensure his freedom from infection, and this is to be determined by bacteriological examination when necessary.

42. No other person shall be discharged from quarantine until the period of incubation of the disease has elapsed since the last exposure to infection.

43. The body of no person dead of a quarantinable disease other than yellow fever shall be allowed to pass through quarantine until one and a half years have elapsed since death Such bodies must be transported in hermetically sealed coffins, the outsides of which have been carefully disinfected.

In the case of the bodies of such persons as may have died of quarantinable diseases other than yellow fever on the voyage, or upon arrival at quarantine, cremation should be resorted to if practicable and consented to; if not, the body should be wrapped, without preliminary washing, in a sheet saturated with a solution of bichloride of mercury 1:500 and buried, surrounded by caustic lime.

44. The quarantine officer shall report to the Chief Health Officer and Governor of The Panama Canal all violations of the quarantine laws.

45. The quarantine officer shall report to the collector of customs any vessel which arrives without the bill of health hereinbefore prescribed.

46. All vessels requiring inspection under these regulations, must present to the collector of customs at the port of entry the quarantine certificate above prescribed.

SPECIAL REGULATIONS ON ACCOUNT OF CHOLERA.

47. For the purpose of these regulations, five days shall be considered as the period of incubation of cholera.

48. If the vessel carry persons from cholera-infected ports or places, a bacteriological examination should be made of any cases of diarrhea, to exclude cholera, and such persons shall be subjected to bacteriological examination, in order to determine whether any are bacillus carriers, or not, and *pratique* will not be granted until these measures have been carried out.

49. Persons determined to be bacillus carriers will be isolated and treated as cases of cholera, and the quarantine of persons that have been in contact with the same will date from the isolation of such carriers.

50. If cholera has appeared on board, remove all passengers from the vessel and all of the crew, save those necessary to care for her; place the sick in hospital. Carefully isolate those especially suspected, and segregate the remainder in small groups. No communication should be held between these groups. Those believed to be especially capable of conveying infection must not enter the place of detention until they are bathed and furnished with noninfected clothing; nor shall any material capable of conveying infection be taken into the place of detention, especially food and water.

51. Water and food supply must be strictly guarded to prevent contamination, and issued to each group separately.

52. Food of a simple character, sufficient in quantity, thoroughly cooked, shall be issued to those detained in quarantine. No fruit or uncooked vegetables shall be permitted.

53. The greatest care must be exercised to prevent the spread of the infection through the agency of flies or other insects.

54. The *dejecta* from all persons in quarantine on account of cholera shall be disinfected before final disposition.

55. The water supply of the vessel, if suspected of infection, must be disinfected or changed without delay, the casks or tanks disinfected, and, after thorough rinsing, refilled from a source of undoubted purity, or the water furnished must have been recently boiled.

56. The baggage or effects of passengers and crew that may have been exposed to infection must be disinfected.

57. Articles of cargo which have been exposed to infection and are liable to convey the same, must be disinfected.

58. Living apartments and their contents, and such other portions of the vessel as have been exposed to infection, must be disinfected.

59. Water ballast taken on at a cholera-infected port should be discharged at sea, or if discharged in fresh or brackish water, must previously be disinfected. Vessels arriving with water ballast presumably infected, must return to sea under guard, in order to discharge such ballast. If practicable, the tanks should be disinfected before being flushed and refilled with sea water.

SPECIAL REGULATIONS ON ACCOUNT OF YELLOW FEVER.

60. For the purpose of these regulations, six days shall be considered as the period of incubation of yellow fever.

61. A vessel aboard which a case of yellow fever has occurred at any time during the voyage shall be treated, as follows:

(*a*) Careful visual and thermometer inspection of all persons.

(*b*) The sick are to be immediately disembarked, protected by netting against the access of stegomyia mosquitoes, and transferred to a place of isolation.

(*c*) If the history of the case of sickness shows, in the opinion of the quarantine officer, that the infection was acquired on board from an infected ship, the personnel on such a ship should be disembarked, if possible, and subjected to an observation of six days, dating from the day of last possible exposure.

(*d*) If the history of the case of sickness shows, in the opinion of the quarantine officer, that the infection was contracted on shore before embarkation, and a period of 10 days has not elapsed since the development of the case of yellow fever, the personnel of such a vessel need not be detained after the completion of the fumigation of the vessel.

(*e*) Persons under observation, presenting an elevation of temperature above 37.6° C., shall be isolated in a screened apartment.

(*f*) The ship shall be moored at least 200 meters from the inhabited shore.

(*g*) The ship shall be fumigated for the destruction of mosquitoes before the discharge of cargo, if possible.

62. A vessel which has lain in such proximity to the shore of a port infected, or suspected, as to render it liable to the access of stegomyia mosquitoes, is to be subjected to the measures which are indicated in (*a*), (*c*), and (*g*) of the preceding section.

63. All persons who can prove their immunity to yellow fever, to the satisfaction of the quarantine authorities, or who have not been exposed to possible infection of yellow fever, may be permitted to land at once.

64. For the destruction of mosquitoes, there shall be a complete and simultaneous fumigation of all parts of the vessel by sulphur dioxide gas, two per cent volume gas, two hours' exposure. Where sulphur is liable to injure articles, pyrethrum powder, camphophenol, or other approved culicides may be used instead.

SPECIAL REGULATIONS ON ACCOUNT OF PLAGUE.

65. For the purpose of these regulations, seven days shall be considered as the period of incubation of plague.

66. Ships aboard which plague has occurred in men or rats are to be subjected to the following treatment:

(*a*) Careful inspection.

(*b*) The sick, if any, are to be immediately disembarked and isolated.

(*c*) The destruction of rats on shipboard shall be effected as soon as practicable. Cargo must be partially or completely removed, if necessary, for effective destruction of rats. Proper precautions shall be taken to prevent rats getting ashore.

(*d*) All personnel to be held under observation not less than five days, which period may be extended to seven days.

(*e*) Soiled linen, personal effects in use, the belongings of crew and passengers, which, in the opinion of the quarantine officer, are considered as infected, shall be disinfected, and rendered free from vermin.

(*f*) In all cases, the quarantine officer shall assure himself that the vessel is free from rats and vermin before granting free *pratique*.

67. Vessels from ports infected with plague, in men or rats, which have docked or which have not taken precautions necessary to prevent the ingress of rats or vermin, and on which effective measures have not been taken to destroy same under the supervision of an accredited medical officer of the United States, shall, upon arrival be treated, as follows:

(*a*) Careful inspection.

(*b*) Fumigation for the destruction of rats.

(*c*) The personnel of such vessels may be subjected to observation for a sufficient length of time to cover the period of incubation of plague.

68. Treatment of vessels without cargo, for plague, shall be simultaneous fumigation with sulphur dioxide, not less than two per cent gas, for six hours' exposure.

69. Treatment of vessels with cargo shall be the fumigation with sulphur dioxide, four per cent gas, six to 12 hours' exposure, according to the stowing.

70. Infected vessels may require partial or complete discharge of cargo and fractional fumigation for efficient deratization.

SPECIAL REGULATIONS ON ACCOUNT OF SMALLPOX.

71. For the purpose of these regulations, 14 days shall be considered as the period of incubation of smallpox.

72. On all vessels arriving with smallpox on board, or having had smallpox on board during the voyage, any of the personnel who have been exposed to the infection of the disease must be vaccinated or detained in quarantine not less than 14 days since last exposure, unless they show satisfactory evidence of successful vaccination within one year, or of having had smallpox.

73. Vessels arriving with smallpox on board which has been properly isolated and other sufficient precautions taken to prevent the spread of the disease, need not be quarantined further than the removal of the sick, the disinfection of all compartments, baggage, and objects that have been exposed to the liability of infection, and such vaccination of the personnel as required in the preceding paragraph.

74. On vessels arriving with smallpox on board, and where the proper isolation and other precautions have not been taken, all those whom the quarantine officer believes to have been exposed to the infection will be detained, unless they have had smallpox, or unless they show satisfactory signs of having been properly vaccinated within one year.

75. Living compartments and their contents, or any other parts of the vessel exposed to the infection, must be disinfected.

76. The baggage and effects of passengers and crew that have been exposed to the infection, must be disinfected.

SPECIAL REGULATIONS ON ACCOUNT OF TYPHUS FEVER.

77. For the purpose of these regulations, 12 days shall be considered as the period of incubation of typhus fever.

78. Vessels in otherwise good sanitary condition, but having typhus fever on board which has been properly isolated, need not be quarantined further than the removal of the sick, and the compartments and their contents exposed to the infection, disinfected, and the destruction of vermin assured.

79. If the case has not been isolated, or the disease has spread on board from person to person, the vessel will be quarantined, the sick removed, and those who have been exposed to the infection detained under observation.

80. Vessels in bad sanitary condition on which the disease has appeared will be quarantined until thoroughly cleansed and disinfected and the destruction of vermin assured throughout; the sick will be cared for at isolated hospitals, and those exposed to the infection detained under observation.

81. The baggage and effects of passengers and crew, that have been exposed to the infection, must be disinfected, and the destruction of vermin assured.

82. Living compartments and their contents, or any other parts of the vessel exposed to the infection, must be disinfected and the destruction of vermin assured.

SPECIAL REGULATIONS ON ACCOUNT OF LEPROSY.

83. Vessels arriving at quarantine with leprosy on board shall not be granted *pratique* until the leper and

his baggage have been removed from the vessel to the quarantine station.

84. No alien leper shall be landed.

85. If the leper is an alien and a member of the crew and the vessel is from a foreign port, said leper shall be detained at the quarantine at the vessel's expense until taken aboard by the same vessel when outward bound. Such case of leprosy should be promptly reported to the collector of customs at the port of arrival of the vessel, and the collector shall exact a bond from the vessel for the reshipment of the said alien leper upon the departure of the vessel.

SPECIAL REGULATIONS RELATING TO NAVAL VESSELS

86. Vessels of the United States Navy may be granted the hereinafter stated exemptions from quarantine regulations, but are subject to quarantine inspection upon arrival at a port of the Canal Zone, or the ports of Colon and Panama in the Republic of Panama.

87. The certificates of the medical officers of the United States Navy as to the sanitary history and condition of the vessel and its personnel, may be accepted for naval vessels by the quarantine officer boarding the vessel, in lieu of an actual inspection.

88. Vessels of the United States Navy having entered the harbors of infected ports, but having held no communication which is liable to convey infection, may be exempted from the disinfection and detention imposed on merchant vessels from such ports.

DISINFECTANTS AUTHORIZED BY THE UNITED STATES QUARANTINE REGULATIONS, AND THE PROPER METHODS OF GENERATING AND USING THE SAME.

PHYSICAL DISINFECTANTS.

89. *Burning*—Of unquestioned efficiency, but seldom required.

90. *Boiling*—Very efficient and of wide range of applicability. The articles must be wholly immersed for not less than 10 minutes in water actually boiling (100° C.) The addition of one per cent of carbonate of soda renders the process applicable to polished steel cutting instruments or tools.

91. *Steam*: (*a*) Flowing steam (not under pressure)—Flowing steam (not under pressure), when applied under suitable conditions is an efficient disinfecting agent. The exposure must be continued 30 minutes after the temperature has reached 100° C.

(*b*) Steam under pressure without vacuum—Steam under pressure will sterilize, provided that the process is continued 20 minutes after the pressure reaches 15 pounds per square inch. The air must be expelled from the apparatus at the beginning of the process. If impracticable to obtain the designated pressure, a longer exposure will accomplish the same result.

(*c*) Steam under pressure with vacuum—Steam in a special apparatus with vacuum attachment is the best method of applying steam under pressure, the object of the vacuum apparatus being to expel the air and to promote the penetration of the steam. The process is to be continued for 20 minutes after the pressure reaches 10 pounds to the square inch.

SULPHUR DIOXIDE.

92. Sulphur dioxide is efficient, but requires the presence of moisture. It is only a surface disinfectant, and is lacking in penetrating properties. An atmosphere containing 4.5 per cent can be obtained by burning five pounds of sulphur per 1,000 cubic feet of space. This amount would require the evaporation or volatilization of about one pint of water. Under these conditions, the time of exposure should be not less than 24 hours for bacterial infections. A shorter time will suffice for fumigation necessary to kill mosquitoes and other vermin.

93. The sulphur may be burned in shallow iron ovens (Dutch ovens), containing not more than 30 pounds of sulphur for each pot, and the pots should stand in vessels of water. Quicker and better results can be obtained from burning the same total amount of sulphur in a number of small shallow ovens (Dutch ovens), five to 10 pounds in each, than in a few large ovens. The sulphur ovens should be elevated from the bottom of the compartment to be disinfected, in order to obtain the maximum possible percentage of combustion of sulphur. The sulphur should be in a state of fine division, and ignition is best accomplished by alcohol; special care to be taken with this method to prevent damage to cargo of vessel by fire; or the sulphur may be burned in a special furnace, the sulphur dioxide being distributed by a power fan. This method is peculiarly applicable to cargo vessels.

94. Liquefied sulphur dioxide may be used for disinfection in place of sulphur dioxide generated as above, it being borne in mind that this process will require two pounds of the liquefied gas for each pound of sulphur as indicated in the above paragraphs.

95. Sulphur dioxide is especially applicable to the holds of vessels or to freight cars and apartments that may be tightly closed, and which do not contain objects injured by the gas. Sulphur dioxide bleaches fabrics or materials dyed with vegetable or aniline dyes. It destroys linen or cotton by rotting the fiber through the agency of the acids formed. It injures most metals. It is promptly destructive to all forms of animal life. This property renders it a valuable agent for the extermination of rats, insects, and other vermin.

FORMALDEYHYDE GAS.

96. Formaldehyde gas is effective if applied by one of the methods given below. Formaldehyde gas has the advantage as a disinfectant that it does not injure fabrics or most colors. It is not poisonous to the higher forms of animal life. It fails to kill vermin, such as rats, mice, roaches, bedbugs, etc. The method is not applicable to the holds of large vessels. Formaldehyde is applicable to the disinfection of rooms, clothing, and fabrics, but should not be depended upon for bedding, upholstered furniture, and the like, when deep penetration is required.*

97. Many formaldehyde solutions do not contain 40 per cent of formaldehyde, and all are apt to deteriorate with time. It is, therefore, necessary to use a quantity in excess of the amount prescribed in these regulations, unless the solution has been recently analyzed.

98. The following methods of eveolving the gas may be used:

(*a*) Autoclave under pressure, three to 12 hours' exposure.

(*b*) Lamp generator, six to 18 hours' exposure.

(*c*) Spraying, 12 to 24 hours' exposure.

(*d*) Formaldehyde and dry heat in partial vacuum, one hour's exposure.

(*e*) Chemical, as formalin-permanganate method of Russel, (see Paragraph 104); formalin aluminum sulphate-lime of Walker, (see Paragraph 104).

99. The minimum number of hours' exposure as given above applies to empty rooms of tight construction, containing smooth, hard surfaces; the maximum number of hours' exposure applying in all cases to textiles and other articles of a similar kind, requiring more or less penetration.

100. *Autoclave under pressure*—This method has considerable penetrating power when applied as detailed below. Rooms or apartments need no special preparation beyond the ordinary closing of doors and windows. Pasting, calking, or chinking of ordinary cracks and crevices is not necessary. The doors of lockers and closets and the drawers of bureaus should be opened In this apparatus, use formalin (40 per cent), with the addition of a neutral salt, such as calcium chloride (20 per cent.) The gas must be evolved under a pressure not less than 45 pounds. After the gas is separated from its watery solution, the pressure may be allowed to fall and steam projected into the compartment to supply the necessary moisture. Use not less than 10 ounces of formalin per 1,000 cubic feet, and keep the room closed for three to 12 hours after the completion of the process. For large rooms, the gas must be introduced at several points as far apart as possible. It is applicable to the disinfection of clothing and fabrics suspended loosely in such a manner that every article is freely accessible to the gas from all directions.

101. *Lamp or generator*—This method requires an apparatus producing formaldehyde by a partial oxidation of wood alcohol, and in using it the room or apartment should be rendered as tight as practicable. Oxidize 24 ounces of wood alcohol per 1,000 cubic feet, and keep the room closed for six to 18 hours, in accordance with the provisions of Paragraph 98. This method leaves little or no odor. When applied to clothing and textiles, the articles should be suspended in a tight room and so disposed as to permit free access of the gas. (See also Paragraph 100.) The wood alcohol should be of 95 per cent strength, and should not contain more than five per cent of acetone.

102. *Spraying*—The formalin (40 per cent) should be sprayed on sheets suspended in the room in such a manner that the solution remains in small drops on the sheet. Spray not less than 10 ounces of formalin (40 per cent) for each 1,000 cubic feet. Used in this way, a sheet will hold about five ounces without dripping or the drops running together. The room must be very tightly sealed in disinfecting with this process, and kept closed not less than 12 hours. The method is limited to rooms or apartments not exceeding 2,000 cubic feet. The formalin may also be sprayed upon the walls, floors, and objects in the rooms. This method is markedly interfered with by, and is not to be relied on, at low temperature, say, below 72° F. At 45.5° F., very little formaldehyde is liberated, the formaldehyde polymerized on the sheets.

103. *Formaldehyde with dry heat in partial vacuum*—This method has superior penetrating powers and is specially applicable to clothing and baggage. The requirements of this method are (1) dry heat at 60° C. sustained for one hour; (2) a vacuum of 15 inches; (3) formaldehyde evolved from a mixture of formalin with a neutral salt, in an autoclave under pressure, using not less than 30 ounces of formalin (40 per cent) for 1,000 cubic feet; and (4) a total exposure, under these combined conditions, of one hour.

104. *Chemical, as (a) Formalin permanganate method*—When formalin is poured over crystals of permanganate of potash, a vigorous reaction takes place, and a large quantity of formaldehyde gas is liberated. Reaction is over in a short time—five minutes—and if a proper proportion of substances is used, the residue is almost dry The proportion is two pints of formalin to one pound of permanganate of potash. One pint of formalin for 1,000 cubic feet of space, should be used if the temperature is 60° F. or less; a less amount may be used for higher temperature, but not less than 10 ounces per 1,000 cubic feet. This method is extremely efficient on account of the rapidity with which the gas is liberated, but the danger of fire should be guarded against, as the formaldehyde gas, being in a comparatively dry state, is inflammable in the presence of a light, such as lighted matches, lamps, etc

(*b*) *Formalin-aluminum-lime method*—Add one part sulphate of aluminum to two parts of hot water. One part of this solution is added to two parts of formalin (both by volume). One part of this second solution is poured on two parts of unslacked lime (quick lime), broken into small particles. The process of liberation of formaldehyde gas is completed in about 20 minutes. This method is not as efficient as the previous one, as less than half the amount of formaldehyde gas is yielded from the same amount of formalin. Two pints of formalin per 1,000 cubic feet of space should be used, if the temperature is 60° F., or less. Fire should be guarded against, but this danger is decidedly less than in the permanganate process, on account of the large amount of water vapor coming off with the gas.

105. The stated times of exposure to sulphur dioxide and formaldehyde are sufficient to destroy bacterial infection due to nonspore-bearing organisms, providing that the infection is present on the surface. If the room is of peculiar construction, so as to impede the diffusion of the gas, or if the room is a dirty one, or if on account of any other condition rendering the germicidal action of the gas more difficult, the time of exposure should be proportionately increased, or supplanted by other methods.

CHEMICAL SOLUTIONS.

106. *Bichloride of mercury*—Bichloride of mercury is a disinfectant of undoubted potency and wide range of applicability. It cannot be depended upon to penetrate substances in the presence of albuminous matter. It should be used in solutions of one to 1,000. The solubility of bichloride of mercury may be increased by using sea water for the solution, or by adding two parts per 1,000 of sodium or ammonium chloride to the water employed

107. *Carbolic acid.*—Carbolic acid, in the strength of five per cent, may be substituted for the bichloride of mercury, and should be employed in the disinfection of the cabins and living apartments of ships, to obviate injurious action on polished metals, bright work, etc.

108. *Formalin*—Formalin containing 40 per cent of formaldehyde may be used in a five per cent solution as a substitute for bichloride of mercury or carbolic acid, and is useful for the disinfection of surfaces, *dejecta*, fabrics, and a great variety of objects, owing to its non-injurious character.

APPLICATION OF DISINFECTANTS IN QUARANTINE WORK.

109. Holds of iron vessels, empty, shall be disinfected by:

(*a*) Sulphur dioxide generated by burning sulphur, five pounds per 1,000 cubic feet of air space, or liberated from 10 pounds of liquid sulphur dioxide, sufficient moisture being present in both cases; time of exposure, 24 hours. (See Paragraph 92.)

(*b*) Washing with a solution of bichloride of mercury, one to 1,000.

110. Holds of wooden vessels, empty, shall be disinfected by:

(*a*) Sulphur dioxide in the manner prescribed above, followed by—

(*b*) Washing with a solution of bichloride of mercury

111. Holds of cargo vessels, when cargo cannot be removed, shall be disinfected in so far as possible by sulphur dioxide, not less than four per cent per volume strength, and where possible this should be generated from a furnace to minimize danger of fire in cargo.

112. Living apartments, cabins, and forcastles of vessels shall be disinfected by one or more of the following methods:

(*a*) Sulphur dioxide, the destructive action of the gas on property being borne in mind

(*b*) Formaldehyde gas.

(*c*) Washing with solution of bichloride of mercury, 1:1000, or five per cent solution of formalin, or five per cent solution of carbolic acid, preference being given to carbolic acid for application to polished woods, bright metals, and other objects injured by metallic salts.

(*d*) The forecastle, steerage, and other living apartments in bad sanitary condition must be disinfected by method (*a*) followed by method (*c*).

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* It should be noted that formaldehyde disinfection is more efficient in warm, moist, or still weather than in cold dry, or windy weather.

113. Mattresses, pillows, and heavy fabrics are to be disinfected by—

(*a*) Boiling.

(*b*) Flowing steam, *i. e.*, steam not under pressure.

(*c*) Steam under pressure.

(*d*) Steam in a special apparatus with vacuum attachment.

(*e*) Clothing, fabrics, textiles, curtains, hangings, etc. may be treated by either of the above methods from (*a*) to (*d*) inclusive, as circumstances may demand, or by formaldehyde gas or sulphur dioxide where the article is of a character which will not be damaged by sulphur dioxide.

114. Articles that may be injured by steam, such as leather, furs, skins, rubber, trunks, valises, hats and caps, bound books, silks, and fine woolens should not be disinfected by steam. Such articles should be disinfected by formaldehyde gas or by any of the agents allowed in these regulations which may be applicable thereto. Those which will be injured by wetting should be disinfected by a gaseous agent.

115. Clothing, textiles, and baggage, clean and in good condition, but suspected of infection, can be efficiently and least injuriously disinfected by formaldehyde gas, generated by one of the methods prescribed in Paragraph 98—(*a*), (*b*), or (*d*).

116. Textiles which are soiled with the discharges of the sick or presumably are deeply infected, must be disinfected by—

(*a*) Boiling.

(*b*) Steam.

(*c*) Immersion in one of the germicidal solutions.

(*d*) Cooking and eating utensils are always to be disinfected by immersion in boiling water or by steam.

AGENTS FOR THE DESTRUCTION OF MOSQUITOES, RATS, AND OTHER VERMIN, AND THEIR APPLICATION TO QUARANTINE WORK.

117. Sulphur dioxide (obtained as described in Paragraphs 92 to 95) destroys all animal life.

118. In the case of vessels, when treated for yellow fever infection, the process shall be a simultaneous fumigation with sulphur dioxide, two per cent volume gas, and two hours' exposure, in order to insure the destruction of mosquitoes.

119. In the case of vessels when treated for plague, the process with sulphur dioxide shall be, as follows:

(*a*) *Without cargo*—The simultaneous fumigation with sulphur dioxide gas, not less than two per cent, for six hours' exposure.

(*b*) *With cargo*—Fumigation with sulphur dioxide gas, four per cent, six to 12 hours' exposure, according to stowing.

(*c*) Infected vessels may require partial or complete discharge of cargo, and fractional fumigation for efficient deratization.

120. *Pyrethrum*—The fumes of burning pyrethrum may be used to destroy mosquitoes in places where there are articles liable to be injured by the use of sulphur. Four pounds per 1,000 cubic feet space for two hours' exposure; with this amount, all or practically all of the mosquitoes will be killed, but precautions should be taken to sweep up and destroy any that may have escaped. *Pyrethrum stains walls, paper, etc.*

121. (*a*) The oxides of carbon, as used at Hamburg, are efficient to destroy rats, but do not kill fleas or other insects. They are obtained by burning carbon, coke, or charcoal, in special apparatus, and the gas as produced consists of about five per cent carbon monoxide, 18 per cent carbon dioxide, and 77 per cent nitrogen.

(*b*) Twenty kilos of carbon, coke, or charcoal are used for every 1,000 meters of space. The gas is allowed to remain in the ship for two hours, and from seven to eight hours are allowed for it to leave it. This is about equivalent to 1⅓ pounds of carbon (coke) to 1,000 cubic feet of air space. As this gas is very fatal to man and gives no warning of its presence, being odorless, a small amount of sulphur dioxide should be added to give warning of its presence.

(*c*) As it does not kill fleas, it cannot be depended on for complete work, where there is evidence of plague among rats on the vessel, as the infected fleas would infect the rats coming aboard after the deratization.

122. The articles named as disinfectants which can obviously destroy animal life can be used for that purpose when applicable, as steam for bedding, fabrics, etc. Formaldehyde is not applicable for this purpose.

123. Where both disinfection and destruction of vermin are required for mattresses, pillows, and fabrics, the use of steam meets both requirements, and is especially applicable.

124. (*a*) Hydrocyanic acid gas is fatal to all forms of animal life and is not injurious to any material. It is best generated by mixing:

Cyanide of potash	4
Sulphuric acid	6
Water	9

(*b*) The acid should first be diluted, which must be done in some vessel capable of withstanding the heat. The whole amount of the cyanide of potash must be put in the acid at once, and as the evolution of the gas is very rapid, the operator must be prepared to leave immediately. Fulton advises that the cyanide be tied in a bag, to be lowered into the acid by a cord passing outside of the room.

(*c*) About 10 ounces of cyanide of potash per 1,000 cubic feet.

(*d*) It is, of course, applicable when necessary to destroy mosquitoes or vermin (particularly in living quarters), but is too dangerous to be used except by those experienced in its use, and then under most rigid precautions. Though destructive to animal life, hydrocyanic acid gas is but of slight value as a germicide.

Ancon Quarry.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., May 23, 1914.

CIRCULAR No. 660-12:

Effective June 1, 1914, the operation of the Ancon quarry will be transferred to the Division of Terminal Construction.

GEO. W. GOETHALS,
Governor.

Accountable Officials, P. R. R.

THE PANAMA CANAL,
ACCOUNTING DEPARTMENT,
EMPIRE, C. Z., May 25, 1914.

CIRCULAR No. 59:

All concerned—Effective at once, the following are designated accountable officials for property of the Panama railroad:

Mr. F. R. Blunt, trainmaster.

Mr. M. B. Connolly, roadmaster.

Mr. J. D. Tysinger, superintendent of bridges and buildings.

Mr. W. H. Fenley, superintendent of telephones and signals.

Mr. R. W. Bergin, receiving and forwarding agent, Colon.

Mr. A. S. Jussen, receiving and forwarding agent, Balboa.

Mr. F. B. Clements, local auditor.

Mr. R. H. Wardlaw, local treasurer.

H. A. A. SMITH,
Auditor, Panama Canal.

Approved:
GEO. W. GOETHALS,
Governor.

Special Inspector, Supply Department.

THE PANAMA CANAL,
SUPPLY DEPARTMENT,
CULEBRA, C. Z., June 1, 1914.

CIRCULAR No. 131:

To all concerned—Maj. W. R. Grove, having reported for duty, will act as special inspector of the Supply Department.

R. E. WOOD,
Chief Quartermaster.

"Ancon" Sails Friday, June 12.

PANAMA RAILROAD COMPANY,
OFFICE OF SUPERINTENDENT,
COLON, R. P., June 8, 1914.

CIRCULAR No. 433:

All concerned—The sailing date of the steamship *Ancon* has been set for Friday, June 12, 1914, at 3 p. m., from pier No. 8, (old number, 17), Cristobal, C. Z.

C. H. MOTSETT,
Superintendent.

Delivery of Baggage at Panama Station.

PANAMA RAILROAD COMPANY,
OFFICE OF SUPERINTENDENT,
COLON, R. P., May 29, 1914.

CIRCULAR No. 432:

All concerned—For the information of all concerned the baggage room at Panama will be kept open from 7.30 p. m., until 11 p. m., in future on the evening before the date of sailing of Panama railroad ships. The transfer wagon will be kept at the station during these hours and will answer all calls. You are requested, therefore, to have your baggage delivered, if possible, for handling on train No. 4, leaving Panama at 7.30 a. m., thus avoiding any delay that might occur at Colon in having baggage checked to ships.

F. R. BLUNT,
Acting Superintendent.

Examinations by Board of Local Inspectors.

ANCON, C. Z., June 6, 1914.

The Board of Local Inspectors will conduct examinations at the Administration Building, Ancon, on Wednesday, June 17, 1914, beginning promptly at 2 p. m., for persons desiring the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for license must procure from the office of the board, Ancon, forms of application and information respecting the filling out of the same, not later than the day previous to the examination. An addition, all persons desiring chauffeurs' licenses must provide themselves with automobiles with which to demonstrate their ability to properly operate the same.

NOTE.—The demonstration test for applicants for chauffeurs' licenses will be given on Tuesday, the day preceding the regular examination, at 2 p.m., at the Administration Building, Ancon; on Wednesday, the day of the regular examination, for out-of-town applicants, at 2 p. m., at the Administration Building, Ancon. No demonstration tests will be given at Cristobal, except by appointment.

By direction of the chairman of the board.

W. H. HYDE,
Clerk to the Board.

Misdirected Letters.

ANCON, C. Z., June 10, 1914.

The following insufficiently addressed letters originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressees:

Anderson, Robert, W.
Christiansen, August
Davis, B.
Davis, Mrs. Captain R. H.
Dunning, James
Glakley, Captain M.
Howell, James E.
Huhlein, C. F.
Kenny, Michael
Masquitto, Mary
McDonald, Miss Cornelia
Palmare, J. S.
Pennock, J.
Sanders, Robert M.
Silvia, John
Tarman, E. H.
Watson, H. J.
Weymouth, E. J., Mrs.
Larrabee, Ralph

LETTERS UNCALLED FOR JUNE 3, 1914.

Barnes, T. W.
Barnett, Charlie
Berkley, E.
Bernard, Mrs. Geraldine
Blackett, Miss Emma H.
Brown, Ellwood
Burnside, G. A.
Buser, Fred H.
Carr, Elmer E.
Clarke, Samuel
Clifford, Mrs. J. N.
Conner, Ira E.
DeGraff, Mrs. Kathryn B.
Dink, Don A.
Deayton, Wm.
During, W.
Elliott, Samuel
Facey, Miss Inez (2)
Fill, Joseph T.
Ford, Dr. Harry G.
Fulton, Mrs. David
Gabi, Mrs. Jennie
Geyer, John H.
Gonzales, M.
Green, Evelyn
Green, W. O.
Hall, Dr. B. A.
Hart, Marion
Hamilton, Gerald
Henry, Orville
Hodge, Mrs. C. G.
Hollar, Mrs. W. J.
Hopkins, Dan
Howard, R. C.
Johnson, J. H.
Kinsella, Joseph
Kopald, C.
Krojenski, Mr.
Kuller, Mrs. B. F.
Libe, Chris.
Lyons, J. D.
McLean, Miss Annie
Powers, Thomas
Reid, Harry L.
Reiss, Harry
Stewart, Mrs. Gilbert H.
Shepherd, Bennie
Tavle, John
Thompson, A. M.
Tinsley, Mrs. Robert B.
Valtesta, Scandel
Wilson, R. A.
Willis, Lewis B.
Wheeler, Malcolm R.
Wood, Scott
Younger, Theo.

Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun and Miraflores Lakes for the week ending midnight, Saturday, June 6, 1914. All heights are in feet above mean sealevel.

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela	Gamboa.	Gatun Lake.	Miraflores Lake.
Sun., ,May 31	126.80	93 13	84.75	84.81	51.23
Mon., June 1	128.90	94.60	84.82	84.89	51.18
Tues., June 2	127 30	93.88	84.73	84.86	50.92
Wed., June 3	126 15	92.65	84.74	84.76	51.18
Thurs, June 4	126 30	92.75	84.74	84.80	50.90
Fri., June 5	126.95	93 30	84.85	94.90	50 88
Sat., June 6	128.10	94 07	84.78	84.87	50.96
Height of low water to nearest foot	125.0	91 0			

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending June 20, 1914:

DATE.	High	Low	High	Low	High
	A.M.	A.M.	A.M.	P.M.	P.M.
June 14	......	2.00	8.10	2 31	8.30
June 15	......	2.50	9.01	3 26	9.27
June 16	......	3.44	9 54	4.22	10.27
June 17	......	4.38	10.49	5.20	11.30
June 18	......	5.34	11.42	6.14	......
			P.M.		
June 19	12.30	6.28	12.35	7 04	......
June 20	1.22	7.19	1.22	7.50	......

75th meridian time.

CANAL CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The "Telephone" athletic meet of the public school athletic league will be held on June 12, instead of June 19, as was originally intended. This meet is under the combined direction of the Division of Schools and the Y. M. C. A., and is the first meet of the league which was organized for the purpose of advancing clean athletics among grade pupils of the public schools. The contests on the 12th will be held in the clubhouses at Cristobal, Gatun, Empire, Corozal, and Balboa. Culebra and Empire will compete at Empire; Paraiso, Pedro Miguel, and Corozal will compete at Corozal; and Balboa and Ancon at Balboa. Special telephones have been installed and results of each event will be made known by telephone all along the line just as soon as the event is finished. The entries will probably number about 165.

Two educational films are being shown during the present week. "Peculiarities of snakes" shows the habits of many snakes in the Bronx Zoological gardens. "Pickwick papers" gives a portrayal of the hunting scene in Dickens' famous story. Four comic films are shown on the program.

A motion picture exhibition was given at the Gamboa stockade under the direction of Capt. C. W. Barber on Wednesday evening, June 3. The films were furnished by the Garden Theatre at Colon, and the machine by the Y. M. C. A.

COROZAL.

The high scores on the bowling alleys for the past week were, as follows: *Tenpins*—Parkis, 232, 220, 211, 207, 200; King, 218; Davis, 206; Thirsk, 206; Sims, 206; A. Sims, 205, 202; *Duckpins*—Thirsk, 125; Parkis, 116, 110, 102; Davis, 103; Ruggles, 103.

A return match game was played between Pedro Miguel and Corozal on Saturday evening, June 5, resulting in the following scores:

Pedro Miguel	782	766	723
Corozal	835	836	825

An indoor baseball match, played at Corozal, between Cristobal and the local team, resulted in a final score of 36 to 7, in favor of Corozal.

PEDRO MIGUEL.

The locks on the lockers in the dressing room have been put in shape. A year's rental is $1; six months', 50 cents.

A new tarred tennis net and a supply of tennis balls have arrived. The new tennis court is nearly ready and will soon be in use.

A new barber has taken charge of the barber shop and will be found there every evening from 8 to 10.30.

Stereopticon slides entitled, "Birth of our Nation," were shown on Thursday night, June 4. The lecture was given by Mr. P. T. Woolworth, secretary during Mr. Russell's absence.

A tournament in tenpins will be begun soon.

A handicap tournament in pocket billiards was started on June 10. A 60-ball limit is to be played. The entry fee is $1, and the prizes gold, silver, and bronze medals; a booby prize is also offered.

The high scores in tenpins for the week were: Barte, 200, 225; Farrar, 231; Orr, 202.

CULEBRA.

The high scores in tenpins during the past week were made by Kundriotis, 210 and 214.

Twenty-three men have entered in the local handicap tenpin tournament. Each man bowls every other man two games, the total pinfall to count. The one winning the greatest number of points, (two games counting one point) will receive a solid gold medal. The one making the highest score for a single game will receive a silver medal. The ones making the highest score for two games, and high average for all the games rolled during the tournament, will each receive a gold medal.

On Sunday night, June 14, the "Life of Joshua" will by shown by means of stereopticon slides. A lecture will accompany the pictures. All are invited.

The checker club is ready to receive challenges from any other Y. M. C. A. checker club on the Isthmus.

GATUN.

The tropical pool tournament is making good progress under the supervision of Harry Feehan,. The present standing is: Wright, 764; Duffy, 682; Conley, 610; Feehan, 434; Goree, 382; Loulan, 308; Kerruish, 300.

The indoor baseball game between the "Dusties" and the "Feens" drew a good-sized crowd of rooters on Saturday evening, June 6. The score was "Feens," 10; "Dusties," 8. The lineups were, as follows:

Feens—Thompson, c.; Loulan, p.; Hindle, 1st base; Bouche, left field; Sisson, right field; Fuller, 2d base; Twitchell, 3rd base; Feehan, ss.

Dusties—Dustheimer, c.; Wright, p.; Godwin, 1st base; Conkerton, left field; Mitchell, right field; Comley, 2d base; Willard, 3d base; Laylor, ss.

Umpires, Rothgeb and Kjellander; scorer, Trown.

A number of sleeveless swimming suits are now on sale at the clubhouse.

A new Spanish class for beginners was started on Tuesday evening, June 9, under the direction of Señorita La Piera.

At a meeting of the tenpin bowlers held recently, Mr. T. Richardson was elected president of the Gatun ragtime tenpin tournament, which started on Monday, June 8.

Two special meetings of the executive council were held during the week ending June 6.

The Culebra chess team played Gatun on Saturday evening, June 6. The two teams broke even in the number of games won and lost.

CRISTOBAL.

Following is a summary of activities in the physical department of the Cristobal Y. M. C. A., from November, 1913, to May, 1914, inclusive:

Total attendance, gymnasium classes, 4,351; total number of gymnasium classes held, 245; average attendance, 17.7; lowest monthly attendance, November, 1913, 366; highest monthly attendance, May, 1914, 797; basketball games with outside teams, 12, one local basketball league; number of boys' trips and hikes, six; athletic team contests, seven; handball tournament, one; aquatic meet, one, total entries, 77; indoor baseball games, 16, two local leagues; volleyball games, 39, one volleyball tournament with Culebra; gymnastic exhibition, two nights, number taking part, 69; circus, held on pier, two nights, number taking part, 161; six clubs organized among boys and girls with total membership of 72; number of club meetings, 36; three interclub debates, four interclub dual athletic meets, four club suppers, four club farewell suppers to members leaving for the United States.

In the indoor baseball league at Cristobal, the Giants defeated the Doves, on Tuesday evening, June 2, by a score of 11 to 6, and the Yankees defeated the White Sox by the score of 20 to 19. The league standing is:

Team.	*Won.*	*Lost.*	*P. C.*
Giants	2	0	1.000
Doves	1	1	.500
Yankees	1	1	.500
White Sox	0	2	.000

A dual handball tournament between Gatun and Cristobal on Friday evening, June 5, resulted, as follows: Duffy and Wright of Gatun defeated Kaunitz and A. Fraser, scores 18-21, 21-12, 21-12. Hagan and Schradley of Cristobal defeated Laylor and Peters in three straight games, scores, 21-5, 21-7, and 21-11. A return match will be held in the near future.

It was not difficult to understand the reason for Colon's high sick rate in the former days, as Mr. Larsen, in his address on sanitation before the discussion club on Thursday, June 4, described conditions as he found them in 1904-1905. Following Mr. Larsen's address, Messrs. Kromer, Hipp, and Brown were appointed a nominating committee to select new officers for the club. A debate will be the feature of the meeting for Thursday, June 25. The subject is, "Resolved, that the Administration's proposed Colombian Treaty is right." Affirmative, Mr. J. C. Hipp; negative, Mr. E. E. Rigney.

The ladies of St. Joseph's Catholic church held a cake sale in the social hall on Saturday, June 6. The Cristobal Union Church will conduct a bazar in the social hall on Saturday, June 13.

The Culebra checker team will play at Cristobal on Saturday, June 13.

◆

LOST—On Tuesday morning, June 4, on the cars of the Panama railroad, between Panama and Empire, an amethyst pendant, heart-shaped, in plain gold setting. Reward if returned to the office of THE CANAL RECORD, Ancon.

◆

Rainfall, June 1 to June 6, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	.59	1	1.23
Balboa	.28	3	.50
*Miraflores	.46	4	.95
Pedro Miguel	1.65	1	2.59
Rio Grande	1.58	1	3.31
Central Section—			
Culebra	.77	1	1.91
*Camacho	1.58	2	3.66
Empire	.76	2	1.83
Gamboa	.59	1	.96
*Juan Mina	.46	5	1.42
Alhajuela	.33	4	.71
*El Vigia	.87	2	1.42
Frijoles	1.40	5	2.19
Trinidad	......	......	......
*Monte Lirio	.50	5	.99
Atlantic Section—			
Gatun	1.07	5	1.50
*Brazos Brook	1.25	5	2.12
Colon	1.37	5	3.09

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values, midnight to midnight.

◆

May Rainfall for Three Years.

STATIONS.	1912	1913	1914	Station Av.	Years of record	Rai'y days, '14
Pacific Section–						
Ancon	10 71	8.27	6.98	8.81	16	19
Balboa	9.56	8.04	8.16	7.32	18	17
Miraflores	7.60	12.33	10.96	10.03	6	14
Pedro Miguel	6 92	13.48	13 16	11.37	7	15
Rio Grande	7.18	12.33	10.77	11.04	10	15
Central Section–						
Culebra	8.15	11.74	13.26	11.28	23	16
Camacho	6 15	16.03	14.15	12.31	8	14
Empire	6 21	11 74	12.87	10.17	10	17
Gamboa	7 94	15.13	10 28	11.02	33	19
Juan Mina	10.86	13.20	8 40	12.09	4	18
Alhajuela	13.43	12 63	5.66	12.24	14	16
El Vigia	12.81	13.35	7.47	11.71	6	17
Frijoles	10 28	21.07	14 33	15 23	3	21
Trinidad	11.79	17.73	13.58	14.53	7	21
Monte Lirio	8.34	16.29	11.42	14.20	7	19
Atlantic Section–						
Gatun	13 83	17.06	10 91	15.33	10	21
Brazos Brook	11.45	18.77	13.17	13.88	8	21
Colon	12 03	22.60	17.76	12.77	44	19
Porto Bello	16 65	30.51	16.22	17.52	7	23

◆

FOUND—At Pedro Miguel station on Saturday, June 6, a lady's handbag. Owner can apply to Mr. McClure, Culebra.

WEATHER CONDITIONS, CANAL ZONE, MAY, 1914.

Rainfall for the month of May was above the station averages at seven stations, and deficient at 12 stations. The precipitation was generally above normal over the Pacific section, over the Central section as far north as Empire, and along the extreme Atlantic Coast, but deficient at other localities. The monthly totals ranged from 5.66 inches at Alhajuela, to 17.76 inches, at Colon. The maximum precipitation recorded in one day was 4.91 inches, at Colon on the 7th. Heavy showers occurred on May 6, 7, 13 19, 21, 22, 23, 26, and 27.

Average air temperatures at the various stations were from 1° F. to 2° F. above normal. The daytime cloudiness, was slightly above normal, while the relative humidity and air pressure were below the average. The wind movement was above normal at all stations.

No fogs were observed during the month at either coast station, but a number of fogs occurred at interior stations. Of the fogs observed, 38 per cent were dissipated by 6.30 a. m., 89 per cent by 7.30 a. m., and all fogs lifted or were dissipated by 8.45 a. m.

Elevation of Gatun Lake (feet above mean sealevel): Mean for the month, 84.81; maximum, 85.10 on the 15th; minimum, 84.38, on the 19th; evaporation from lake surface, 5.262 inches.

The following table summarizes the weather conditions for the month:

STATION.	Press're (reduc'd to mean of 24 hours).	Temperature.					Mean relative humidity	Precipitation.			Wind.				
		Mean.	Maximum.	Date.	Minimum.	Date.		Total inches.	Station average.	Days of .01 inch or more	Total movement (miles)	Prevailing direction.	Max. velocity (in miles)	Direction.	Date.
Colon	29.843	81.7	88	May 21	72	May 7	86	17.76	12.77	19	8,161	N.	28	N. E.	May 9
Culebra	29.834	81.4	94	May 19	71	May 3	85	13.26	11.28	16	5,515	N.W.	25	N.E.	May 13
Ancon	29.808	81.9	95	May 18	71	May 27	86	6.98	8.81	19	5,348	N.W.	22	S.	May 13

HOTELS AND COMMISSARIES.

Change in Rates at Hotels Washington and Aspinwall—Price Changes.

Effective June 1 and continuing until December 31, 1914, the rates in effect at the Hotel Washington, Colon, have been cut in half.

Sale of Coupon Books at Ancon Commissary.

The sale of commissary and hotel books for cash at the new Ancon commissary has been authorized. At the present time, cash purchases of books by employes in Ancon can be made only at the office of the cashier of the Panama railroad at the railroad station in Panama, or at the Balboa commissary.

Identification Cards for Nonemployes.

Identification cards will be issued for the use of nonemployes who are granted the privilege of purchasing commissary and hotel coupon books for cash. These cards will be of a different color from those issued to employes.

Better Delivery Service.

An additional wagon was placed in service in connection with the Colon and Colon Beach commissary deliveries on Tuesday, June 2. This makes two wagons in this service.

Special Purchases by Employes.

The recommendation of the Chief Quartermaster that the depot commissary be permitted to act as broker or agent for employes who desire to place special orders for special articles not carried in regular stock at the commissaries, has been approved. These purchases will be made at a surcharge of 10 per cent over the regular price to cover clerical expense, exchange, etc. To this will be added the actual cost of freight at Canal rates from Colon to the actual point of destination.

Launch Service to Hotel Aspinwall.

Effective June 15, 1914, the launch *Louise* will make its trips between Balboa and the Hotel Aspinwall, Taboga, on Mondays, Thursdays, and Saturdays, instead of Tuesdays, Thursdays, and Saturdays. The *Louise* will leave from the dredge landing at Balboa at 9.50 a. m., as heretofore.

Rates and Rules for Hotel Aspinwall.

THE PANAMA CANAL,
OFFICE OF ASSISTANT CHIEF QUARTERMASTER,
CRISTOBAL, C. Z., June 6, 1914.

CIRCULAR No. 494–A:

The following rules and rates for the Hotel Aspinwall are published, effective June 11, 1914:

Rates for bed and board—Employe, $2 per day; nonemploye, $2.50 per day; servants, and children under 12 years, $1 per day.

The daily board and bed rate will be divided, as follows: Three meals at 50 cents each, and bed at 50 cents, for employes; three meals at 50 cents each, and bed at $1, for nonemployes; three meals at 25 cents each, and bed at 25 cents, for servants and children under 12 years of age.

Persons at bed and board rates must pay for all meals, unless one day's meals, or more, are missed consecutively, in which case notice must be given to the clerk in advance, in order to secure credit.

When stay terminates in the morning, breakfast will be included in bill.

An extra charge of 25 cents per person will be made for meals served in rooms.

Nonemployes after staying 30 days will, for the rest of their stay, be given employes' rate.

Rates for meals—Breakfast, 50 cents; lunch, 75 cents; dinner, 75 cents.

Meal tickets will be purchased at the office before entering dining room, by all persons without rooms.

Charge on supply launch between Balboa and Taboga; one way—Employes, 25 cents; nonemployes, 50 cents; children under five years, free.

Open accounts will not be permitted.

Guests will be required to pay their bills upon leaving.

Accounts of employes unpaid at time of leaving will be made up at the nonemployes' rate and sent to the Auditor, Panama Canal. Bills will be made up on the 7th, 14th, 21st, and last days of the month, and presented to all guests who have been at the hotel a week. All bills are due and payable on presentation. No variations from this rule will be made without authority from the Assistant Chief Quartermaster.

No employe of the hotel has authority to make any other rates or to modify any of the foregoing rules.

F. O. WHITLOCK,
Assistant Chief Quartermaster.

Orders for Cakes.

THE PANAMA CANAL,
SUPPLY DEPARTMENT,
CRISTOBAL, C. Z., June 6, 1914.

CIRCULAR No. 558:

Cakes will hereafter be baked to order, at prices given below. Orders must be received at this office at least three days before delivery is desired:

FRUIT CAKE.	
1. 4½-lb., 4½ inches in diameter, each	$1.00
2. 9-lb., nine inches in diameter, each	2.00
3. 22½-lb., 14½ inches in diameter, each	5.00
4. 4½-lb., 4½ inches in diameter, covered with almond paste, iced, and ornamented, each	1.25
5. 9-lb., nine inches in diameter, covered with almond paste, iced, and ornamented, each	2.50
6. 22½-lb., 14½ inches in diameter, covered with almond paste, iced, and ornamented, each	5.60
POUND CAKE.	
7. Not less than four pounds each, per lb.	.25
8. Not less than four pounds each, iced, and ornamented, per pound	.30
LAYER CAKE.	
(*Chocolate, white, yellow, or caramel.*)	
9. Iced, diameter nine inches, height, three inches, each	$1.00
10. Iced, diameter 11 inches, height, four inches, each	2.00
11. Iced, diameter 15 inches, height, 4½ inches, each	3.00
12. Iced, diameter nine inches, height, three inches, ornamented, each	1.25
13. Iced, diameter 11 inches, height, four inches, ornamented, each	2.40
14. Iced, diameter 15 inches, height, 4½ inches, ornamented, each	5.60

Names, dates, etc., to be included in ornamentation. Estimates for larger cakes will be furnished on application.

BENJ. L. JACOBSON,
Depot Commissary.

Approved:
F. O. WHITLOCK,
Assistant Chief Quartermaster.

Sales of Canned Goods.

THE PANAMA CANAL,
SUPPLY DEPARTMENT,
CULEBRA, C. Z., May 29, 1914.

CIRCULAR No. 123:

District quartermasters and commissary storekeepers: Gallon cans of fruit, tomatoes, 7-pound tins of jam, etc., heretofore sold only to hotels, may be sold to private individuals.

R. E. WOOD,
Chief Quartermaster.

Commissary Cold Storage.

The commissary stores are open during the following hours: From 8 a.m., to 12.30 p.m., and 3 to 6.30 p.m.

The gold departments of the Cristobal store will open at 2 p. m. on Saturdays and sailing days of Panama railroad vessels.

In rush periods, all stores will remain open till 7 p. m.

Retail prices of cold storage provisions for the week beginning June 11, 1914:

FRESH MEATS.	*Price.*
Mutton—Stewing, per pound	8
Shoulder, trimmed, per pound	12
Leg (8 to 10 pounds), per pound	19
Cutlets, per pound	20
Short cut chops, per pound	23
Shoulder chops, per pound	14
Lamb—Stewing per pound	10
Shoulder trimmed, per pound	15
Legs (5 to 8 pounds), per pound	24
Chops, per pound	29
Shoulder, chops, per pound	18
Cutlets, per pound	29
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	18
Chops, per pound	27
Loin, for roasting, per pound	27
Cutlets, per pound	31
Beef—Suet, per pound	3
Soup, per pound	7
Stew, per pound	11
Plate, per pound	12
Corned, No. 1, per pound	19
Corned, No. 2, per pound	16
Chuck roast, 3 lbs., and over, per pound.	15
Rib roast, second cut (not under 3½ pounds), per pound	21
Rib roast, first cut (not under 3 pounds), per pound	24
Pot roast, per pound	25
Rump roast, per pound	25
Porterhouse roast, per pound	27
Steak, Chuck, per pound	16
Round, top, per pound	19
Round, bottom, per pound	17
Rib, per pound	24
Sirloin, per pound	25
Sirloin, choice cut, per pound	28
Rump, per pound	25
Porterhouse (not less than 1½ pounds), per pound	30
Porterhouse, short, Delmonico, per pound	25
Tenderloin (Western), per pound.	40
Pork—Hams, fresh, per pound	§23
Shoulders, fresh, per pound	§19
Spare ribs, per pound	18
Backbones, per pound	15
Loin chops or roast, per pound	20
Pigs' feet, each	7
Pigs' heads, whole	83
Pigs' head, ½-head	42
Sausage, homemade, per pound	23
MISCELLANEOUS.	
Livers—Beef, per pound	*15
Calf, each	62
Half, each	31
Steak, Hamburger, package	17
Hamburger, 20-pound containers, per pound	14
Suasage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Pure pork, 1-lb. carton, per pound	18
Sweetbread, beef, per pound	23
Eggs, fresh, per dozen	28
per ½-dozen	14
Bluefish, per pound	09
Halibut, fresh, per pound	05
Salmon, per pound	06
Shad roes, per pair	38
Oysters, per quart	29
Yeast, per pound	31
POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, per pound	30
Fancy roasting, corn fed, per pound	27
Fowls, per pound	*25
Fowls, light, per pound	23
Ducks, Western, per pound	25
Capons, per pound	39
Broilers, milk fed, per pound	34
Broilers, corn fed, per pound	30
Turkeys, per pound	32
Squabs, each	42
Ducks, teal, each	40
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30
CURED AND PICKLED MEATS	
Ham—Real York and Cumberland, per pound	43
Genuine Westphalia, per pound	50
Sugar cured, per pound	21
Sliced, per pound	28
Half, for boiling, per pound	23
Boiled, per pound	30
Hocks, per pound	09
Butt end, about 1½ pounds to butt, per pound	11
Bacon—Breakfast, whole piece, per pound	26
Sliced, per pound	27
Ham, lunch, per pound	40
Pork, salt, family, per pound	14
Ox tongues, each	*1.35
Pigs' feet, per pound	7
Tongues, per pound	19
DAIRY PRODUCTS.	
Butter—Creamery, special, per pound	35
Sheffield Farms, extra fancy, per lb.	54
Cheese—Philadelphia cream, cake	09
Cheese—Roquefort, per pound	35
Young America, per pound	21
Swiss, per pound	27
Edam, each	81
Edam, tin	29
Parmesan, per pound	38
Gouda, per pound	29
Snappy, per cake	9
Milk (certified), bottle	**.24
Fer-mil-lac, bottle	**.25
Ice cream, quart	‡25
½-gallon	‡50
Cream, Sheffield Farms, quart	**.33
VEGETABLES AND FRUITS.	
Beans, per pound	5
Beets, per pound	4½
Celery, per head	10
Cabbage, per pound	2
Carrots, per pound	3½
Cucumbers, per pound	6
Horseradish, per pound	12
Lettuce, per pound	11
Peas, green, per pound	10
Onions, per pound	4½
Potatoes, White, per pound	3
sweet, tropical, per pound	2
sweet, American, per pound	3
Yams, tropical, per pound	2½
American, per pound	3
Parsley, per bunch	2½
Rhubarb, per pound	†2½

	Price.
Turnips, per pound	3
Tomatoes, per pound	†8
Spinach, per pound	†4½
Squash, per pound	2½
Apples, each	2½
Grape fruit, American, each	7
Tropical, each	4½
Lemons, per dozen	12
Limes, per 100	56
Oranges, Jamaican, per dozen	18
American, each	2½
Strawberries, per quart	15

* Indicates advance from preceding list.

† Indicates reduction from preceding list.

**Indicates 5 cents allowed for return of bottle.

‡Sold only from commissaries; no orders taken for delivery.

§ Sold only from cold storage and not from commissaries.

Porterhouse roast includes any cut of hind quarter down to rump, and will not be cut if orders for steak will consume the supply.

Tenderloins on porterhouse will not be cut and sold separately

Not less than ½ ham or ½ shoulder of fresh pork will be sold.

Daily cold storage orders will be filed and kept for at least one month.

Price Changes.

The following price changes of articles in stock at the commissaries are effective June 11, 1914.

ARTICLE.	PRICE CHANGE.	
	Old.	New.
Bags, hand, genuine walrus, 18″, ea	$11.50	$9.65
Bags, hand, smooth, cow hide, brown 16″ No. 124, ea	11.50	9.50
Bags, hand, smooth, cow hide, brown, 18″, No. 124, ea	12.50	10.40
Bags, hand, smooth, cow hide, brown, with straps, 18″, No. 157, ea	12.80	10.65
Bags, hand, smooth, cow hide, brown, with straps, 18″, No. 158, ea	14.40	12.00
Cases, suit, leather, 24 x 6½ x 14, ea	13.00	10.90
Cases, suit, ea	6.25	5.05
Cases, dressing, leather	9.00	8.10
Cases, cigarette, seal leather	1.40	1.10
Cases, card, leather, gents'	.70	.56
Cases, card, leather, ladies'	.80	.64
Cases, suit, fibre, 24″, ea	1.50	1.20
Cases, suit, hide, 24″, ea	20.00	17.55
Cases, leather, pigskin, No. 209, ea	.40	.33
Cases, leather, morocco, No. 376, ea	.90	.83
Trunks, No. 370, ea	6.35	5.15
Trunks, ea	7.60	6.40
Trunks, ea	9.65	8.10
Trunks, ea	20.00	17.50
Trunks, ea	18.00	15.60
Trunks, ea	15.00	13.10
Trunks, ea	10.00	8.10
Trunks, ea	12.00	9.40
Tooth paste, Pebeco, tube	.25	.21
Listerine, 3-oz, bot	.20	.17
Listerine, 7-oz., bot	.40	.34
Listerine, 14-oz., bot	.80	.66
Brushes, tooth, prophylactic, ea	.25	.21
Brushes, tooth, in boxes, ea	.15	.12
Rugs, grass, Crex, ea	.75	.68
Rugs, grass, Crex, ea	.85	.81
Rugs, grass, Crex, ea	1.35	1.30
Drill, striped, linen, yd	.24	.19
Drill, bleached, linen, yd	.50	.43
Serge, indigo, blue, yd	2.15	1.85
Serge, black, yd	2.70	2.40
Serge, blue, yd	3.00	2.50
Serge, khaki, yd	1.35	1.15
Serge, blue, yd	3.10	2.75
Serge, black, yd	3.00	2.65
Raincoats, ladies', ea	5.00	4.35
Corsets, W. B., pair	1.10	.89
Corsets, W. B., pair	1.90	1.55
Corsets, W. B., Reduso, pair	3.00	2.45
Corsets, W. B., Reduso, pair	3.00	2.50
Corsets, Nuform, Reduso, pair	1.50	1.20
Vests, gauze, ladies,' ea	.30	.28
Vests, gauze, ladies', ea	.15	.14
Hats, straw, ea	2.80	2.50
Hats, straw, ea	2.50	2.20
Collars, linen, Arrow, ea	.13	.11
Collars, soft, ea	.25	.21
Ties, wash, four-in-hand, ea	.25	.20
Shirts, Manhattan, ea	2.00	1.70
Shirts, Arab, white, ea	.85	.70
Shirts, negligee, ea	1.50	1.35
Shirts, negligee, ea	1.50	1.40
Undershirts, short sleeves, ea	.25	.21
Underwear, Porosknit, ea	.45	.36
Underwear, Sea Island, ea	.40	.37
Undershirts, gauze, ea	.40	.33
Undershirts, Sea Island, ea	.50	.44
Undershirts, Morris, ea	.40	.37
Drawers, Porosknit, pair	.45	.36
Drawers, Morris, pair	.40	.37
Pants, riding, khaki, pair	2.25	2.10

◆

LOST—On Monday, June 8, between the Ancon post office and the Panama railroad station, an Elgin open face gold watch, with gold hands and the initials "S. W. C." engraved on the back. A reward is offered for its return to the owner, Mr. Geo. W. Clawger, Corozal.

◆

Supplies for the Canal.

The following steamers with supplies for The Panama Canal and the Panama Railroad Company arrived at the ports of Colon, Cristobal, and Balboa during the week ending May 30:

Colusa, May 24, from San Francisco, with 20,410 feet, board measure, redwood lumber, for Fortifications Division; 1,850,403 feet, board measure, fir lumber, for stock: 281 pieces untreated piling, for Division of Terminal Construction.

Prinz Eitel Friedrich, May 26, from New York, with 95 kegs bolts, for stock.

Cartago, May 27, from New Orleans, with 100 barrels ethyl alcohol, for medical storehouse; 540 pieces creosoted switch ties, for Panama Railroad Company; 10,264 feet, board measure, yellow pine, lumber, 2,994 feet board measure, oak lumber, 2,435 feet board measure, ash lumber, 65 pieces piling, untreated, for stock.

Metapan, May 27, from New York with five cases, 29 barrels lighting fixtures, for Fortifications Division; 25 crates, 41 pieces, three barrels, seven bundles, five cases chain fender material, 100 crates, 25 barrels, six cases insulators and pins, for Division of Erection; 7,176 pieces hollow tile, for permanent buildings.

Abangarez, May 28, from New Orleans, with 87 cases door and window frames, 40 boxes marble, for Division of Erection; nine boxes marble, for permanent buildings; 52,500 feet, board measure, yellow pine lumber, for Mechanical Division; 69 crates sinks, 165 boxes handles, 370 bags feed, for stock.

Oranian, May 28, from Liverpool, with 50 pieces, and two cases bucket links, for Dredging Division.

Medea, May 29, from Amsterdam, with 127 packages floating crane material, for Division of Terminal Construction.

Calamares, May 29, from New York, with seven barrels, 17 cases electrical material, for Mechanical Division; 250 pieces boiler tubes, for stock.

Panama, May 28, from New York, with 63 bars tool steel, 1,616 pieces steel plates, for Dredging Division; 217 pieces pipe, Division of Municipal Engineering; 34 crates tubes, 46 cases electrical material, for Mechanical Division; nine crates ventilators, 14 cases electrical material, for Fortifications Division; 6,000 bags C. W. cement, 110 boxes ranges, 90 crates steel shelving, 30 boxes glass shades, for permanent buildings; 16,000 bags Portland cement, 750 kegs nails, 97 barrels, 70 crates, six boxes, 25 pieces, two kegs, pipe-fittings, 45 rolls wire fencing, 50 barrels flour, 59 bales rubber hose, for stock; and a miscellaneous cargo, the whole consisting of 25,682 packages, weighing approximately 1,830 tons.

Ancon, May 30, from New York, with 15 boxes ventilating apparatus, 10 boxes sash operating apparatus, for Mechanical Division; 80 barrels lime, 800 barrels plaster, for permanent buildings; 134 pieces steel rail for Division of Terminal Construction; four towing locomotives, for Division of Erection; 25 cases water coolers, 110,278 bags Portland cement, for stock; and a miscellaneous cargo, the whole consisting of 111,831 packages, weighing approximately 5,885 tons.

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Movement of Vessels at Port of Balboa.

The following vessels arrived at, or departed from, the port of Balboa during the week ending May 30:

Arrivals—May 25, *Isthmian*, from San Francisco; *Ucayali*, from Callao, *Ecuador*, from Guayaquil, *Peru*, (P. S. N.), from Callao; May 30, *Pleiades*, from San Francisco; June 1, *Mantaro*, from Callao.

Departures—June 25, *Pachitea*, to Callao, *Aysen*, to Valparaiso; June 28, *City of Para*, to San Francisco, May 29, *Rupanco*, to Guayaquil; June 1, *Peru* (P.M.S.), *Colusa*, to San Francisco; *Ucayali*, to Callao, *Ecuador*, to Guayaquil, *Peru* (P. S. N.), to Callao.

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Sale of Combined Pool and Billiard Table.

THE PANAMA CANAL,
OFFICE OF THE DEPOT QUARTERMASTER,
MOUNT HOPE, C. Z., May 28, 1914.

Sealed bids will be received at the office of the Depot Quartermaster, Mount Hope, until 2 o'clock p. m., Saturday, June 13, 1914, when they will be opened in the presence of attending bidders, for one combined pool and billiard table complete, with one set billiard balls, one full set pool balls, fourteen (14) cues, one cue ridge, one cue rack, buttons, and chart.

The table may be seen on any working day at the Cristobal shop store (near the colored commissary building) between the hours of 7 and 11 a. m., and 1 and 5 p. m.

Bids must be plainly marked "Proposal to purchase combined pool and billiard table, to be opened June 13, 1914," and addressed to the Depot Quartermaster, Mount Hope, C. Z. The right is reserved to reject any or all bids.

C. H. MANN,
Depot Quartermaster.

MOVEMENTS OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.

		Sails.	*Arrives.*
*Cristobal	P. R. R.	June 3	June 10
*Advance	P. R. R.	June 9	June 16
*Panama	P. R. R.	June 15	June 21
*Allianca	P. R. R.	June 20	June 26
*Colon	P. R. R.	June 27	July 3
*Advance	P. R. R.	July 3	July 10
*Panama	P. R. R.	July 10	July 16
*Allianca	P. R. R.	July 16	July 22
*Colon	P. R. R.	July 22	July 28
*Advance	P. R. R.	July 28	Aug. 4

CRISTOBAL TO NEW YORK.

†Cristobal	P. R. R.	June 18	June 25
†Advance	P. R. R.	June 22	June 29
†Panama	P. R. R.	June 28	July 4
†Allianca	P. R. R.	July 3	July 9
†Colon	P. R. R.	July 10	July 16
†Advance	P. R. R.	July 15	July 22
†Panama	P. R. R.	July 22	July 28
†Allianca	P. R. R.	July 28	Aug. 3

NEW YORK TO COLON.

Almirante	U. F. C.	June 3	June 10
*Tenadores	U. F. C.	June 6	June 12
Danube	R. M.	June 6	June 14
Prinz Joachim	H.-A.	June 6	June 15
*Santa Marta	U. F. C.	June 10	June 17
*Calamares	U. F. C.	June 13	June 19
Prinz Eitel Friedrich	H.-A.	June 13	June 23
*Metapan	U. F. C.	June 17	June 24
Pastores	U. F. C.	June 20	June 26
Tagus	R. M.	June 20	June 28
Prinz August Wilhelm	H.-A.	June 20	June 29
*Zacapa	U. F. C.	June 24	July 1
Tenadores	U. F. C.	June 27	July 3
Prinz Sigismund	H.-A.	June 27	July 7
*Almirante	U. F. C.	July 1	July 8
*Calamares	U. F. C.	July 4	July 10
Oruba	R. M.	July 4	July 12
Prinz Joachim	H.-A.	July 4	July 13

COLON TO NEW YORK.

†Pastores	U. F. C.	June 10	June 16
Zacapa	U. F. C.	June 11	June 18
Prinz Sigismund	H.-A.	June 14	June 23
†Tenadores	U. F. C.	June 17	June 23
Almirante	U. F. C.	June 18	June 25
Prinz Joachim	H.-A.	June 23	July 1
Oruba	R. M.	June 23	July 1
†Calamares	U. F. C.	June 24	June 30
Santa Marta	U. F. C.	June 25	July 2
Prinz Eitel Friedrich	H.-A.	June 28	July 7
†Pastores	U. F. C.	July 1	July 7
Metapan	U. F. C.	July 2	July 9
Prinz August Wilhelm	H.-A.	July 7	July 15
Trent	R. M.	July 7	July 15
†Tenadores	U. F. C.	July 8	July 14
Zacapa	U. F. C.	July 9	July 16

NEW ORLEANS TO COLON.

Parismina	U. F. C.	June 3	June 10
*Turrialba	U. F. C.	June 6	June 11
Cartago	U. F. C.	June 10	June 17
*Abangarez	U. F. C.	June 13	June 18
Heredia	U. F. C.	June 17	June 24

COLON TO NEW ORLEANS.

‡Atenas	U. F. C.	June 11	June 16
Parismina	U. F. C.	June 11	June 18
‡Turrialba	U. F. C.	June 18	June 23
Cartago	U. F. C.	June 18	June 25

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Piers 8, 9, and 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays at 3 p.m.; for New Orleans, viz Bocas del Toro and Havana, on Thursdays at 4 p. m.; ships for New York via Kingston, on Thursdays, at 2 p. m.; for New York direct, on Wednesdays at 2 p. m.; for Limon, on Saturdays at 4 p. m.; and for Port Limon direct, on Saturdays at 5 p. m.

The Hamburg-American steamers *Prinz Eitel Friedrich* and *Prinz Sigismund* sail from New York, via Kingston and Fortune Island, on Sundays at 2 p. m.; the *Prins August Wilhelm* and *Prinz Joachim* sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays at 10 a. m.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, JUNE 17, 1914. No. 43.

The Canal Record

Official publication of The Panama Canal.

The Canal Record is published weekly free of charge, one copy each, to all employes of The Panama Canal and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Division of Lighthouses Merged.

The Division of Lighthouses was transferred to the Division of Canal Transportation on June 16. The work remaining to be done on that date in connection with the lighting of the Canal was about, as follows: In addition to the beacon to be built at the outer end of the Toro Point breakwater, there are several more through the Canal and some of the buoys to be established. Owing to the constructive work, it has not been possible to complete these aids to navigation up to the present time, but they will be installed as rapidly as practicable. The districts for keeping the lights are three in number, as follows: The Atlantic section, including the lights from Gatun to Colon, with headquarters at Gatun; the Pacific section from Pedro Miguel to the sea, with headquarters at Balboa, and the Gatun Lake and Culebra Cut section, which, for the present, will be tended by the steam launch *Balboa*. Later, one of the French clapets in use by the Dredging Division will probably be converted into a lighthouse tender.

Closing Down of Empire Power Plant.

The electric light and power plant at Empire will be shut down about July 1, and thereafter, current for light and power will be supplied the towns on the west side of the Canal from the Miraflores steam plant. The Empire plant now supplies current for lights at Las Cascadas, Culebra, and Empire, and power for the operation of a few small motors at Empire and Culebra. In using current from the Miraflores plant, the existing overhead lines will probably be connected to the submarine cable which crosses the Canal at Cucaracha for the operation of the relay pumps on the west bank of the Cut in connection with the work of dredging. It will be necessary to change some of the transformers on account of the change in frequency from 60 to 25 cycles, but the transformers are available, and the cost of the work will be small.

The air compressor plant at Empire will be continued in service for some time longer, in order to supply air to the Division of Erection for work at Pedro Miguel Lock, and to the municipal division for the operation of a small pump used in connection with the Gold Hill sluicing work. The Division of Erection estimates that they will have no further use for this service after September 15, and it is probable that the air compressor plant can be closed down soon after that date.

Increased Water Service at Exposition Grounds.

A 10-inch water main is being laid by the municipal engineering division from the Ancon service mains to connect with the present 8-inch main in Calidonia road, Panama, to increase the effectiveness of the pressure in outer Calidonia and the Panama exposition grounds. The work was begun on June 9, and one gold and about 50 silver men are engaged on it. The line is to lead from the base of the hill at the low service reservoir, on the north side of Ancon, across the former baseball park, under the Panama railroad, and across lots to the orphan asylum, fronting on the Sabanas road. It will be 4,400 feet long, and its estimated cost is about $8,000. The Panama Canal is to pay for that part, slightly over 50 per cent, lying in the Canal Zone, and the Government of Panama will pay for the remainder. An auxiliary 10-inch line will be laid to a point near the present Ancon pumping station, to connect with the high service main. The high pressure is to be turned on when necessary for fire fighting, and check valves will be installed in the connections to prevent back pressure into the low service system.

Work of New Dipper Dredges.

The new dipper dredge *Paraiso*, excavating at the base of Cucaracha slide, is still in charge of a superintendent sent to the Isthmus by the Bucyrus Company, the contractor, to supervise the erection of the dredge's machinery and its initial operations. The superintendent is working the machinery slowly, to feel it out carefully under all combinations of strains. Before the expiration of the 30-day test period the dredge will be placed in charge of the Dredging Division and speeded up to normal performance.

Both the *Paraiso* and its twin, the *Gamboa*, are working in hard rock, excavating an outcropping dike of trap. This is an unusually hard, metallic rock, and a similar dike across the Pedro Miguel lock site caused considerable difficulty in excavation, by dulling drills and wearing out the teeth of steamshovels. The *Gamboa* and *Paraiso* are handling it with their 10-cubic yard dippers, provided with teeth of manganese steel. The 15-yard dippers can be used only in less exacting excavation. The *Gamboa*, which has been turned over to The Panama Canal and accepted, is being worked to full capacity, and is getting out an average of about 6,000 cubic yards per day, in two 8-hour shifts.

Abandonment of New Gatun.

It has been decided that no licenses for stores in the village of New Gatun will be issued after June 30, 1914, and that licenses already issued for periods after June 30 be cancelled effective on that date. The merchants, however, will be permitted to carry on business without license from July 1 to August 31, in order that they may have an opportunity to close out their stocks. The land agent has been authorized to cancel all leases to lots in the village on August 1, and no rentals will be collected for periods after July 31. The owners of houses will be permitted to remain on the ground and occupy their houses until December 31, 1914, but after that date they will be required to move. Free transportation will be granted over the Panama railroad, together with their personal effects and building materials recovered from their houses.

Advance of Transisthmian Duct Line.

In the first two months of construction of the transisthmian duct line ending June 14, the line has been completed, with the exception of manhole covers, from Gamboa to a point over two miles south of Frijoles, which is more than 12 miles. Duct, unconcreted has been laid about a mile further, and the trench has been dug about two miles further.

It is proposed to double the force on this work about July 1. A second construction division, made up like the present, of nine gold and approximately 425 silver employes, will begin work at the south end of the Gamboa bridge and advance toward Balboa.

Each division will be provided with its separate labor train, running out each morning from Colon or Panama. It is estimated that the field expenses of the two forces will aggregate about $1,175 per day.

Progress on Fender Chain.

Three sections of fender chain, two of which were 158 feet long, and one of which was 110 feet long, all three making one complete chain, 426 feet in length, arrived on the Isthmus on June 10, on the steamship *Tenadores*. One chain is being installed between chain fender machines Nos. 824 and 825 at Pedro Miguel Lock, to protect the intermediate gate in the east chamber. With the delivery, three and two-thirds complete chains, out of the 24 required, have reached the Isthmus. Fifteen have been manufactured, most of them now being under test in the United States. The delivery of the chain operating machinery, built by the United Engineering and Foundry Company, has been completed.

The chain fenders are the last of the large items of the lock operating and protective devices to be installed. The delivery of the chains, which are of unusual size and present many difficulties in manufacture, has been uncertain. Chains have been under order at three different American chain works simultaneously, and The Panama Canal is now inviting tenders from Europe for the remaining nine. The chains average from 418 to 434 feet in length, and the two for protecting the lower guard gates at Miraflores Locks are each 784 feet long, being specially arranged on account of the tidal fluctuation. They weigh about 85 pounds to the foot, nearly three times as much as the heaviest rails on the Panama railroad. The links are made from bars three inches in diameter, and each link in the principal part of the chain is 17 inches long by 10¾ inches wide. The chains are designed to withstand normally a tension of 220,000 pounds, or approximately 100 gross tons, which is about 50 per cent of their breaking load.

Working on Gatun Lake-Panama Water Supply System.

Work has been begun by forces of the Division of Municipal Engineering on the preparation of the site for the pumping station at the south end of the Chagres River bridge of the Panama railroad, by means of which water is to be pumped from Gatun Lake to Miraflores for purification and for distribution to all points south to the Pacific end of the Canal. The ground in the vicinity of the site has been cleared, a spur track has been laid from the main line of the Panama railroad, and excavation for the foundations of the pumping station is in progress. The force engaged in the work now includes three gold and about 50 silver employes.

Canvass of Canal Zone Population.

The Police and Fire Division is making, between June 16 and June 30, a house-to-house canvass of the population of the Canal Zone, which will vary slightly in form from the counts which the division has been making at approximately monthly intervals during the past year. The previous counts have classified Americans and all others, men, women and children in each division. The count in progress is to classify, in addition, employes of The Panama Canal and Panama railroad. The additional data have been requested by the Health Department. The canvass is made by Ancon, Empire and Cristobal police districts, each district being subdivided according to the centers of population, with a general count of the rural areas in between; in the count made between January 31 and February 10, 1914, eighty-eight places were included. The present count is to be reported by July 5.

PERSONAL.

Mrs. George W. Goethals sailed for New York on Wednesday, June 17, on the steamship *Tenadores*.

Under Joint Resolution No. 139 of the United States Senate, approved May 22, the President was authorized to grant leave of absence to an officer of the Corps of Engineers for the purpose of accepting an appointment under the Government of China on works of conservation and public improvement. Lieut.-Col. William L. Sibert, member of the former Isthmian Canal Commission and Division Engineer of the old Atlantic Division, has been selected for this mission, and on June 10, he sailed for China. Mrs. Sibert and daughter, Miss Mary Sibert, will acompany him as far as Yokohama, Japan, where they will remain for a time. Lieutenant-Colonel Sibert will be one of a board of officers, to be designated by the Republic of China, to make an examination and report on the reclamation of the Huai River, and afterward will act as chief engineer of the Huai conservation work, in pursuance of an arrangement between the American Red Cross and the Chinese Government.

Mr. Charles H. Motsett, the new superintendent of the Panama Railroad, has been in railway service since he was 18 years of age, and has had varied experience, principally in connection with the actual moving of trains and freight. His first work was as a clerk with the Great Eastern fast freight line, in 1891, and after about a year he became yard clerk at Peoria, Ill., for the Chicago, Rock Island and Pacific Railway. For the following 12 years he served alternately as yard clerk and switchman; in 1904, he was made assistant night yardmaster for the company at Rock Island, Ill. His subsequent positions have included general yardmaster for the same company at the joint terminals for Rock Island and Moline, Ill., and Davenport, Ia.; general yardmaster at Council Bluffs, Ia.; general yardmaster at Des Moines, Ia., at the Des Moines and Valley Junction terminals; and trainmaster with the Minneapolis and St. Louis Railway, with headquarters at Des Moines. He resigned from the last named position on February 16, 1908, to accept the position of freight trainmaster of the New York division of the New York, New Haven, and Hartford Railroad. On September 15, 1909, he was appointed trainmaster of freight terminals at Harlem River, with jurisdiction over the Harlem River branch, the New York freight stations, the East River piers, and the lighterage department. On September 15, 1913, he was appointed division superintendent of the New York division of the New York, New Haven, and Hartford, which position he held until May 20, 1914, when he resigned to come to Panama.

Mr. Charles E. Weidman, who was chief of the Division of Fire Protection until April 15, when it was merged with that of Police and Prisons, sailed for New Orleans on the *Atenas* on Thursday, June 11, and from there proceeded to his former home in Lincoln, Neb. He arrived on the Isthmus and assumed the duties of fire chief on December 1, 1905; at that time no regular organization for fighting fire in the Canal Zone had been established. The location of fire stations in the various Zone settlements as they then existed, and the organization of both paid and volunteer companies, together with the purchase of the requisite equipment to bring the service up to its present modern standard, were accomplished during his administration. Prior to coming to the Isthmus, he had been identified for many years with the Lincoln fire department, first, as fireman, and afterward rising, through successive promotions, to be its chief.

Mr. George A. Greenslade, who was until recently general superintendent in the Fourth Division in charge of terracing operations on the east bank of the Cut at Culebra, and other work, sails on the *Turrialba*, on Thursday, June 18, for New Orleans. He expects to go into private business on the Isthmus upon his return.

Mr. F. C. Clark, superintendent of Pedro Miguel and Miraflores Locks, sailed for the United States on June 12, on 42 days leave.

Missing Men.

Any one having information regarding the whereabouts of the following men are requested to communicate with Mr. J. L Caldwell, Box 147, Empire, in order that books being held for them may be delivered: Vernon Thompson, J. A. V. VanDyck, and P. L. Roberts.

Any one having information regarding the whereabouts of Mr. E. P. Robb, who is supposed to be on the Isthmus, is requested to communicate with Mr. H. R. Wilford, General Agent, United Fruit Company, Colon, R. P.

Any one having information regarding the whereabouts of Mr. Joseph Cornell, who is supposed to be on the Isthmus, is requested to communicate with his brother, F. Cornell, Corozal.

Ancon Social Club.

The Ancon Social Club holds its regular dances on the first and third Wednesday evenings of each month at Ancon lodge hall.

W. E. MURTACH, *President*.

ANCON, C. Z., June 16, 1914.

Estates Being Settled.

The following estates of deceased employes of The Panama Canal or the Panama Railroad Company are now in process of settlement by this office, and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings or postal money order deposits, or any other moneys due them, should be presented at this office at once, in order that the estate may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once:

DECEASED EMPLOYES.

Name.	*Check No.*	*Native of*	*Isthmian residence.*	*Employed by*	*Date of death.*
Albert Hoyte	219725	Barbados	Camp Bierd	Terminal Cons.	June 8.
Elisco Muscara	95119	Panama	Colon		June 7.
E. Sherry	202359	Martinique	Cristobal	Supply Dept.	June 3.
James Small	88813	Barbados	Balboa	P. R. R.	June 8.
Alexander Watts	190708	Jamaica	Paraiso	Municipal Eng.	June 9.
Haywood Winston	181856	Dominica	Cristobal	Dredging Div.	June 4.

INSANE EMPLOYES.

Name.	*Check No.*	*Native of*	*Isthmian residence.*	*Employed by*	*Date of commitment.*
Peter K. Katieff	207760	Russia	Gatun		June 4.
Donald Parris	26804	Barbados	Balboa	P. R. R.	June 11.
Albert Sears	168368	Barbados	Miraflores	Municipal Eng.	June 4.

SOCIAL LIFE OF THE ZONE.

High School Play.

The Canal Zone high school is making the tour of the clubhouses with a 3-act farce, entitled "The strange adventures of Miss Brown." It is a bright comedy, one entirely within the scope of the capabilities of the young students of the high school. In casting the play the principal parts were given to the members of the senior class. The following is the cast of characters:

Major O'Gallagen of the —th, British Army	William Fraser, '14
Mrs. O'Gallagen, his wife	Dorothy Magnuson, '14
Captain Courtney, of the —th regiment	James Loulan, '14
Herr von Moser, the music master	Fred Whiston, '15
Sergeant Tanner	Hartman Stevens, '16
Mike Dougherty	Dewey Mitten, '16
Angela Brightwell, an heiress	Gladys Mergendoller, '14
Miss Romney, head mistress in a boarding school for young ladies	Marion Stevens, '14
Millicent, Clara, Matilda, schoolgirls	Blossom Compton, '14; Dorothea Hill, '16; Esther Francis, '15
Emma, a maid	Mildred Herman, '17

Senior Class Day Entertainment.

The senior class of the Canal Zone high school held class day at the Pedro Miguel clubhouse on Friday evening, June 12. The entertainment hall was decorated in the school colors, black and gold, with pennants, and roses. The program consisted of original papers by the class of '14, musical selections, and was followed by an informal dance. The Guatemalan orchestra furnished the music. Invitations were sent to the parents and friends of the students. This is the first time that class day has been observed in the Canal Zone high school.

College Entrance Examinations.

College entrance examinations are being conducted this week in Ancon by Mr. A. R. Lang, superintendent of schools. Two members of the high school senior class are candidates. The first college entrance examination conducted in the Canal Zone was in 1911, when there were four candidates. The following year six applications were made by Canal Zone students. The examination papers issued by the College Entrance Examination Board, with headquarters in New York City, admits successful students to the colleges and universities in the East. The Canal Zone is the center for such examinations for students from Colombia, Costa Rica, Guatemala, and other countries of Central and South America.

The "Zonian."

The annual number of the Canal Zone high school paper, *The Zonian* has been printed and placed in circulation. The cover design shows a variation from the usual gray and black, being carried out in the high school colors, black and gold. The contents include contributions by the members of the senior class and the underschool a department devoted to athletics, an attractive photograph of the Ancon high school, and separate photographs of the members of the graduating class. The money accruing from the sale of the paper is to be devoted to defraying the expenses of its publication.

Visit of Bishop Knight.

The Rt. Rev. Albion W. Knight, D. D., Bishop of Cuba and vice-chancellor of the University of the South, will arrive on the Isthmus for his annual visitation to the Panama mission of the Episcopal church on Wednesday, July 1, coming from Havana, where he is attending the annual convocation of bishops. He will preach at St. Luke's Hospital chapel on Sunday, July 5, at the 10 o'clock service.

Camp Fire Girls at Pedro Miguel.

A movement to form a Camp Fire Girls organization in Pedro Miguel has been started, the request for the organization having been made by a number of schoolgirls residing in the village. Mrs. Fred Zane has been asked to be the guardian of the camp.

Red Cross Activities.

A Red Cross course of lectures for women on first aid is being arranged; the official list now contains 14 names. The lectures will be held in Ancon, and they will be begun as soon as ratification of the names and the appointment of the lecturer have been received from Red Cross headquarters in Washington.

Tennis Tournament.

A "Free for all singles" tournament was held at Ancon on May 30-31, and June 7. The results were, as follows:

Preliminaries—Fechtig defeated Bartholomew, 6–1; 6–2. Wells defeated Ohlson, 6–2; 7–5. Russell defeated Wechsler, 7–5; 4–6; 6–4. Shropshire defeated Erbe, 6–3; 6–2. Nevius defeated Force, 6–2; 7–5.

Second round—Fechtig defeated Smith, 6–2; 6–0. Wells defeated Russell, 6–0; 6–0. Nevius defeated Shropshire, 6–4; 6–0. Hall defaulted to Hart.

Semifinals—Fechtig defeated Wells, 6–4; 6–1. Hart defeated Nevius, 6–3; 3–6; 9–8, Nevius defaulting on account of heat exhaustion.

Finals—Fechtig defeated Hart, 6–0; 6–1.

Fourth of July Arrangements.

Two meetings of the chairmen of the Fourth of July committees have been held during the past week, the first, on Wednesday, June 10, at the Hotel Washington in Colon, and the second, on Monday, June 15, at the Hotel Tivoli in Ancon. A number of details were agreed upon at these meetings, and the arrangements, in general, including the patriotic exercises, and athletic and aquatic events are well in hand.

The train schedule will provide for the running of trains from both terminals about every two hours, with a shuttle service between Las Cascadas and Pedro Miguel connecting with all main line trains in either direction.

Refreshments will be served free on the dock, as in previous years. The Cristobal hotel will be kept open for as many hours during the day and evening as practicable, for the serving of meals at 30 cents each in either coupons or cash. Sandwiches will be sold throughout the day at the Canal clubhouse, and a special holiday service will be provided for at the Hotel Washington.

Provision will be made for dancing in the afternoon, as well as in the evening, and a space on the dock 200 feet in length and full width will be reserved for this purpose. The chairman of this committee has engaged the Colon municipal band, in addition to the Tenth Infantry band, to furnish music during the day and evening.

The chairman of the printing and publicity committee has been authorized to send invitations and complimentary transportation to business men and others in Panama and Colon who subscribed to the Fourth of July fund in previous years.

The Hon. William Jennings Price, United States Minister to Panama, has been invited to deliver the oration, and has accepted. A school chorus is being arranged in connection with the patriotic exercises by the superintendent of schools, who requests that all elementary schoolchildren above the third grade, who expect to be present on that day, drill on the following songs: "America," "Star spangled banner," and "Red, white and blue." Badges will be given those taking part.

The final meeting of the chairmen of the general committees will be held at the Hotel Washington in Colon on Thursday, June 25.

PROGRAM OF ATHLETIC EVENTS.

At a meeting of the committee on entertainment held at Cristobal on June 13, the following athletic events were decided on for the Fourth of July meet:

1. 100-yard dash (preliminaries and finals.)
2. 75-yard dash for boys.*
3. 12-pound shot put.
4. 100-yard low hurdles.
5. Running high jump.
6. 220-yard run.
7. Potato race.*
8. Running broad jump.
9. Pole vault.
10. 400-yard run.
11. Boys' relay, 75 yards, four boys in each team.*
12. 880-yard run.
13. Wall scaling contest. (Coast Artillery and Tenth Infantry.)*
14. Three-legged race.*
15. Tug-of-war. (eight men on a team.)*
16. One mile relay. (four men on a team.)

An entry fee of 25 cents must accompany each entry blank, this fee to be returned if the person competed. The events marked (*) are special events; all others are regular events. No one entered in the regular events can compete in the special events. In all events, except the tug-of-war, and the wall scaling contest, the prizes will be gold, silver, and bronze medals. The age limit of boys will be 16 years, and entry must be signed by parent or guardian. Boys will not be allowed to compete in the regular events. All entries accompanied by fees must be sent to A. N. Kjellander (clerk of course), care of Y. M. C. A., Empire, C. Z.

Competitive Pistol Shoot.

The results of the firing in the competitive pistol shoot held by the police division at the Empire range on Saturday, June 6 were, as follows:

Order.	*Name.*	*Rank.*	SCORE.*		*Aggregate*
			Bullseye target.	*Moving target.*	
1	Y. L. Harvill	1st-class policeman	134	44	178
2	O. G. Walters	1st-class policeman	130	38	168
3	J. M. Davis	Corporal	125	41	166
4	L. A. McIntyre	Sergeant	133	29	162
5	J. M. Feeley	Corporal	125	36	161
6	A. Durham	1st-class policeman	126	32	158
7	C. W. Barber	Chief of division	108	41	149
8	E. F. Ball	1st-class policeman	122	25	147
9	E. J. Krueger	1st-class policeman	104	34	138
10	Syd. King	Policeman	116	21	137
11	P. F. Lewis	1st-class policeman	83	45	128
12	M. Healey	1st-class policeman	81	24	105

*Possible score 200.

The contestants making the three highest scores will be awarded medals.

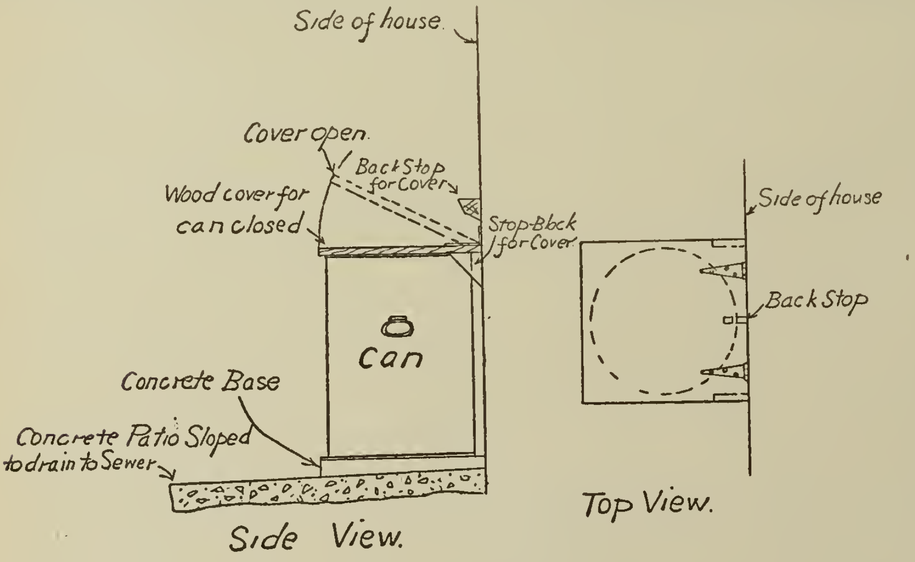
SANITATING PANAMA.

Methods Undertaken to Safeguard the Public Health.

The Panama Health Officer has established a score card system in connection with the inspection of bakeries, hotels, restaurants, bottling works; in fact, any place where food and drinks are prepared, or served. The requirements enumerated on these score cards vary to some extent, dependent on the character and necessities of the place, and in this manner, the regulations for bakeries differ in some respects from those for hotels. One hundred is regarded as a perfect score, and each requirement listed on the card is represented by a certain division of the whole number. The score card for the bakeries, which is more or less typical of all of them, provides, in addition to the name of the bakery, address, owner, date of scoring, and score, the following:

	Perfect score.
Room free from contaminating surroundings	4
Tight, smooth floors	2
Tight, smooth walls and ceiling	2
Light (Sunlight, 4; electric light, 2; gaslight, 1)	4
Ventilation	2
Large, convenient sinks	4
Convenient furnishings and machinery	2
Cleanliness of floors	6
Cleanliness of walls	4
Cleanliness of ceiling	2
Cleanliness of tables and furnishings	10
Cleanliness of sinks, 4; shelves, 2	6
Utensils-mixers	4
Utensils-pans, 2; knives and cutters, 2	4
Clean cloths for rolling jelly rolls, etc	2
Freedom from flies, cockroaches, and other insects	12
Attendants' aprons and overalls	4
Attendants' personal cleanliness	4
Storage for materials—flour	2
Storage for materials—milk, eggs, etc	2
Washroom and lockers	2
Water closet	2
Patio, yard, or alleys	2
Disposal of refuse	4
Storage of baked goods	4
Transportation—wagon	2
Transportation—drivers and methods	2
Total	100

It will be noted that the largest number of points credited to any individual item is 12 for freedom from insects; by far the greater number of points is credited to cleanliness in its various forms. Fifty is the minimum score permissible; all owners of bakeries who fall below this standard upon an inspection are subject to a fine, or the closing up of their places of business. In an inspection made recently of the bakeries in Panama city, it developed that, in many cases, gross negligence was practiced in respect to the above conditions, and in 10 cases fines were imposed. Inspection of all places of business mentioned above are to be made regularly, and by means of the score cards, an accurate tab can be kept on the sanitary conditions of the premises.



Selfclosing Garbage Can and Stand in Use in Panama City.

STANDARD TYPE GARBAGE CAN.

Pursuant to Section 14 of decree No. 14 of 1913, issued by the President of Panama, the Panama Health Office has approved the type of garbage can to be used in the future. The can must be strongly built of galvanized metal, 19 by 25 inches in size, and must be provided with a selfclosing cover, which shall fit over the top of the can perfectly. These cans are to be placed in an approved location, and where the floor is sloping, as in the patios of most buildings, on a concrete foundation; these bases must be at least two inches high. The covers to the cans are of wood, home made, fitted to two hinges fastened to the wall of the building, and to prevent them from staying back, when opened, a wooden check is fastened to the wall at a point where it will strike the covers about midway. The accompanying sketch shows how the can appears when in proper position.

Under the new arrangement, it is mandatory on the property owners to provide their premises with these cans at their expense, whether occupied by themselves, or by tenants, and a reasonable length of time from the posting of the notice will be allowed in which to comply. Garbage cans will hereafter be sold at $5.25, Panama silver, each, and the selfclosing covers at $1, Panama silver, each. The concrete foundations will be installed by the health authorities at actual cost.

The adoption of a standard type of garbage can, and making its use mandatory, will do away with the heterogeneous collection of containers which, in the past, has offended the eyes and nose of the passerby on Panama city streets at about 10 o'clock in the evening, and will tend to greatly improve sanitary conditions, as under the tolerated custom above referred to, a large proportion of the contents of the cans fell out, or the cans were kicked over into the street before the garbage wagon made its rounds. In order to adequately care for the garbage, the Health Officer has arranged that, in future, three collections in every 24 hours will be made in certain districts; two collections in others, and one in the residence section. The practice indulged in by the garbage collectors ever since the collection of garbage was first begun, namely, of throwing the cans to the sidewalk or street with all the force at their command, after emptying them, has been discontinued, and this historic nuisance is now subject to a fine.

MILK AND DAIRY INSPECTION AND TUBERCULIN TESTS.

A first inspection has been completed of all the dairies and their product in the environs of the city, the Health Officer extending his jurisdiction, however, only to those dairies and keepers of cows that produce milk for local resale and consumption. Only two keepers of cows were found that did not come up to the proper standard, and these did not produce milk for public sale. On the whole the quality of the milk was found to be good, this being aided by the fact that most of the dairymen stall feed their cows. The containers which the retailers use for keeping the milk have been looked upon in some quarters with suspicion, but the investigations of the Health Office show that, as a rule, they are regularly and properly cleansed, and generally free from contamination. Many retail dealers boil the milk upon its delivery to them to keep it fresh longer; many Panama housekeepers also boil the milk as a safeguard.

The Health Office is now preparing to make a tuberculin test of dairy cows and meat cattle, and has arranged with the Panama authorities, whereby the city will furnish the services of its official veterinarian, while the Health Office will supply the tuberculin, loan the instruments, and employ one man as assistant. The few tests made to date show surprisingly few infected cattle.

SALE OF LARVACIDE.

Arrangements have been made whereby larvacide will be sold to residents of the cities of Panama and Colon at cost. The price will be 50 cents, United States currency, per gallon, or 15 cents, United States currency, per liter. The containers in amounts less than one gallon will be supplied by the health authorities free; containers of one gallon capacity, or over, must be supplied by the purchaser, or paid for. The use of larvacide is particularly valuable around hotels and restaurants as a destroyer of flies.

VACCINATION.

The vaccination campaign is still on, and has been made to include the adult population, as well. Over 4,000 persons in the city of Panama have been treated to date.

Obituary.

Clarance O. Hobson, an American living at Mount Hope, died at a private hospital in Colon on Wednesday, June 10. He arrived on the Isthmus and entered the Canal service as a fireman on November 5, 1906; in September, 1907, he was promoted to steamshovel craneman, and on September 1, 1910, to steamshovel engineer, a position he held until he resigned on May 26, 1912 to go into private business. Prior to coming to the Isthmus, he served six months as a private, six months as a corporal, and two years as a sergeant in the 7th Artillery. He was born at Marion, Ind., was 32 years of age, and married. He is survived by his wife and two children. His father, J. H. Hobson, lives at Delong, Ind. The funeral services will be held on Sunday, June 21, at 2 p. m., at the Union chapel, Cristobal. The Masonic burial service will be read.

PERMANENT QUARTERS.

Reduction in the Number to be Built Owing to Insufficiency of Funds.

Owing to a curtailment of the allotment of funds for the construction of permanent buildings at the new Balboa townsite for the fiscal year beginning July 1, 1914, a reduction in the number of permanent quarters previously planned has been decided on. The plans contemplated the erection of 30 quarters of the 4-family type, and 15 of the 2-family type. The change will reduce the number of the 4-family type houses to 28, and the number of 2-story, 2-family type houses to nine; work is in progress by the permanent building division on all of these quarters at the present time. Only one of the new buildings has been completed to date, namely, a 4-family quarters, house No. 702, one of the first to be begun. It is now occupied, assignments to space in it having been made by the district quartermaster to employes of the Mechanical Division.

The new quarters vary but little from each other in the details of construction, the differences being principally confined to the front steps and entrances, the design of which conforms to the topography of the ground on which the building stands. The walls on the interior of house No. 702 were finished in white cement, but in the remainder of the buildings a hard white plaster coat will be applied. In the 4-family houses, each family is provided with a sitting room, dining room, two bedrooms, a large front porch, bathroom, and kitchen. The washing is done on the kitchen veranda, and the drying may be done in the basement, to which access is had by the occupants of the house by a common stairway descending partly in the interior, and partly on the exterior of the building. All the houses of the permanent 4-family type are to be numbered from 700 up, and the 2-family houses from 800 up; the numbers 500 to 700 in the Ancon-Balboa district are reserved for the buildings in the silver settlement at La Boca, and the numbers below 500 for the wooden buildings in this district existing, or hereafter to be erected.

The curtailment of funds will also affect some of the proposed public buildings. The only structures in the new town of Balboa of a permanent type authorized and remaining to be erected are the railroad station, the cost of which is to be borne by the Panama railroad, the commissary, the cost of which will be paid out of the commissary funds, a combined police station and courthouse, and a fire station. A concrete motor garage had been planned, but this has been changed to a wooden building. The schoolhouse will be built of material in four Type-5 buildings to be taken down in the line settlements.

Joint Land Commission.

No cases have been set for hearing for the week ending June 27, as the time of the commissioners will be fully occupied with the consideration of cases already heard. On Friday, June 19, the commissioners will hear the arguments on the question of squatters' rights.

Suction Dredge "Culebra" Returns to Pacific Side.

The suction dredge *Culebra* returned to Balboa from the Atlantic side on Sunday, June 14, leaving Cristobal Harbor at about 8 a. m., and arriving at Balboa at about 5 p. m. The passage of the locks was made successfully and the trip was without special incident. The dredge has been set at work deepening the berth of vessels alongside the Panama railroad steel pier, and when this has been completed, it will be used in other dredging operations in the Pacific entrance. The *Culebra* was accompanied by the tug *Mariner*, two barges loaded with coal, and a coal hoist. This is the first continuous passage of a vessel the size of the *Culebra* through the Canal.

Notice Relative to Accrued Leave Payment.

It is the intention to pay the tickets for accrued leave earned to March 31, 1914, in July, at the same time the June tickets are paid. Accrued leave will be paid in cash unless request is received by the paymaster not later than June 25 for a Treasury check. Each ticket will be paid in full either in cash or by check and not part in cash and part by check. If a part in cash and a part by check be desired, the pay receipt will be cashed and a Treasury check in "Exchange for funds" given for the amount desired. Cash may be deposited at any pay office for a check in "Exchange for funds". All Treasury checks are signed at Empire and will be forwarded the next day to the pay office where money was deposited for delivery. This provision relates to the accrued leave payment only, and will not prevail except for that payment.

It is requested that each department designate one person or more to prepare lists of employes in that department desiring a Treasury check for his accrued leave pay, so that each employe will not have to 'phone, or write, direct to the paymaster.

JOHN H. MCLEAN,
Paymaster.

Approved:
GEO. W. GOETHALS,
Governor.

EMPIRE, C. Z., June 3, 1914.

The "Santa Clara" May Try the Pacific Locks.

The *Santa Clara* of W. R. Grace and Company's steamship service, which is due to arrive at Balboa on Thursday morning, June 18, may be taken through the Pacific locks to Culebra Cut and return, soon after its arrival, for a trial similar to that made by the steamers *Allianca* and *Ancon* at Gatun Locks. The *Santa Clara* is of 6,000 gross tons, and was built at the Cramp shipyards at Philadelphia in 1913. It has a length of 404.5 feet, breadth, 53.8 feet, and molded depth of 28 feet. It is loaded with two and one-half million feet of lumber for the Panama Canal.

Increased Accommodations at Colon Detention Station.

The building formerly occupied as nurses' quarters at Colon Hospital will be turned over to the Quarantine Service, to be used as an annex to the Colon detention station, the capacity of which has been overtaxed. The employment of three attendants and one maid additional has been authorized in this connection.

Whistle Signal for Fire Alarm Service.

The following whistle signal for fire alarm service in the Canal Zone has been adopted as standard: Four prolonged blasts of from four to six seconds duration repeated three times. This signal will be sounded on whistles at power plants, when alarms are received, either by the ringing of gongs, or by telephone. Tugs clapets, and other vessels equipped with pumps and under orders to serve at fires will report at the scene promptly upon receiving an alarm and render service under the direction of the officer or fireman in charge of the district in which the fire occurs. When the above whistle is sounded by a vessel, it will indicate that there is a fire on board of it.

Results in "Telephone" Athletic Meet.

Two hundred and eleven boys and girls participated in the public school athletic "Telephone" meet held at the Balboa, Corozal, Empire, Gatun, and Cristobal clubhouses on Friday evening, June 12. The winners in the different events were, as follows:

EVENTS FOR GIRLS.

75-lb. class.

Standing broad jump—Horne, Corozal, distance, six feet three inches.

Potato race—Horne, Corozal, time, 13 2/5 seconds.

15-yard dash—Coffee, Corozal, and Brugge, Cristobal, time, 2 3/5 seconds.

90-lb. class.

Standing broad jump—Steele, Cristobal, distance, six feet 3½ inches.

Potato race—Appleton, Cristobal, time, 12 2/5 seconds.

15-yard dash—Morton, Balboa, and Appleton, Cristobal, time, 2 3/5 seconds

110 -lb. class.

Standing broad jump—Clausen, Cristobal, distance, six feet 3 1/2 inches.

Potato race—Campbell, Empire, time, 18 3/5 seconds.

15-yard dash—Farrell, Cristobal, and Hall, Empire, time, 2 3/5 seconds.

140-lb. class.

Standing broad jump—Morrison, Corozal, distance, six feet two inches.

Potato race—Morrison, Corozal, time, 20 2/5 seconds.

15-yard dash—Morrison, Corozal, time, 2 3/5 seconds.

EVENTS FOR BOYS.

75-lb. class.

Standing broad jump—Miller, Corozal, distance, six feet 10 inches.

Potato race—Golden, Empire, time, 11 3/5 seconds.

15-yard dash—Golden, Empire, time, 2 2/5 seconds.

90-lb. class.

Standing broad jump—Appleton, Cristobal, distance, seven feet seven inches.

Potato race—Christian, Gatun, time, 16 2/5 seconds.

15-yard dash—Appleton, Cristobal, time, 2 2/5 sec.

110-lb class.

Running broad jump—Engelke, Empire, distance, 15 feet.

Running high jump—Engelke, Empire, distance, four feet 6 3/4 inches.

Potato race—Watson, Corozal, time, 22 2/5 seconds.

15-yard dash—Engelke, Empire, time, 2 1/5 seconds.

140-lb. class.

Running broad jump—Penman, Corozal, distance, 15 feet 3½ inches.

Running high jump—Cotton, Cristobal, distance, four feet 7½ inches.

Potato race—Penman, Corozal, time, 36 1/5 seconds.

15-yard dash—Penman, Corozal, time, 2 2/5 seconds.

SUMMARY OF POINTS.

Corozal—Boys, 74; girls, 93. Total, 167.
Cristobal—Boys, 57; girls, 89. Total, 146.
Empire—Boys, 61; girls, 34. Total, 95.
Gatun—Boys, 44; girls, 17. Total, 61.
Balboa—Boys, 29; girls, 31. Total, 60.
Pedro Miguel—Boys, 11; girls, three. Total, 14.

The total number of contestants was 211, divided, as follows: Boys, 109; girls, 102.

Privileges to Colored Teachers During Vacation.

The colored teachers in the Canal Zone schools will be granted the commissary privilege, and will be allowed to retain any Government quarters they may now occupy, during the three months' school vacation, provided they are selected for the teaching staff during the ensuing school year, and provided further, that they fail in procuring other employment during this period.

Order of Isthmian Conductors.

The next regular meeting of the Order of Isthmian Conductors will be held on Sunday morning, June 21, at 9.30 o'clock, in Ancon lodge hall. GEO. B. ALLEN, *Secretary.*

COROZAL, C. Z., June 15, 1914.

OFFICIAL CIRCULARS.

Notice to Mariners.

The Panama Canal,
Executive Office,
Culebra, C. Z., June 17, 1914.

Circular No. 643-2:

OUTER, OR BAY ANCHORAGE, PORT OF BALBOA.

1. The outer, or bay anchorage, for the port of Balboa is designated, as follows:

South of latitude 8° 55′, within the arc of a circle having channel buoy No. 1 as a center and a radius of three miles.

Vessels anchoring off this port should be careful to keep within these limits.

Geo. W. Goethals,
Governor.

Passes for Employes Working at a Distance from Their Quarters.

The Panama Canal,
Executive Office,
Culebra, C. Z., June 3, 1914.

Circular No. 608-1:

1. An employe on the gold roll occupying family quarters of The Panama Canal at a point other than his official station may be granted a weekly pass to visit his family under the following conditions·

2. In cases where an employe occupies quarters at his official station and is transferred at the instance of The Panama Canal to a point where quarters are not immediately available.

3. In cases where an employe, who formerly occupied quarters accessible to his official station, is subsequently transferred at the instance of The Panama Canal to a distant point. For example, an employe occupying quarters at Corozal or Ancon and working at Balboa would be regarded as accessible to his official station, but if subsequently transferred to Cristobal, he would be granted a weekly pass.

Geo. W. Goethals,
Governor.

Measuring of Sand, Gravel and Stone.

The Panama Canal,
Executive Office,
Culebra, C. Z., June 1, 1914.

Circular No. 637–2:

In order to simplify accounting, Circular No. 637–1 amending Circular 637 as regards the measurements of large and small Western dump cars, will be considered effective as of June 1, 1914.

Geo. W. Goethals,
Governor.

Caution Against Unauthorized Climbing of Track-span Bridges.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., June 10, 1914.

Heads of Departments and Divisions:

Attention is called to the placing into service of two lighthouse circuits, which have been run on the transmission line bridges (1) between New Gatun and Mindi (west side) and (2) between Gamboa station and old Tower R (east side). These two circuits will be made alive at 2200 volts on June 15, 1914. Unauthorized climbing of track-span bridges will probably result in accident.

Geo. W. Goethals,
Governor.

Preparation of Material for Annual Report.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., June 12, 1914.

Heads of Departments and Divisions:

It is desired that annual reports for the fiscal year ending June 30, 1914, be in this office not later than August 1. The reports will be submitted in quintuplicate, on the same size and kind of paper as that used for previous annual reports, viz., 8 by 14 inches.

Reports will be submitted to the Governor, by the Engineer of Maintenance for the Division of Erection, Electrical Division, Division of Municipal Engineering, Division of Lighthouses, and the Office Engineer; by the Division of Canal Transportation; the Division of Terminal Construction; the Dredging Division; the Mechanical Division; the Fortification Division; the General Construction Division; the Purchasing Department; the Supply Department; the Accounting Department; the Health Department; the Executive Secretary; the Washington Office; the Costkeeping Accountant, and the Special Attorney.

In cases where certain duties or certain parts of the construction work have been transferred from one department or division to another, or where new departments or divisions have been created, the department or division in which the work or duties are lodged as of June 30, 1914, will render report for the entire fiscal year, securing any necessary data from the official formerly in charge of the work.

The official photographer will take the necessary photographs to illustrate the report. Those departments or divisions whose reports require illustration should notify this office immediately what photographs will be required, so that the work may be planned properly. The photographs are intended to show the progress of the work, especially new features, and no photograph will be included the subject of which was sufficiently covered in a former report.

Geo. W. Goethals,
Governor.

Accountable Official.

The Panama Canal,
Office of the Auditor,
Empire, C. Z., June 8, 1914.

Circular No. 60:

All concerned—Effective this date, Mr. F. C. Nichols, assistant engineer, Division of Terminal Construction, is designated an accountable official.

H. A. A. Smith,
Auditor, The Panama Canal.

Approved:
Geo. W. Goethals,
Governor.

List of Numbered Panama Canal Circulars.

The Panama Canal,
Office of Executive Secretary.
Culebra, C. Z., June 12, 1914.

Heads of Departments and Divisions:

For the convenience of officials and employes who are keeping a file of Panama Canal circulars, the following list of numbers of circulars issued to date is given to enable a check to be made against the various files:

600 to 600–3, inclusive.
601 to 601–8, inclusive.
602 to 602–7, inclusive.
603 to 603–3, inclusive.
604 to 607, inclusive.
608 to 608–1, inclusive.
609 to 613, inclusive.
614 to 614-1, inclusive.
615 to 617, inclusive.
618, 618-Rev.
618–1.
619 to 622, inclusive.
623 to 623–1, inclusive.
624 to 629, inclusive.
630 to 630–1, inclusive.
631 to 631–1, inclusive.
633 to 636, inclusive.
637 to 637–1, inclusive.
638.
639 to 639–1, inclusive.
640 to 642, inclusive.
643–1 to 643–2, inclusive.
644 to 649, inclusive.
651 to 659, inclusive.
660 to 660–14, inclusive.
661 to 661–9, inclusive.
662 to 665, inclusive.
666, 666-Rev.
667 to 673, inclusive.

C. A. McIlvaine,
Executive Secretary.

Corral Charges to be Paid in Advance.

The Panama Canal,
Office of Executive Secretary,
Culebra, C. Z., June 9, 1914.

Attention is called to the provisions of Circular No. 672 that corral charges must be paid in advance, and not later than the 5th of each month.

C. A. McIlvaine,
Executive Secretary.

Acting Superintendent of Pacific Locks.

Culebra, C. Z., June 12, 1914.

To all concerned—During the absence of Mr. Frank C. Clark on vacation, Mr. Ernest E. Lee, in addition to his other duties, will act as superintendent of the Pacific locks.

H. F. Hodges,
Engineer of Maintenance.

Sailing of the "Advance" and "Cristobal."

Panama Railroad Company,
Office of Superintendent,
Colon, R. P., June 15, 1914.

Circular No. 434:

All concerned—The steamship *Advance* will sail from Pier 11, Cristobal, on Friday, June 19 at 3 p. m., instead of June 22, as scheduled.

The steamer *Cristobal* will sail from Pier 8, Cristobal, on Monday, June 22, at 3 p. m., instead of June 18, as scheduled.

C. H. Motsett,
Superintendent.

Northern District, Division of Municipal Engineering.

Gatun, C. Z., June 10, 1914.

To all concerned—During the absence on leave of Mr. E. H. Chandler, superintendent, northern district, effective June 12, 1914, Mr. W. F. Ashton will be in charge of the municipal engineering work in that district, as acting superintendent.

Geo. M. Wells, *Resident Engineer,*
Division of Municipal Engineering.

Supplies for the Canal.

The following steamers, with supplies for The Panama Canal and the Panama Railroad Company, arrived at the ports of Colon, Cristobal, and Balboa during the two weeks ending June 13, 1914:

Origen, May 31, from Mobile, with 297 pieces creosoted switch ties, for stock.

Prinz August Wilhelm, June 2, from New York, with 60 barrels carbolineum, for Division of Terminal Construction.

Heredia, June 3, from New Orleans, with 53 boxes window frames, sash, etc., for Division of Erection; 12,511 feet B. M., oak lumber, for Division of Terminal Construction; 11,568 feet B. M., yellow pine lumber, for Mechanical Division; 57 pieces untreated piling, 46 barrels rosin, for stock.

Zacapa, June 3, from New York, with 29 cases electrical material, for Panama Railroad Company; 255 bars steel, for stock.

Allianca, June 3, from New York, with 32 packages chain fender material, for Division of Erection; 20 cases machinery, 31 boxes ventilators, for Division of Fortifications; 60 pieces pipe, for Division of Municipal Engineering; 58 bundles pipe, for Panama Railroad Company; 5,500 pieces hollow tile, for permanent buildings; 38 cases nuts, 160 bundles wheelbarrows, 12 barrels metallic oil, 32 cases paint, 34 cases rubber hose, 17 barrels soap, 27 cases files, 70 crates galvanized iron pails, for stock; and a miscellaneous cargo, the whole consisting of 6,344 packages, weighing approximately 208 tons.

Atenas, June 4, from New Orleans, with 81 packages wire screen partitions, 2,072 pieces oak lumber, for Mechanical Division; 10 pieces untreated piling, for Division of Terminal Construction; 163 pieces untreated piling, 56 crates paste, 11 cases rubber, for stock.

Pastores, June 5, from New York, with 16 reels cable, for Mechanical Division; 147 packages steel shelving, for stock; nine crates valves, six pieces pipe, for Division of Municipal Engineering; 46 packages lighting and ventilating material, for Division of Fortifications; 49 packages chain fender material, for Division of Erection.

Thelma, June 3, from Brunswick, Ga., with 870 pieces untreated piling, for Division of Terminal Construction.

Hero, June 6, from Gulfport, with 150 pieces oak lumber, 39 barrels oil of creosote, 6,825 pieces standpipe and fittings, 1,603 pieces cast iron pipe, for stock.

Cuzco, June 9, from San Francisco, with 735,798 feet B. M., fir lumber, 732 feet B. M., sugar pine lumber, for stock.

Prinz Sigismund, June 9, from New York, with 222 coils manila rope, for stock.

Parismina, June 10, from New Orleans, with 16,548 feet B. M., oak lumber, 12,548 feet B. M., yellow pine lumber, for Mechanical Division; 1,800 feet B. M., oak lumber, 15,535 feet B. M., yellow pine lumber, 54 pieces untreated piling, for stock.

Almirante, June 10, from New York, with 22 pieces, and two boxes pump parts, for Dredging Division; 20 boxes warehouse trucks, for Panama Railroad Company; 33 packages lighting fixtures, for Division of Fortifications.

Turrialba, June 11, from New Orleans, with 252 barrels brick, for Panama Railroad Company; 54,977 feet B. M., yellow pine lumber; 43,455 feet B. M., poplar; 17,403 feet B. M., oak lumber, for Mechanical Division.

San Mateo, June 11, from New York, with 247 barrels lime, for permanent buildings; 10,560 bags cement, for stock.

Cristobal, June 11, from New York, with 52 boxes electric lamps, 200 pieces angle iron, 42 bundles bar iron, 143 barrels clay, for Mechanical Division; two towing locomotives, for Division of Erection; 115,440 bags cement, 25 boxes tools, 1,209 bales hay, 283 coils wire, 616 boxes bolts, 305 kegs bolts, for stock; and a miscellaneous cargo, the whole consisting of 118,529 packages, weighing approximately 6,185 tons.

Tenadores, June 12, from New York, with 31 kegs copper nails, two cases copper nails, for permanent buildings; three fender chains, for Division of Erection; 40 crates cant hooks, 40 cases candles, 200 cases linseed oil, for stock.

Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun and Miraflores Lakes for the week ending midnight, Saturday, June 13, 1914. All heights are in feet above mean sealevel:

Day and Date.	Stations.				
	Vigia.	Alhajuela	Gamboa.	Gatun Lake.	Miraflores Lake.
Sun., June 7	128.00	94.10	84.80	84.87	50.86
Mon., June 8	129.15	94.90	84.88	84.88	51.35
Tues., June 9	130.90	96.30	84.91	84.87	52.58
Wed., June 10	128.85	95.30	84.97	85.00	53.27
Thurs., June 11	128.55	94.43	85.00	85.04	53.41
Fri., June 12	128.35	94.33	84.88	84.93	53.57
Sat., June 13	126.55	93.25	84.84	84.89	53.94
Height of low water to nearest foot	125.0	91.0			

CANAL CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The schedule for moving pictures for the week, June 22 to 27 is, as follows: Monday, Corozal; Tuesday, Balboa and Gatun; Wednesday, Culebra; Thursday, Pedro Miguel; Friday, Cristobal; Saturday, Empire.

COROZAL.

The high scores on the bowling alleys for the week ending June 13 were, as follows: *Tenpins*—Parkis, 244; Thirsk, 230, 211; C. Sims, 224; Davis, 206. *Duckpins*—Parkis, 131, C. Sims, 131; Phillips, 115, 102; Ruggles, 106, 103; Davis, 102, 100.

PEDRO MIGUEL.

The Tenth Infantry band gave a concert on Thursday evening, June 11.

The following high scores were recorded in duckpins last week: Braw, 106, 102, 100; Davis, 110, 102, 102; Van Fleet, 104; Kent, 104; Pendry, 102; Whiston, 100. The ragtime duckpin tournament closed with Murray and Whiston in the lead, with a score of 587. The high individual score was made by Vandeburgh, 121. Gold medals will be given for the doubles, and a silver medal for the individual high score. A pair of shoes will be given for high tenpin score during June. Farrar is leading with a score of 231.

Probably the last game of duckpins of the season was rolled on the local alleys on the evening of June 11, between Corozal and Pedro Miguel. The score follows: Corozal, 404, 424, 451; Pedro Miguel, 437, 446, 454.

EMPIRE.

Mr. W. H. Warr, who has been secretary of the Empire clubhouse since September 23, 1911, has resigned to take effect June 21. Mr. A. N. Kjellander has been appointed acting secretary. The Empire clubhouse is to be reerected at Balboa, and it is likely that the work of demolition will start in July. Since the time of its opening in 1907, the clubhouse has been well patronized by employes and their families. The largest membership recorded was 410 on August 31, 1913, and the highest percentage of membership, according to the male gold population, was 71 per cent recorded in September, 1912. The average membership since the date of opening has been 354.

GATUN.

A farewell reception was given at the clubhouse on Saturday evening, June 13, in honor of the officers and men of Companies I and M of the Tenth Infantry. The clubrooms were appropriately decorated with American flags, bunting, ferns, flowers, etc. An outdoor band concert was given between 7.30 and 8.30 p. m. An indoor baseball game between Cristobal and Gatun followed, which resulted in a victory for the latter; score, Gatun 13; Cristobal 11. At 9.30, an informal reception was held on the first floor, when the following program was given: Remarks, by the secretary; piano solo, Mrs. D. R. Walker; tenor solo, Private Hans Wiedemann; recitation, Sylvia Marie Edwards Spanish recitation, Private Goldenthal; bass solo, Louise Cantor; monologue, Private Thompson; baritone solo, Private Menery; hand balancing, Private DeFeld; closing remarks, W. C. Gayer, chairman of the executive council. After the program, home made cake and punch were served, following by general singing.

The standing in the ragtime tenpin tournament is, as follows:

SCORE JUNE 8 TO JUNE 12, INCLUSIVE.

Humphrey	169	178	137	484	
O'Meara	175	173	175	523	1,007
Conley	134	174	135	443	
Humphrey	157	189	144	490	933
O'Meara	187	170	188	545	
Gray	129	104	124	357	902
Ley	145	127	102	374	
Hodges	156	165	204	525	899
Easter	138	168	159	465	
Hodges	177	141	114	432	897
Conley	155	140	179	474	
Kiger	117	166	139	422	896
Schandler	123	191	131	445	
Conley	131	169	138	438	883
Ley	138	146	118	402	
Humphrey	161	187	130	478	880
Gray	150	97	129	376	
Schandler	136	130	193	459	835
Bullock	105	130	143	378	
Hodges	166	143	141	450	828

The standing in the tropical pool tournament is, as follows: Wright, 764; Duffy, 682; Conley, 610; Feehan, 434; Goree, 382; Loulan, 308; Kerruish, 300.

The chess match between Cristobal and Gatun on Saturday, June 13, resulted in a tie 2½ and 2½. Gatun, however, won the rubber, making the results 3½ and 2½. The players were Verner and Brown for Cristobal, and Marquand and Morgan for Gatun.

Messrs. Wright and Sales gave piano and drum music at the motion picture entertainment on Tuesday evening, June 16.

CRISTOBAL.

The "Doves" defeated the "White Sox" on Tuesday evening, June 9, in the indoor baseball league; score, 19 to 7.

Minot Cotton broke the Cristobal indoor record for the high jump for boys, when he cleared the bar at four feet, seven and one half inches, during the recent school telephone meet.

An interesting feature of the consideration of the state of affairs in Mexico before the discussion club, on Thursday, June 11, was the large number who took part in the discussion. The preponderance of sentiment seemed to be that Mexico will not have peace until the United States brings it about. The debate scheduled for June 25 is on the proposed treaty with Colombia.

The checker match between Culebra and Cristobal, on Saturday, June 13, resulted in a victory for Culebra. The scores follow:

Culebra.	*W.*	*L.*	*D.*	*Cristobal.*	*W.*	*L.*	*D.*
Barte	5	4	1	Moore	1	9	0
Armstrong	6	3	1	Stevens	0	8	2
Rattiner	8	1	1	Larsen	4	5	1
Dr. Dunn	8	1	1	Morgan	2	8	0
Whaler	5	4	1	Knight	6	2	2
Totals	32	13	5		13	32	5

The members of the girls' clubs and gymnasium classes gave Mr. and Mrs. Brittin a surprise in the form of a reception on Wednesday, June 17.

Mr. H. D. Brittin, assistant secretary of the Cristobal clubhouse, sails on the *Cristobal* on a 60-day leave of absence. Mr. Brittin proposes to spend most of his time while away at the Harvard summer school, finishing his course there; also, as one of the faculty.

The high duckpin scores for the week were: Harper, 114; Margon, 110; Claherty, 108; Bevington, 106; Gill and Collins, 104; G. Butters, 103; Goebel and C. Cotton, 102; Russell, 101; Kaunitz, 100.

The regular single folks' duckpin tournament will be held on Monday, June 22.

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Misdirected Letters.

ANCON, C. Z., June 17, 1914.

The following insufficiently addressed letters originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be secured upon request of the addressees:

Antonio, Russi
Bowen, Geo. M.
Clowe, V. C. (5)
Fagerlund, W. A.
Francis, Geo. H.
Jones, Charles E.
Lenow, C. B.
Picken, H. E.
Santos, Z., José F.
Woolf, Bob.

◆

Rainfall, June 1 to June 13, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	.59	1	2.82
Balboa	.55	8	1.88
*Miraflores	.46	4	1.50
Pedro Miguel	1.68	8	5.33
Rio Grande	1.58	1	5.88
Central Section—			
Culebra	.99	9	3.89
*Camacho	1.58	2	5.76
Empire	1.57	9	4.32
Gamboa	3.05	11	8.98
*Juan Mina	1.98	9	6.71
Alhajuela	3.45	9	7.13
*El Vigia	3.56	9	10.86
Frijoles	1.40	5	5.84
Trinidad	......	......	......
*Monte Lirio	1.55	9	5.85
Atlantic Section—			
Gatun	1.64	10	6.51
*Brazos Brook	1.51	10	6.28
Colon	1.37	5	7.23

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight.

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Tide Table.

The following table shows the time of high and low tides at Panama for the week ending June 27, 1914:

DATE.	Low	High	Low	High	Low
	Mid.	A.M.	A.M.	P.M.	P.M.
June 21	......	2.04	8.06	2 06	8.33
June 22	......	2.44	8.50	2.48	9.14
June 23	......	3.23	9.33	3.29	9.55
June 24	......	4.02	10.14	4.10	10 36
June 25	......	4.42	10.57	4.52	11 18
June 26	.. ..	5.22	11.40	5.36	12.00 Mid.
June 27	12 00	6 05	P.M. 12.24	6.19	...

75th meridian time.

COMMISSARY DEPARTMENT.

Ancon Commissary Opened.

The new commissary at Ancon was opened for business on Monday, June 15. The force at present is nine gold and 25 silver employes. The cold storage will not be consolidated with the rest of the commissary for about a month, as the ice box in the new building will probably not be completed before then. Mr. T. H. Hurst, formerly manager of Cristobal commissary, has been placed in charge.

Strawberries.

Owing to the fact that strawberries are poor keepers even under the best of conditions, shipments by the commissary department to the Isthmus have been nearly always attended with loss. This season, the commissary has made more than the usual effort to supply its patrons. Two shipments have been received to date, and if the market is favorable, there will probably be two more. The *Allianca* on its last trip down brought 5,984 quarts, but of this quantity only 3,665 quarts were sold; 19 quarts were used to refill boxes, and 2,300 quarts were condemned. The spoiled berries caused a net loss to the Supply Department on this shipment.

Special Orders for Supplies Not in Stock.

THE PANAMA CANAL,
SUPPLY DEPARTMENT,
CRISTOBAL, C. Z., June 9, 1914.

CIRCULAR No. 564:

This office will hereafter accept special orders, from persons entitled to commissary privileges, for special material and supplies not carried in the regular stock. Such material and supplies will be sold to patrons at cost price, plus 10 per cent to cover clerical expense, exchange, etc., and actual cost of transportation on the Isthmus.

Orders should be accepted only for specified articles obtainable from specified firms, and will not be subject to return or exchange if the specified article is found not to be in accordance with specifications; and no orders should be accepted for special brands or articles when similar articles are carried in the regular stock, without reference to this office.

All orders must be transmitted to this office in writing, accompanied by cash, check, or money order made payable to the commissary cashier, Cristobal, Canal Zone, in an amount equal to the estimated value of the articles, plus 10 per cent.

Patrons must be informed that it requires from four weeks to four months to obtain articles for special deliveries. Actual estimates of time may be obtained from this office in each case, by telephoning the requisition desk, No. 169, Cristobal.

BENJ. L. JACOBSON,
Depot Commissary.

Approved:
F. O. WHITLOCK,
Assistant Chief Quartermaster.

Sale of Palm Beach Suits.

THE PANAMA CANAL,
SUPPLY DEPARTMENT,
CRISTOBAL, C. Z., June 15, 1914.

CIRCULAR No. 565:

All storekeepers—A small supply of Palm Beach suits has been received at this depot.

Please post this circular conspicuously and telephone customers' orders to this office, 'phone No. 163.

Furnish in each case the chest measurement, waist measurement, and inseam trouser length, and if the size is in stock the order will be filled and shipped on the supply train that night.

Suits made of plain cloth (not striped) on hand. Price $6.

BENJ. L. JACOBSON,
Depot Commissary.

Commissary Cold Storage.

The commissary stores are open during the following hours: From 8 a.m., to 12.30 p.m., and 3 to 6.30 p.m.

The gold departments of the Cristobal store will open at 2 p. m. on Saturdays and sailing days of Panama railroad vessels.

In rush periods, all stores will remain open till 7 p. m.

Retail prices of cold storage provisions for the week beginning June 18, 1914:

FRESH MEATS.	*Price.*
Mutton—Stewing, per pound	8
Shoulder, trimmed, per pound	12

	Price.
Leg (8 to 10 pounds), per pound	19
Cutlets, per pound	20
Short cut chops, per pound	23
Shoulder chops, per pound	14
Lamb—Stewing per pound,	10
Shoulder trimmed, per pound	15
Legs (5 to 8 pounds), per pound	24
Chops, per pound	29
Shoulder, chops, per pound	18
Cutlets, perpound	29
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	18
Chops, per pound	27
Loin, for roasting, per pound	27
Cutlets, per pound	31
Beef—Suet, per pound	3
Soup, per pound	7
Stew, per pound	11
Plate, per pound	12
Corned, No. 1, per pound	19
Corned, No. 2, per pound	16
Chuck roast, 3 lbs., and over, per pound.	15
Rib roast, second cut (not under 3½ pounds), per pound	21
Rib roast, first cut (not under 3 pounds), per pound	24
Pot roast, per pound	25
Rump roast, per pound	25
Porterhouse roast, per pound	27
Steak, Chuck, per pound	16
Round, top, per pound	19
Round, bottom, per pound	17
Rib, per pound	24
Sirloin, per pound	25
Sirloin, choice cut, per pound	28
Rump, per pound	25
Porterhouse (not less than 1½ pounds), per pound	30
Porterhouse, short, Delmonico, per pound	25
Tenderloin (Western), per pound.	40
Pork—Hams, fresh, per pound	§23
Shoulders, fresh, per pound	§19
Spare ribs, per pound	18
Backbones, per pound	15
Loin chops or roast, per pound	20
Pigs' feet, each	7
Pigs' heads, whole	83
Pigs' head, ½-head	42
Sausage, homemade, per pound	23

MISCELLANEOUS.

Livers—Beef, per pound	15
Calf, each	62
Half, each	31
Steak, Hamburger, package	17
Hamburger, 20-pound containers, per pound	14
Suasage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Pure pork, 1-lb. carton, per pound	18
Sweetbread, beef, per pound	23
Eggs, fresh, per dozen	28
per ½-dozen	14
Bluefish, per pound	09
Halibut, fresh, per pound	05
Salmon, per pound	06
Shad roes, per pair	38
Oysters, per quart	29
Yeast, per pound	31

POULTRY AND GAME.

Chickens—Fancy roasting, milk fed, perpound	30
Fancy roasting, corn fed, per pound	27
Fowls, per pound	25
Fowls, light, per pound	23
Ducks, Western, per pound	25
Capons, per pound	39
Broilers, milk fed, per pound	34
Broilers, corn fed, per pound	30
Turkeys, per pound	32
Squabs, each	42
Ducks, teal, each	40
Partridges, per pair	1 30
Grouse, per pair	1.30
Pheasants, per pair	1 30

CURED AND PICKLED MEATS

Ham—Real York and Cumberland, per pound	43
Genuine Westphalia, per pound	50
Sugar cured, per pound	21
Sliced, per pound	28
Half, for boiling, per pound	23
Boiled, per pound	30
Hocks, per pound	09
Butt end, about 1½ pounds to butt, per pound	11
Bacon—Breakfast, whole piece, per pound	26
Sliced, per pound	27
Ham, lunch, per pound	40
Pork, salt, family, per pound	14
Ox tongues, each	1 35
Pigs' feet, per pound	7
Tongues, per pound	10

DAIRY PRODUCTS

Butter—Creamery, special, per pound	35
Sheffield Farms, extra fancy, per lb	54
Cheese—Philadelphia cream, cake	09
Cheese—Roquefort, per pound	35
Young America, per pound	*25
Swiss, per pound	27
Edam, each	81
Edam, tin	29
Parmesan, per pound	38
Gouda, per pound	29
Snappy, per cake	9

	Price.
Milk (certified), bottle	**.24
Fer-mil-lac, bottle	**.25
Ice cream, quart	‡25
½-gallon	‡50
Cream, Sheffield Farms, quart	**.33

VEGETABLES AND FRUITS.

Beans, per pound	5
Beans, wax, per pound	15
Beets, per pound	4½
Celery, per head	10
Cabbage, per pound	2
Carrots, per pound	3½
Cucumbers, per pound	†4½
Horseradish, per pound	*17
Lettuce, per pound	*13
Peas, green, per pound	10
Onions, per pound	*5
Peppers, per pound	13
Potatoes, white, per pound	†2½
sweet, tropical, per pound	2
sweet, American, per pound	3
Yams, tropical, per pound	*3
American, per pound	*4
Parsley, per bunch	2½
Artichokes, each	2½
Eggplant, per pound	8
Rhubarb, per pound	2½
Turnips, per pound	3
Tomatoes, per pound	8
Spinach, per pound	*5½
Squash, per pound	2½
Apples, each	2½
Grape fruit, American, each	7
Tropical, each	4½
Lemons, per dozen	12
Limes, per 100	56
Oranges, Jamaican, per dozen	18
American, each	2½

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* Indicates advance from preceding list.

† Indicates reduction from preceding list.

**Indicates 5 cents allowed for return of bottle.

‡Sold only from commissaries; no orders taken for delivery.

§ Sold only from cold storage and not from commissaries.

Porterhouse roast includes any cut of hind quarter down to rump, and will not be cut if orders for steak will consume the supply.

Tenderloins on porterhouse will not be cut and sold separately

Not less than ½ ham or ½ shoulder of fresh pork will be sold.

Daily cold storage orders will be filed and kept for at least one month.

Price Changes.

The following changes in prices of articles in stock at the commissary stores are effective June 18, 1914:

ARTICLE.	PRICE CHANGE.	
	Old.	New.
Carriages, baby, No. 136, ea	$8.00	$7.10
Carriages, baby, No. 166, ea	8.80	7.45
Carriages, baby, No. 196, ea	9.40	7.95
Carriages, baby, No. 317, ea	9.15	8.90
Rules, folding, 2-foot, ea	.35	.25
Forks, Tudor, ea	.35	.28
Knives, Tudor, ea	.85	.69
Spoons, table, Tudor, ea.	.35	.28
Spoons, tea, Tudor, ea.	.17	.14
Blades, razor, Gillette, set	.95	.78
Blades, razor, Keen Kutter, pkg	.25	.23
Blades, razor, Ever Ready, set	.50	.47
Blades, razor, Auto Strop, set	.85	.74
Razors, safety, Gillette, ea	4.40	3.70
Razors, safety, Auto Strop, ea	4.00	3.70
Razors, Kropp, ea	1.25	1.00
Razors, safety, Ever Ready, ea	.75	.67
Knives, bread, ea	.45	.36
Pipes, calabash, ea	3.60	3.00
Kettles, water, 7″, aluminum, ea	1.50	1.35
Kettles, water, 8½″, aluminum, ea	2.00	1.70
Pans, frying, 5½″, aluminum, ea	.40	.35
Pans, frying, 6″, aluminum, ea	.45	.40
Pans, frying, 7″, aluminum, ea	.55	.47
Pans, frying, 8″, aluminum, ea	.65	.52
Pans, sauce, with lip, 4″, aluminum, ea	.55	.46
Pans, sauce, with lip, 5″, aluminum, ea	.65	.54
Pans, sauce, with lip, 5½″, aluminum, ea	.75	.64
Pans, sauce, with lip, 7″, aluminum, ea	1.05	.88
Pans, sauce, with lip, 8″, aluminum, ea	1.20	1.00
Pans, sauce, with lip, 8½″, aluminum, ea	1.40	1.20
Pans, sauce, without lip, 5½″, aluminum, ea	.75	.64
Pans, sauce, without lip, 7″, aluminum, ea	1.05	.88
Pans, sauce, without lip, 8″, aluminum, ea	1.20	1.00
Pans, sauce, without lip, 8½″, aluminum, ea	1.40	1.29
Covers for sauce pans, 5″, aluminum, ea	.17	.15
Covers for sauce pans, 5½″, aluminum, ea	.23	.19
Covers for sauce pans, 7″, aluminum, ea	.28	.23
Freezers, ice cream, 1-qt	1.90	1.45
Freezers, ice cream, 2-qt	2.20	1.80
Freezers, ice cream, 6-qt	3.85	3.30

MOVEMENTS OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.

		Sails.	*Arrives.*
*Panama	P. R. R.	June 15	June 21
*Allianca	P. R. R.	June 20	June 26
*Colon	P. R. R.	June 27	July 3
*Advance	P. R. R.	July 3	July 10
*Panama	P. R. R.	July 10	July 16
*Allianca	P. R. R.	July 16	July 22
*Colon	P. R. R.	July 22	July 28
*Advance	P. R. R.	July 28	Aug. 4

CRISTOBAL TO NEW YORK.

†Cristobal	P. R. R.	June 18	June 25
†Advance	P. R. R.	June 22	June 29
†Panama	P. R. R.	June 28	July 4
†Allianca	P. R. R.	July 3	July 9
†Colon	P. R. R.	July 10	July 16
†Advance	P. R. R.	July 15	July 22
†Panama	P. R. R.	July 22	July 28
†Allianca	P. R. R.	July 28	Aug. 3
†Colon	P. R. R.	Aug. 3	Aug. 9
†Advance	P. R. R.	Aug. 10	Aug. 17

NEW YORK TO COLON.

*Santa Marta	U. F. C.	June 10	June 17
*Calamares	U. F. C.	June 13	June 19
Prinz Eitel Friedrich	H.-A.	June 13	June 23
*Metapan	U. F. C.	June 17	June 24
Pastores	U. F. C.	June 20	June 26
Tagus	R. M.	June 20	June 28
Prinz August Wilhelm	H.-A.	June 20	June 29
*Zacapa	U. F. C.	June 24	July 1
Tenadores	U. F. C.	June 27	July 3
Prinz Sigismund	H.-A.	June 27	July 7
*Almirante	U. F. C.	July 1	July 8
*Calamares	U. F. C.	July 4	July 10
Oruba	R. M.	July 4	July 12
Prinz Joachim	H.-A.	July 4	July 13
*Santa Marta	U. F. C.	July 8	July 15
*Pastores	U. F. C.	July 11	July 17
Prinz Eitel Friedrich	H.-A.	July 11	July 21

COLON TO NEW YORK.

†Tenadores	U. F. C.	June 17	June 23
Almirante	U. F. C.	June 18	June 25
Prinz Joachim	H.-A.	June 23	July 1
Oruba	R. M.	June 23	July 1
†Calamares	U. F. C.	June 24	June 30
Santa Marta	U. F. C.	June 25	July 2
Prinz Eitel Friedrich	H.-A.	June 28	July 7
†Pastores	U. F. C.	July 1	July 7
Metapan	U. F. C.	July 2	July 9
Prinz August Wilhelm	H.-A.	July 7	July 15
Trent	R. M.	July 7	July 15
†Tenadores	U. F. C.	July 8	July 14
Zacapa	U. F. C.	July 9	July 16
Prinz Sigismund	H.-A.	July 12	July 21
†Calamares	U. F. C.	July 15	July 21
Almirante	U. F. C.	July 16	July 23
Prinz Joachim	H.-A.	July 21	July 29
Orotava	R. M.	July 21	July 29

NEW ORLEANS TO COLON.

Cartago	U. F. C.	June 10	June 17
*Abangarez	U. F. C.	June 13	June 18
Heredia	U. F. C.	June 17	June 24
*Atenas	U. F. C.	June 20	June 25
Parismina	U. F. C.	June 24	July 1

COLON TO NEW ORLEANS.

‡Turrialba	U. F. C.	June 18	June 23
Cartago	U. F. C.	June 18	June 25
‡Abangarez	U. F. C.	June 25	June 30
Heredia	U. F. C.	June 25	July 2

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Piers 8, 9, and 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays at 3 p.m., for New Orleans, via Bocas del Toro and Havana, on Thursdays at 4 p.m.; for New York direct, on Wednesdays at 2 p. m.; ships for New York, via Kingston, on Thursdays at 2 p. m.; for Limon and Bocas del Toro on Saturdays at 4 p. m.; and for Limon direct on Saturdays at 5 p. m.

The Hamburg-American steamers *Prinz Eitel Friedrich* and *Prinz Sigismund* sail for New York, via Kingston and Fortune Island, on Sundays at 2 p.m.; the *Prinz August Wilhelm* and *Prinz Joachim* sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays at 10 a. m.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, JUNE 24, 1914. No. 44.

The Canal Record

Official publication of The Panama Canal.

The Canal Record is published weekly free of charge, one copy each, to all employes of The Panama Canal and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Reclamation of Swampy Area Near Panama.

The Dredging Division is preparing to begin, about July 1, a fill in a swampy area just north of the San Miguel district of the city of Panama. The fill is made at the instance of the Health Department, and is expected to render easy the prevention of mosquito breeding in an area, contiguous to Panama and Ancon, which has heretofore required a considerable amount of draining and oiling. The area extends about 1,500 feet north of the present outer limit of habitation. It is bounded on the west by the Panama railroad and enclosed on the north and east by low hills. The eastern limit is about 1,600 feet from the railroad embankment. The natural surface of the basin is at an average elevation of about nine feet above sealevel, and it is proposed to raise the surface to 14 feet above sealevel. The operations will require about 600,000 cubic yards of spoil.

This area is a part of the originally extensive flats along the course of the Curundú River. The flats between the railroad and the Canal, and between Ancon Hill and Diablo, have been extensively reclaimed, with wet and dry filling. The operations about to begin will extend the reclamation to the limit of the flats, at the bases of the hills. With the fills completed and a lagoon northeast of the cabin at Balboa Junction drained, the Curundú will be confined to narrow courses, and the places for mosquito breeding reduced to a minimum. Sheet piling is being driven along the south bank of the river, where it borders the area about to be filled, in order to preserve a clear course.

Spoil will be supplied by pipeline suction dredge *No. 85*, excavating in the inner harbor at Balboa. The length of discharge line to reach to the center of the area will be slightly over 8,000 feet, which is the longest discharge pipe yet used in the Canal operations. Two relay stations will be used to assist the pumping. One of them is now situated on the west toe of the abandoned Sosa dam, and the second is being installed in the reclaimed area north of Ancon Hill, northeast of the new administration building.

Wider Footwalk on Calidonia Bridge.

Due to the steady increase in population along Calidonia road, and in the districts of Guachapali and San Miguel, the footwalk over the bridge spanning the Panama railroad is frequently congested to the point of discomfort. This is especially so in the mornings and evenings when the laborers are going to or returning from work, and on Sundays when the travel is at its greatest. To remedy the situation, the Panama Railroad Company has been authorized to build a new footwalk not less than 10 feet in width, and in case it is constructed of wood, the material will be treated with a preservative to add to its life.

Docking Charge for Small Boats at Gatun Removed.

The charge of 50 cents gold for docking cayucas at the concrete wharf near the Panama railroad station at Gatun has been cancelled. This action was taken in response to a request by the Minister of Foreign Relations of Panama on behalf of the inhabitants of the district of Siri, who have been bringing their produce to Gatun. It was found that the use of the wharf by the natives entailed no cost to the Government; no shelter was provided for them, and they were prevented, in the interests of regulation, from landing at any other place; also, that the quantity of produce brought in each boatload was so slight as to make the charge more than is equitable.

Contract for Structural Steel.

A contract was entered into with the United States Steel Products Company on May 16 for furnishing 3,000,000 pounds of structural steel for use in decking Sections d-e and e-f of the quay wall at the Balboa terminal docks. The contract price was $0.0196 a pound, the total of the order amounting to $58,800. The steel is to be delivered on the Isthmus on or before September 13, 1914; its erection will be performed by forces of The Panama Canal.

Land Commissioners Make Tour of Inspection.

Messrs. Federico Boyd, Levi M. Kagy, and David Marks of the Joint Land Commission, accompanied by Special Attorney Frank Feuille, District Attorney W. K. Jackson, Inspector Irwin, and William Taylor, secretary of the commission, made a tour of inspection, on Saturday, June 20, of certain lands adjoining Gatun Lake, and the Rio Gatun and Rio Chilibre. Commissioner Lewis was unable to accompany the party. The trip was for the purpose of acquainting the American commissioners with the conditions of the flooded area, and to afford them an opportunity of obtaining information regarding the type of *fincas* being cultivated by the natives, and their mode of living, at first hand. The party left Paraiso landing in the launch *Search* early in the forenoon, went up the Rio Chagres for some distance, and afterward through Gatun Lake as far as the old site of Bohio. It returned to Panama about 5.30 p. m., having covered about 75 miles by launch during the day.

No cases have been set for hearing for the coming week, enough cases having already been heard to occupy the commissioners' time for some days.

New Railroad Timetable.

A new timetable (No. 18) will go into effect on the Panama railroad on Sunday, June 28, at 12.01 a. m. Under the new schedule, there will be only three passenger trains each way daily, with the exception of Saturday, on the main line, the trains now leaving Panama and Colon at 7.25 and 9.30 p.m., respectively, having been annulled. On Saturday nights, a train will leave either terminal at 11.30 o'clock, arriving at Colon at 1 a. m. on Sunday morning, the running time being one hour and a half. The departing time of the morning and evening trains out of Colon, and the evening train out of Panama, has been changed slightly.

Five trains only will be operated each week day in the Panama-Pedro Miguel Junction shuttle train service; on Sundays two additional trains will be run.

On the Las Cascadas branch, (Las Cascadas to Pedro Miguel Junction), six trains will be operated on week days and two additional trains on Sundays. Nos. 47 and 48 on on this schedule will make connections with the evening trains out of Panama and Colon.

The number of trains on the Colon-Gatun shuttle schedule has been reduced from six to four, with some changes in time from the present hours of arrival and departure at terminals. The new timetable includes Balboa in the main line and Panama-Pedro Miguel Junction services.

Canal Excavation in May.

The grand total of Canal excavation to June 1, 1914, was 221,940,499 cubic yards, leaving 10,412,501 cubic yards remaining to be excavated, under the revised estimate of July 1, 1913.

The total excavation for the month of May was 1,115,412 cubic yards, as compared with 1,223,925 cubic yards for April. The wet excavation amounted to 923,531 cubic yards, and the dry excavation to 191,881 cubic yards.

In the Atlantic section, the total excavation for May was 141,125 cubic yards, all by dredges. Of this amount, 138,581 cubic yards were removed from the Atlantic entrance by the suction dredges *Caribbean* and *Culebra*, and 2,544 cubic yards were taken out at the coaling basin.

Of the 635,731 cubic yards excavated in the Central section, comprising Culebra Cut and the Chagres territory, 473,381 cubic yards were removed by the dredges, 87,100 by hydraulic monitors, and 75,250 cubic yards were taken out by steamshovels on the west bank of Culebra Cut, south of Culebra village, in relieving the pressure as a preventive against slides.

In the territory of the old Pacific Division, operations by dredges resulted in the removal of 143,543 cubic yards from the inner harbor, and 78,382 cubic yards from the Pacific entrance. Dry excavation in this section amounted to 116,631 cubic yards, of which 116,156 cubic yards were excavated at the terminal site, and 475 cubic yards were plant excavation for the terminal construction.

A detailed statement of excavation for the month of May, follows:

ATLANTIC SECTION.

Locality.	"Work" Excavation.	"Plant" Excavation.	Total Excavation.
Dry excavation—	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
Locks, dam and spillway	....	....	....
Mindi	....	....	....
Terminal	....	....	....
Total	....	....	....
Wet excavation—			
Atlantic entrance	138,581	....	138,581
Locks, Dam and Spillway	....	....	....
Terminal, Cristobal C.P.	2,544	....	2,544
Total	141,125	....	141,125
Total wet and dry excavation	141,125	....	141,125

CENTRAL SECTION.

Dry excavation—			
Culebra Cut	75,250	....	75,250
Total dry	75,250	....	75,250
Wet excavation—			
Chagres Section, dredges	....	....	....
Culebra Cut, hydraulics	87,100	....	87,100
Culebra Cut, dredges	473,381	....	473,381
Total wet	560,481	....	560,481
Total wet and dry excavation	635,731	....	635,731

PACIFIC SECTION.

Dry excavation—			
Locks, dams and spillways	....	....	....
Terminal	116,156	475	116,631
Rio Grande Diversion	....	....	....
Total	116,156	475	116,631
Wet excavation—			
Pacific entrance	78 382	....	78,382
Miraflores Locks	....	....	....
Diversions	....	....	....
Terminal	143,543	....	143,543
Total	221,925	....	221,925
Total wet and dry excavation	338,081	475	338,556

TOTAL CANAL EXCAVATION.

Dry excavation	191,406	475	191,881
Wet excavation	923,531	....	923,531
Total	1,114,937	475	1,115,412

LOCKS AND DAMS.

Material.	Atlantic.	Pacific.	Total.
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*
Concrete placed in locks			
Concrete placed in dams and spillways	....	....	....
Fill placed in dams	....	....	....

Mean rainfall along Canal (nine stations), 12.39 inches.

By "Work" excavation is meant excavation actually made for one of the constituent parts of the Canal, such as prism, diversions, locks, etc.; that is, it represents material taken from the area to be occupied by the Canal and constitutes excavation useful for the completed Canal.

By "Plant" excavation is meant excavation outside any of the constituent parts of the Canal, such as prism, diversions, locks, etc. It includes material necessary to be excavated for construction purposes only, and is chargeable against the particular plant item for which it is performed, such as prism, diversions, locks, etc.

◆

PERSONAL.

Mr. Edward Schildhauer, accompanied by Mrs. Schildhauer and their two children, returned from leave on Sunday, June 21.

Mr. Henry Schoellhorn, assistant engineer in charge of the erection of the 250-ton floating cranes, returned from Germany, by way of New York, on Sunday, June 21.

Mr. W. J. Holmes, who resigned as superintendent of transportation in the Division of Terminal Construction on June 15, sailed on Thursday, June 18, on the *Turrialba*, for New Orleans, and from there will proceed to Pasadena, Cal. He entered the Canal service as trainman on January 9, 1908, coming here from Chattanooga, Tenn. He was promoted to conductor on March 23, 1908; to yardmaster on August 1, 1908; to trainmaster on September 1, 1909; and to superintendent of transportation in the Second Division on November 1, 1913. During the greater part of his period of Canal employment he was with the former Pacific and Fifth Divisions, his transfer from the latter division to the Second Division taking place on October 11, 1913. Prior to coming to the Isthmus he was for 19 years connected with the Erie, Queen and Crescent, and Seaboard Air line railroad systems in various capacities.

Mr. Harry E. Bovay, chief clerk in the Health Department, has resigned to take effect June 26, and will sail on the steamship *Heredia* for New Orleans, via Havana, on Thursday, June 25, proceeding from there to his former home at Rodney, Mich. He was appointed to the Canal service as a stenographer in the former Department of Sanitation on March 7, 1905, and arrived on the Isthmus on March 14. On February 8, 1906, he was promoted to chief clerk of the department, a position he has held continuously since.

◆

Civil Service Examinations.

Examination will be held, probably on July 26, for the positions of stenographer and typewriter, Isthmian Canal Service; stenographer and typewriter, Philippine Service; and typewriter, Isthmian Canal Service. Applications will not be received after July 15; this date may be changed if necessary. Persons interested should request a copy of Form 1424, which contains information in regard to the abovenamed examinations.

The place and date of examination should be omitted in application forms. A card of admission will be sent to those found eligible to be admitted, just before the examination.

Competitors must bring their own typewriting machines to the examination room.

In answer to questions as to residence applicants must show residence in a State or Territory of the United States, and county thereof, to the time of filing application.

ISTHMIAN CIVIL SERVICE BOARD.

CULEBRA, C. Z., June 20, 1914.

◆

Strangers Club Activities.

An old time patriotic "Stag" dinner will be given at the Strangers Club on Fourth of July Eve. Festivities will begin promptly at 8.30 o'clock. Reservations must be made in advance for the event.

A dinner concert from 6 to 8.30 will be the event for the evening of July 4, although "Open house" will be the rule all day. The Board of Governors has authorized club privileges to visitors on this day, and special visitors' cards may be had from any member. Special accommodations for ladies will be provided, and a matron will be on duty in the ladies' cloak room; ladies are invited to use any facilities available for rest or recreation.

The hours for dining will be: Breakfast, from 6 to 9; luncheon, from 11.30 to 2; dinner, from 6 to 8.30. Sandwiches, coffee, etc., may be had at any time.

The next informal dance is scheduled for Saturday evening, June 27.

FRANK SCOTT,
Chairman on Entertainment.

◆

Metal Trades Council.

The next regular meeting of the Panama Metal Trades Council will be held on Sunday afternoon, June 28, at 1.30 o'clock, in the Balboa clubhouse.

H. A. S. LEVERING, *Secretary.*

◆

Knights of Columbus.

A regular meeting of Cristobal Council, No. 1689, will be held in the lodge hall, building No. 1, Cristobal, on Sunday, June 28, at 2 p. m.

A. P. E. DOYLE,
Grand Knight.

Estates Being Settled.

The following estates of deceased or insane employes of The Panama Canal or the Panama Railroad Company are now in process of settlement by this office, and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings or postal money order deposits, or any other moneys due them, should be presented at this office at once, in order that the estate may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once:

DECEASED EMPLOYES.

Name.	*Check No.*	*Native of*	*Isthmian residence.*	*Employed by*	*Date of death.*
Alexander Boyd	193611	Jamaica	Mount Hope	Fortifications	June 15.
Patrick J. Garvin	198401	U. S. A. (Nat.)	Balboa	Mechanical Div.	June 7.
Hudson Lewis	54773	Barbados	Colon	P. R. R. docks	June 17.
William Russell	140562	Jamaica	Panama	Dredging Div.	June 16.
Leslie Simpson	158449	Panama	Colon	Supply Dept	June 11.

INSANE EMPLOYES.

Name.	*Check No.*	*Native of*	*Isthmian residence.*	*Employed by*	*Date of commitment.*
Alfred Holloway	120129	Barbados	Balboa	Dry Dock, Bal.	June 16.

PANAMA RAILROAD COMPANY.

(PASSENGER TRAIN TIME TABLE NO. 18—IN EFFECT JUNE 23, 1914.)

COLON-PANAMA MAIN LINE SERVICE.

SOUTHWARD.				Station.	NORTHWARD.				
FIRST CLASS.					FIRST CLASS.				
Saturday only.	Daily.				Distance from Colon.	Daily.			Sunday only.
71	7	5	3			4	6	8	72
P. M.	P. M.	A.M.	A. M.			A.M.	P.M.	P.M.	A. M.
11.30	4.30	11.00	7.00	Lv. †Colon Arr.	0	9.10	12.35	7.05	1.00
11.35	4.35	11.05	7.05	†Mount Hope	1.57	9.05	12.30	7.00	12.55
11.42	4.42	11.12	7.12	New Gatun	5.94	8.58	f12.22	f6.52	12.49
11.45	4.45	11.15	7.15	†Gatun	6.79	8.56	12.20	6.50	12.47
f11.56	f4.57	f11.27	f7.27	†Monte Lirio	14.48	f8.43	f12.08	f6.38	f12.35
A. M.							P. M.		
f12.07	f5.08	f11.38	f7.38	†Frijoles	20.92	f8.32	f11.57	f6.27	f12.24
f12.14	f5.15	f11.45	7.45	Darien	25.27	8.25	f11.50	f6.19	f12.17
12.22	5.24	11.55	7.54	†Gamboa	30.26	8.16	11.42	6.10	f12.08
		P.M.							A. M.
f12.32	f5.34	12.05	f8.04	†New Culebra	35.19	f8.04	f11.32	f6.00	f11.59
12.42	5.45	12.20	8.16	†Pedro Miguel Jct	40.24	7.51	11.22	5.49	11.49
12.47	5.50	12.25	f8.21	Miraflores Locks	42.35	7.44	11.15	f5.43	11.44
12.50	5.55	12.30	8.25	†Corozal	44.24	7.40	11.10	5.40	11.40
12.55	6.00	12.35	8.30	Balboa	46.25	7.35	11.05	5.35	11.35
1.00	6.05	12.40	8.35	Arr. †Panama. Lv.	47.61	7.30	11.00	5.30	11.30
A. M.	P. M.	P. M.	A. M.			A.M.	A.M.	P.M.	P. M.
71	7	5	3	*f.* Flag. †Telegraph station.		4	6	8	72

Northward main line passenger trains will wait at Pedro Miguel Junction for connections from Las Cascadas branch trains, and northward Las Cascadas branch shuttle trains will wait at Pedro Miguel Junction for southward main line connections unless otherwise instructed.

PANAMA-PEDRO MIGUEL JCT. SHUTTLE TRAIN SERVICE,

SOUTHWARD.							Station.	NORTHWARD.						
SECOND CLASS.								SECOND CLASS.						
Sunday only.		Daily.						Daily.					Sunday only.	
55	53	51	49	45	43	41		40	42	44	46	50	52	54
P. M.	A. M.	A. M.	P. M	P. M.	A. M.	A. M.		A. M.	A. M.	P. M.	P. M.	P. M.	A. M.	P. M.
9.45	2.08	12.01	7.09	1.53	11.08	7.38	Leave. †Pedro Miguel Jct. Arrive.	6.20	8.40	12.35	3.20	10.50	1.00	8.35
9.50	2.13	12.06	7.14	1.58	11.13	7.43	Miraflores Locks	6.15	8.35	12.30	3.15	10.45	12.55	8.30
9.54	2.19	12.10	7.19	2.03	11.18	7.48	†Corozal	6.10	8.30	12.25	3.10	10.40	12.50	8.25
9.58	2.23	12.13	7.22	2.07	11.22	7.52	†Balboa yard	6.07	8.27	12.22	3.07	10.37	12.47	8.22
10.00	2.25	12.15	7.25	2.10	11.25	7.55	Balboa	6.05	8.25	12.20	3.05	10.35	12.45	8.20
10.05	2.30	12.20	7.30	2.15	11.30	8.00	Arrive. †Panama Leave.	6.00	8.20	12.15	3.00	10.30	12.40	8.15
P. M.	A. M.	A. M.	P. M.	P. M.	A. M.	A. M.		A. M.	A. M.	P. M.	P. M.	P. M.	A. M.	P. M.
55	53	51	49	45	43	41	†Telegraph station.	40	42	44	46	50	52	54

LAS CASCADAS BRANCH.

SOUTHWARD.								Station.	NORTHWARD.							
SECOND CLASS.									SECOND CLASS.							
Sunday only.		Daily.							Daily.						Sunday only.	
55	53	51	49	47	45	43	41		40	42	44	46	48	50	52	54
P. M.	A. M.	P. M.	P. M.	P. M.	P. M.	A. M.	A. M.		A. M.	A. M.	P. M.	P.M.	P. M.	P. M.	A. M.	P. M.
9.15	1.40	11.30	6.40	5.10	1.25	10.40	7.10	Leave. †Las Cascadas Arrive.	6.48	9.10	1.05	3.50	6.27	11.18	1.28	9.03
9.21	1.45	11.35	6.46	5.16	1.30	10.45	7.15	†Empire	6.42	9.04	12.58	3.43	6.21	11.13	1.23	8.58
9.26	1.50	11.40	6.51	5.21	1.35	10.50	7.20	†Culebra	6.36	8.58	12.52	3.37	6.15	11.08	1.18	8.53
9.42	2.05	11.57	7.06	5.36	1.50	11.05	7.35	Paraiso	6.23	8.43	12.38	3.23	6.00	10.53	1.03	8.38
	......	A. M.														
9.45	2.08	12.01	7.09	5.40	1.53	11.08	7.38	Arrive. †Pedro Miguel Jct. Leave.	6.20	8.40	12.35	3.20	5.57	10.50	1.00	8.35
P. M.	A. M.	A. M.	P. M.	P. M.	P. M.	A. M.	A. M.		A. M.	A. M.	P. M.	P. M.	P.M.	P. M.	A. M.	P. M.
55	53	51	49	47	45	43	41		40	42	44	46	48	50	52	54

COLON-GATUN SHUTTLE TRAIN SERVICE.

SOUTHWARD.				Station.	NORTHWARD.			
SECOND CLASS.					SECOND CLASS.			
127	125	123	121		122	124	126	128
P.M.	P.M.	A.M.	A.M.		A. M.	A. M.	P. M.	P. M.
5.00	1.30	9.30	5.50	Leave. Third Street, Colon Arrive	6.50	10.40	2.40	6.00
5.01	1.31	9.31	5.51	Fifth Street, Colon	6.47	10.38	2.38	5.58
5.03	1.33	9.33	5.53	Passenger station, Colon	6.45	10.36	2.36	5.57
5.05	1.35	9.35	5.55	Commissary, Cristobal	6.43	10.34	2.34	5.55
5.07	1.37	9.37	5.57	Shops, Cristobal	6.41	10.32	2.32	5.53
5.11	1.41	9.41	6.01	Mount Hope	6.37	10.27	2.27	5.48
5.17	1.47	9.47	6.07	Mindi	6.31	10.21	2.21	5.42
5.22	1.52	9.52	6.10	New Gatun	6.28	10.18	2.18	5.38
5.25	1.55	9.55	6.13	Arrive. Gatun Leave.	6.25	10.16	2.15	5.55
P.M.	P.M.	A.M.	A.M.		A. M.	A. M.	P. M.	P. M.
127	124	123	121	Trains stop at all stations.	122	124	126	128

RECORD OF CANAL WORK SINCE AMERICAN OCCUPATION.

TOTALS BY CUBIC YARDS OF EXCAVATION AND LOCK AND DAM CONSTRUCTION.

[All figures are of work useful for the completed Canal.]

DRY EXCAVATION.

CENTRAL SECTION.

M'THS.	CULEBRA SECTION.*								CHAGRES SECTION.**					
	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1909.	1910.	1911.	1912.	1913.	1914.
Jan	566,750	1,227,022	1,150,249	1,323,693	1,356,394	1,416,035	1,135,580	777,322	389,399	175,802	255,385	28,357	....	71,710
Feb	639,112	1,248,265	1,194,454	1,259,173	1,409,338	1,349,569	996,800	681,550	450,182	286,309	219,550	66,145	....	113,437
March	815,270	1,290,885	1,434,597	1,509,728	1,728,748	1,539,618	1,183,900	617,887	619,491	484,846	297,339	172,607	....	....
April	879,527	1,242,574	1,272,746	1,288,845	1,414,336	1,455,216	1,178,000	643,906	510,020	428,777	102,103	171,731	....	....
May	690,365	960,840	1,126,963	1,099,279	1,299,100	1,405,760	921,000	635,731	386,170	248,974	29,783	12,524	....	....
June	624,586	1,134,032	1,242,134	1,305,141	1,401,016	1,348,780	865,283	....	275,900	164,389	32,288	8,424	....	....
July	770,570	1,121,325	1,200,828	1,153,810	1,337,833	1,335,590	1,037,700	....	233,897	166,106	22,284	776	....	....
August	786,866	1,171,927	1,173,370	1,377,714	1,442,402	1,094,132	893,300	....	231,543	234,404	21,892	....	....	....
Sept	753,468	1,122,860	1,235,978	1,339,948	1,340,173	922,712	448,200	....	235,818	234,290	21,272	....	....	....
Oct	834,499	1,160,101	1,302,901	1,320,314	1,306,971	1,113,420	382,270	....	221,409	271,409	12,216	....	132,703	....
Nov	790,632	1,022,576	1,070,792	1,209,554	1,209,498	973,071	441,494	....	93,619	260,882	12,248	....	119,09	....
Dec	1,025,485	1,210,046	1,152,022	1,211,400	1,351,082	1,074,510	736,202	....	105,044	197,481	10,809	....	124,227	....
Totals	9,177,130	13,912,453	14,557,034	15,398,599	16,596,891	15,028,413	10,219,729	3,361,426	3,752,432	3,153,669	1,037,169	460,564	376,0[illegible]	85,147

MOS	ATLANTIC SECTION.†					PACIFIC SECTION.¶										
	GATUN LOCKS, DAM AND SPILLWAY.††					PEDRO MIGUEL LOCKS AND DAMS.‡					MIRAFLORES LOCKS, DAMS AND SPILLWAY.‡‡					BALBOA T'M'N'LS §
	1910.	1911.	1912.	1913.	1914.	1910.	1911.	1912.	1913.	1914.	1910.	1911.	1912.	1913.	1914.	1914.
Jan	125,011	65,889	1,330	46,773	4,626	27,320	15,690	24,969	1,147	....	31,479	48,744	95,609	26,483	44,830	161,818
Feb	123,738	50,511	1,228	11,241	....	9,486	6,809	18,480	448	....	15,300	12,936	47,426	12,532	36,901	104,488
Mar.	132,007	51,431	254	35,705	....	6,784	674	1,777	800	....	18,184	72,739	28,352	28,700	14,780	113,197
Apl	103,243	12,548	27,134	29,649	....	9,129	255	13,269	620	....	12,148	79,751	29,094	23,255	1,600	112,024
May.	82,958	17,677	24,280	1,829	....	10,405	5,905	26,018	127	....	20,250	57,975	13,096	3,778	....	116,156
June.	88,088	4,840	19,605	388	....	8,420	7,454	7,794	936	....	21,994	38,023	7,906	....	....	....
July	95,503	6,897	1,974	17,756	....	4,410	6,273	4,412	....	....	11,990	97,884	4,532	....	....	....
Aug.	99,737	22,558	....	2,161	....	12,789	220	4,866	....	....	17,548	102,249	7,120	....	....	....
Sept.	103,040	3,489	1,025	1,091	....	10,405	3,472	1,613	....	....	8,590	96,112	5,192	....	....	....
Oct.	118,327	112	1,700	1,383	....	7,433	5,365	1,257	....	....	9,850	107,790	14,107	6,980	....	....
Nov.	94,552	....	2,203	1,210	....	10,636	12,962	2,408	....	....	9,400	84,894	27,728	6,970	....	....
Dec.	72,030	....	16,677	2,168	....	11,195	17,320	3,176	....	....	17,906	79,480	30,319	30,420	....	....
Totals	1,228,234	235,[illegible]52	97,410	151,354	4,626	128,412	82,399	110,039	4,078	....	194,639	878,577	310,481	139,118	98,111	607,683

*Total to June 1, 1914, 102,112,392 c. yds. Excavated 1904—1906 inclusive, 3,860,717 c. yds; by sluicing, 1,283,308 c. yds.; by dredging, 2,396,425 c. yds.

**Total to June 1, 1914, 12,945,824 cu. yds; 1907, 192,769 cu. yds.; 1908, 3,787,992 c. yds.; by sluicing, 188,239 c. yds.; by dredging, 551,169 c. yds.

†Dry excavation Mindi Hills 1907-1912, 2,196,198 cubic yards.

¶Excavated various points in prism to May 1, 1914, 4,819,797 cu. yds.; Balboa Locks and Dams, 1907, 78,233 cu. yds.; Outside Prism 1908, 172 cu. yds.

††Total to June 1, 1914, 6,662,779 cubic yards, including 26,628 c. y., 1906; 1,340,179 c. y., 1907; 2,774,561 c. y., 1908; 793,835 c. y., 1909.

‡Total to June 1, 1914, 1,321,063 cubic yards, including 256,780 cu. yds. in 1908, and 739,355 cu. yds. in 1909.

‡‡Total to June 1, 1914, 2,979,679 cubic yards, including 846,920 cu. yds. in 1908, and 511,933 cu. yds. in 1909.

§Total to June 1, 1914, 1,879,137 cubic yards, including 318,731 cu. yds. in 1912, and 952,423 c. y. in 1913.

WET EXCAVATION.

MOS.	ATLANTIC SECTION.†							PACIFIC SECTION.††							
	ATLANTIC ENTRANCE.§						A'L'TIC TERM.*	PACIFIC ENTRANCE.§§						BALBOA TERMINALS**	
	1909.	1910.	1911.	1912.	1913.	1914.	1914.	1909.	1910.	1911.	1912.	1913.	1914.	1913.	1914.
Jan	521,050	510,055	520,181	520,228	508,338	102,057	53,734	469,529	518,936	379,810	334,735	215,025	86,585	216,540	205,65
Feb	444,910	493,448	455,318	581,399	303,949	289,396	[illegible]	671,477	285,791	386,866	432,796	239,032	9,275	175,225	135,130
Mar	461,208	412,325	391,736	103,373	380,243	259,615	25,[illegible]	865,696	462,588	639,761	404,939	379,845	13,720	166,800	166,[illegible]9
Apr	470,635	190,574	492,579	134,261	436,605	186,119	2,264	731,767	534,322	439,622	383,995	356,942	11,209	182,125	260,365
May	315,370	447,578	514,178	229,626	685,163	138,581	2,544	720,753	484,509	548,047	388,310	369,703	78,382	194,510	143,543
June	182,575	458,021	452,098	343,804	814,592	....	....	844,685	475,486	576,100	338,006	604,080	....	31,179	....
July	348,451	423,092	425,195	495,398	921,948	....	....	733,181	515,782	520,692	392,511	756,930	....	231,105	....
Aug	422,846	508,829	367,456	429,415	512,089	....	....	623,263	506,969	630,241	441,644	726,256	....	286,127	....
Sept	410,574	451,873	420,434	372,302	478,689	....	....	662,976	473,585	534,667	455,059	581,958	....	178,579	....
Oct.	314,778	549,788	470,400	572,783	288,760	....	....	720,920	467,873	329,224	435,726	433,098	....	110,650	....
Nov	457,889	600,708	742,242	670,247	206,327	....	....	627,791	425,870	346,089	534,273	341,585	....	....	....
Dec	489,121	482,370	533,409	814,373	221,474	....	....	727,460	387,034	141,189	349,747	199,171	....	94,591	....
Totals	4,83[illegible],40[illegible]	5,528,661	5,785,276	5,267,209	5,758,177	975,768	139,288	8,399,498	5,538,745	5,472,308	4,891,741	5,186,731	199,171	1,867,441	910,50[illegible]

†Dredging, Gatun Dam, 1907, 38,425 cu. yds.; Gatun Locks, 1908-13, 1,776,791 cubic yards.

††Miraflores Locks and Dam, 1909-12, 652,246 cu. yds.; total to Jan. 1, 1914, 652,246 cu. yds.

§Total to June 1, 1914, 38,946,823 cu. yds., including 10,792,375 cu. yds. in 1905-08.

§§Total to June 1, 1914, 41,564,391 cu. yds., including 11,876,200 cu. yds. in 1905-08.

**Total to June 1, 1914, 3,589,618 cu. yds., including 264,556 cu. yds. in 1911, and 546,814 cu. yds. in 1912.

*Total to June 1, 1914, 376,928 cu. yds., including 237,640 cu. yds. in 1913.

CONCRETE IN LOCKS AND DAMS.*

MONTHS.	GATUN LOCKS.†			PEDRO MIGUEL LOCK††			MIRAFLORES LOCKS.‡		
	1912.	1913.	1914.	1912.	1913.	1914.	1912.	1913.	1914.
Jan	34,983	28,085	176	15,003	4,652	3,692	48,416	50,456	3,680
Feb	26,664	30,780	159	12,639	4,294	813	63,893	34,979	2,358
March	27,532	48,180	208	9,331	13,412	16[illegible]	83,706	21,030	902
April	11,600	22,732	198	9,460	2,145	155	97,735	13,266	300
May	7,746	13,046	....	10,736	1,144	....	92,095	6,956	....
June	6,095	5,509	....	10,061	773	....	68,398	3,836	....
July	8,093	3,431	....	11,480	1,829	....	66,026	3,810	....
Aug	6,855	6,258	....	5,995	1,884	....	75,388	3,643	....
Sept	3,162	442	....	3,039	1,144	....	46,122	1,907	....
Oct	3,252	174	....	6,587	412	....	54,790	1,152	....
Nov	6,029	280	....	7,972	630	....	39,874	2,007	....
Dec	5,697	120	....	6,958	1,162	....	46,746	1,859	....
Total	147,708	159,037	741	109,261	33,481	4,829	783,189	144,901	7,240

*Concrete in dams to June 1, 1914—Gatun spillway, 232,256 cu. yds.; Miraflores dam and spillway, 79,004 cu. yds.; Pedro Miguel dam, 1,289 cu. yds.

†1,761,344 cu. yds. in 1909, 1910, and 1911. ††780,696 cu. yds. in 1909, 1910, and 1911. ‡572,435 cu. yds. in 1909, 1910, and 1911.

FILL PLACED IN DAMS—1906-1914.

YEAR.	GATUN.		PEDRO MIGUEL	MIRAFLORES.	
	Wet	Dry	Dry	Wet	Dry
	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.
To January 1, 1911	5,833,076	6,128,105	260,852	294,712	609,863
1911	3,493,388	2,613,066	57,669	366,336	460,514
1912	1,402,501	2,499,09[illegible]	352,159	....	418,042
1913	....	910,741	25,258	....	246,640
1914	....	[illegible]	....	....	23,364
Totals	10,728,965	12,195,017	695,938	661,048	1,758,423

CANAL EXCAVATION TO DATE.

By French Companies		78,146,960
French excavation useful to present Canal		29,903,000
By Americans—		
Dry excavation	129,815,340	
Dredges	91,011,316	
Total		220,826,656
May 4 to December 31, 1904	243,472	
January 1 to December 31, 1905	1,799,227	
January 1 to December 31, 1906	4,948,497	
January 1 to December 31, 1907	15,765,290	
January 1 to December 31, 1908	37,116,735	
January 1 to December 31, 1909	35,096,166	
January 1 to December 31, 1910	31,437,677	
January 1 to December 31, 1911	31,603,899	
January 1 to December 31, 1912	30,269,349	
January 1 to December 31, 1913	27,177,960	
January 1 to May 31, 1914	6,483,796	

TOTALS BY SECTIONS AND AMOUNTS TO BE EXCAVATED.

SECTIONS.	Amount excavated.		Remaining to be excavated.	
Atlantic—				
Dry excavation	8,858,977	49,997,914	*3,977	3,169,056
Wet	41,138,937		3,173,033	
Central—				
Culebra Cut	102,112,392	115,058,216	2,899,608	2,638,784
All other points	12,945,824		*260,824	
Pacific—				
Dry excavation	11,078,681	56,884,33[illegible]	*290,081	4,604,661
Wet	45,806,258		4,894,742	
Grand total		221,940,4[illegible]		10,412,501

*Estimate exceeded by this amount.

SOCIAL LIFE OF THE ZONE.

Odd Fellows Give Farewell Reception to the Retiring District Deputy Grand Sire.

The various lodges on the Isthmus of the Independent Order of Odd Fellows, together with the Rebekah Lodge, No. 1, held a farewell reception in honor of Deputy Grand Sire Benjamin F. Sisson, and Mrs. Sisson, in Ancon hall on Sunday evening, June 21. The entertainment began with a program of music and recitations in which the following people took part: Mrs. Martin, Mrs. Keyser, Miss Bewley, Miss Cranfill, Miss McCann, and Messrs. Dohrman, Beetham, and Rall. On behalf of the lodges, Past Grand A. Dunlop presented the retiring deputy grand sire with a hand-carved teakwood desk, and on behalf of the auxiliary, Past Noble Grand Mrs. Janet Martin presented a handsome chair of teakwood to Mrs. Sisson. Refreshments were served by the Rebekah lodge, and the evening closed with expressions of good fellowship.

Mr. Sisson, who, with his family, is leaving for his home in Fall River, Mass., has been on the Isthmus since September, 1905. He has been actively engaged in the work of the Independent Order of Odd Fellows since 1906, when, in Gorgona, a committee was formed of which he was appointed secretary, to petition for a charter to organize a lodge in the Canal Zone. This charter was granted in July, 1907; at the same time Mr. Sisson received the appointment of special deputy grand sire. He instituted Isthmian Canal Lodge, No. 1, Gorgona, on September 10, 1907. In November of the same year, Mr. Sisson was made deputy grand sire of the sovereign grand lodge in full charge of all the work of the order in the district of Panama, which appointment has been ratified each year since. The history of the Odd Fellow lodges since the appointment of the deputy grand sire to the present time is, as follows: Mr. Sisson has instituted four subordinate lodges, and one Rebekah lodge, namely: Cristobal Lodge No. 2, at Cristobal, on May 16, 1908; Canal Zone Lodge, No. 3, at Empire, on May 29, 1908; Pacific Lodge, No. 4, at Ancon, on April 30, 1910; Gatun Lodge, No. 5, at Gatun, on July 15, 1910; Isthmian Canal Rebekah Lodge, No. 1, at Gorgona, on October 10, 1908.

On March 14, 1913, Cristobal Lodge surrendered its charter and consolidated with Gatun Lodge, No. 5. On July 19, 1913, Isthmian Canal Lodge, No. 1, removed from Gorgona to Empire, and Canal Zone Lodge, No. 3, surrendered its charter and became consolidated with Isthmian Canal Lodge, No. 1. On April 7, 1914, Isthmian Canal Lodge, No. 1, removed from Empire to Ancon, and Pacific Lodge, No. 4, surrendered its charter and became consolidated with Isthmian Canal lodge, No. 1. As deputy grand sire, Mr. Sisson attended 60 installations and installed nearly 900 officers during his period of service.

Mrs. Miriam Beetham, past noble grand of the Isthmian Canal Rebekah Lodge, No. 1, has been appointed to install the officers of the lodge for the term beginning July 1, 1914, and Mr. Charles H. Beetham, past grand, has been appointed to install officers in Isthmian Canal Lodge, No. 1, and Gatun Lodge, No. 5, for the term beginning July 1, 1914.

Sunday School Bazaar.

The Sunday school of the Union church at Cristobal, assisted by the ladies' aid society of the church held a bazaar at the Government clubhouse on Saturday afternoon and evening, June 12. The sale was opened at 3 o'clock, and continued until 10 o'clock, at which hour the announcement was made that all the articles had been sold. There were offered at the various booths, fancy articles, boudoir caps, crocheted handbags, pincushions, and home made candies, fruit punch, and ice cream. An attractive tea table was set in the center of the room. Other features were a gypsy fortune teller, and a fish pond. The total receipts amounted to $134.34. This money will be used for the purchase of additional books for the Sunday school library. The chairman of the bazaar was Mrs. J. P. Dovell.

Closing Week of School.

The closing examinations in all grades of the Canal Zone schools, including the high school, are being conducted this week. The school work so far as the pupils are concerned will close for the summer vacation after the sessions on Friday, June 26. On the 29th and 30th, the teachers will make up their reports. On the 30th, the pupils will receive their classification cards and report cards at the school.

Train Schedule for High School Commencement Exercises.

The following special train service has been arranged for the convenience of those attending the high school commencement exercises in Panama on Friday, June 26:

A special coach on train leaving Colon for Panama at 4.45 p. m.; a special coach on train leaving Empire for Panama at 7.22 p. m.; a special coach on train leaving Panama for Empire at 10.30 p. m.; a special train leaving Panama for Colon at 10.30 p. m., arriving at Colon before midnight. No fares will be collected on these special coaches, and no form of ticket will be required. The only regular stop for the Colon special will be at Gatun. This train will not stop at Corozal, Miraflores, or Pedro Miguel. Stops will be made at New Culebra, Frijoles, Monte Lirio, and Mount Hope only on notice to the conductor.

Fourth of July Events.

The program of water sports to be held in connection with the Fourth of July celebration at Cristobal will be, as follows:

MORNING.

1. 9.00—Gasoline boat race. Gasoline boats *Dixie*, *Psyche*, and *Lirio*. Distance, about five miles. Triangular course around flag buoys. Start and finish at outer end of slip between Piers 8 and 9. Prizes, $15 and $10.

2. 9.15—Lifeboat race. Four-oared, single scull, and coxswain. Distance, one mile. Start from outer end of slip between Piers 8 and 9. Prizes, $25 and $15.

3. 9.30—Sailing canoe race. Distance, 2½ miles. From buoy off Pier 8 around flag buoys in bay and return. Prize, pennant.

4. 9.45—Gasoline boat race. Free for all. Distance about five miles. Triangular course around flag buoys. Start and finish at outer end of slip between Piers 8 and 9. Prize, $15.

5. 10.00—Paddling canoe race. Distance, one mile. Course, from end of slip around flag buoy and finish at end of slip between Piers 8 and 9. Prizes, two gold, two silver, and two bronze medals.

AFTERNOON.

6. 1.15—Submarine descent. In slip between Piers, 8 and 9.

7. 1.30—50-yard swimming dash for men, Course, between Piers 8 and 9. Prizes, gold, silver, and bronze medals.

8. 1.40—50-yard swimming race for women. Course, between Piers 8 and 9. Prizes, gold, silver, and bronze medals.

9. 1.45—50-yard swimming race for boys under 16 years of age. Age must be reliably vouched for. Course between Piers 8 and 9. Prizes, $10, $5, and $3.

10. 1.50—50-yard tub race. Course, between Piers 8 and 9. Prizes, $10 and $5.

11. 2.00—880-yard swimming race for men. Course, between piers 8 and 9. Prizes, gold, silver, and bronze medals.

12. 2.10—Greased spar. Free for all. Projecting from deck of lighter. Winner to take flag from outer end of spar by walking, running, or sliding on feet from lighter to flag. Prize, $25.

13. 2.20—60-foot form dive. Each contestant to make three dives. Prizes, gold, silver, and bronze medals.

14. 2.30—Swimming race for men. Distance, one mile. Course, between Piers 8 and 9. Prizes, gold, silver, and bronze medals.

15. 2.30—Fancy diving contest for men. Height, 10 feet. Each contestant will have five dives, three specified, front, back, and 1½; two optional. Prizes, gold, silver, and bronze medals.

16. 2.30—Aquatic wrestling match. Free for all. To take place on greased 30-foot floating platform between Piers 8 and 9. Winner to be last man on platform Prize, $25.

17. 2.45—100-yard swimming race for men. Course, between Piers 8 and 9. Prizes, gold, silver, and bronze medals.

18. 2.50—440-yard swimming race for men. Course, between Piers 8 and 9. Prizes, gold, silver, and bronze medals.

19. 3.15—Relay swimming race for men. Distance, 200 yards. Course, between Piers 8 and 9. Prizes, four gold medals to winning team.

Address all requests for information, or correspondence in regard to entries, to the chairman, committee on water sports, Dock 13, Cristobal.

Children's Races.

There will be a new departure in field sports at the Fourth of July celebration. The smaller boys and girls of the Canal Zone schools will be given an opportunity to show their ability in this direction, and a program beginning at 3.30 p. m., and continuing until 5 p. m. has been arranged, as follows:

BOYS.

75 lbs.—60-yard dash; potato race (four potatoes); Relay race (300 yards); running high jump.

90 lbs.—75-yard dash; potato race (five potatoes); relay race (300 yards); running high jump.

110 lbs.—75-yard dash; potato race (six potatoes); relay race (360 yards); running high jump.

130 lbs.—75-yard dash; potato race (eight potatoes); relay race (360 yards); running high jump.

GIRLS.

75 lbs.—50-yard dash; potato race (four potatoes); relay race (200 yards); hop step, and jump, relay, (three to a team).

90 lbs.—50-yard dash; potato race (five potatoes); relay race (240 yards.); Hop step, and jump, relay, (three to a team.

110 lbs.—60-yard dash; potato race (five potatoes); relay race (300 yards); hop, step, and jump, relay, (three to a team).

130 lbs.—75-yard dash; potato race (six potatoes); selay race (300 yards); hop step and jump, relay, (three to a team.)

Each contestant will be weighed at Pier 9, between 1 o'clock and 3 o'clock on the afternoon of the Fourth of July, in the same costume in which they intend to compete. Contestants weighing a fraction of an ounce over weight are ineligible to compete in that class and will enter the next class. No competitors will be permitted weighing over 130 pounds.

It is recommended that each school select a school color. There will be no entry fee. First, second, and third prizes will be awarded in the form of printed ribbons.

Notice to Contestants in Athletic Meet.

Every effort is being made by the athletic committee to have all equipment ready, as per schedule, to be arranged for the Fourth. All officials will be instructed and expected to conduct contests on schedule time.

All contestants are hereby notified that no event will be held or delayed on account of failure of contestants to appear at starting point. Race or contest will be started as near as possible per schedule, and entry of those failing to appear on time cancelled. Usual calls will be made at dressing room on field; those failing to observe (or hear) will have no redress.

Be governed accordingly.

F. G. SWANSON, *Referee.*

Approved:
A. B. DICKSON,
Chairman, Athletic Committee.

LABOR FORCE AND QUARTERS IN MAY.

The force report for May 27 shows the actual working force of The Panama Canal on that date to have been 26,250; of the Panama railroad, 4,771, and of the contractors, 29, a total effective working force of 31,050, a decrease of 644, as compared with the statement for April 29, and a decrease of 11,483, as compared with the force report for May 28, 1913. The gold force on the Canal work, composed almost exclusively of white Americans, was 4,366, divided, as follows: The Panama Canal, 3,901; Panama railroad, 448; contractors, 17, a decrease of 91, as compared with the statement for April, and of 436, as compared with May of last year. A statement of The Panama Canal force, by departments, follows:

Department or Division.	SILVER EMPLOYES* Artisans.						European laborers.		West Indian laborers.					Total silver.	Total gold.	Grand total.
	Monthly	44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents.	7 & 5 cents.			
Operation and Maintenance..	3,529	5	38	530	1,603	2,441	464	227	43	219	3,416	1,980	142	14,637	2,438	17,075
Executive Office	134	..	..	...	.....	.....	......	......	...	...	.....	......	....	134	312	446
Health	496	..	..	...	1	3	......	......	...	4	36	304	44	888	214	1,102
Supply	2,238	..	..	352	638	979	2	......	10	...	1,029	1,284	144	6,676	803	7,479
Accounting	14	..	..	...	.....	.....	......	......	...	...	.....	......	....	14	134	148
Total......	6,411	5	38	882	2,242	3,423	466	227	53	223	4,481	3.568	†330	22,349	3,901	26,250
Month previous.	6,459	6	6	668	1,919	4,335	471	617	53	56	4,604	3,954	‡238	23,386	4,005	27,391

The force in the commissary department is included with that of the Supply Department, and of the Disbursing Office, with that of Accounting Department.

*All wages are stated in United States currency. †Includes 166 at five cents. ‡Includes 182 at five cents.

The force report of the Department of Operation and Maintenance, including the employes of contractors, as of May 27, follows:

Division.	SILVER EMPLOYES* Artisans.						European laborers.		West Indian laborers.					Total silver.	Total gold.	Grand total.
	Monthly	44 cents.	32 cents.	25 cents.	20 cents.	16 cents.	20 cents.	16 cents.	20 cents.	16 cents.	13 cents.	10 cents.	7 & 5 cents.			
Div. of Erection	105	..	..	62	262	638	9	......	...	19	410	209	8	1,722	307	2,029
Div. of Terminal Construction .	845	..	32	236	753	236	216	......	...	148	744	482	54	3,746	421	4,167
Div. of General Construction..	167	..	..	11	36	68	198	176	43	23	86	439	20	1,267	171	1,438
Dredging Div...	1,698	..	..	7	28	51	9	16	...	4	144	2	4	1,963	322	2,285
Electrical Div..	50	..	..	4	39	35	9	......	...	...	122	162	1	422	139	561
Fortifications Division	147	..	..	57	144	392	1	......	...	...	552	83	3	1,379	104	1,483
Municipal Engineering.....	309	..	..	83	229	362	1	32	...	25	303	434	28	1,806	102	1,908
Mechanical Div.	203	5	6	70	112	659	21	3	...	...	1,055	169	24	2,327	863	3,190
Canal Transportation	5	..	..	...	.....	.....	......	......	...	...	.....	......	....	5	9	14
U. S. Steel Products Co......	......	..	..	...	.....	.....	......	......	...	...	.....	......	....	2	15	17
Chicago House Wrecking Co.	......	..	..	...	.....	.....	......	......	...	...	.....	......	....	10	2	12
Total......	3,529	5	38	530	1,603	2,441	464	227	43	219	3,416	1,980	†142	§14,637	§2,438	§17,075
Month previous	3,643	6	6	323	1.180	3,328	468	617	46	52	3,504	2,343	‡152	§15,668	§2.599	§18.267

*All wages are stated in United States currency. †Includes 98 at five cents. ‡Includes 116 at five cents. §Employes of contractors are not included in the totals.

QUARTERS.

A report of Canal and Panama railroad quarters occupied on May 31, follows:

Place.	Gold.			Europeans.			West Indians.		
	Men	*Women*	*Children*	*Men*	*Women*	*Children*	*Men*	*Women*	*Children*
Ancon[2]	872	339	273	....	....	....	647	39	4
Balboa	555	36	30	450[1]	17	23	1,318	338	421
Corozal[3]	877	209	230	436	....	....	430[4]	35	29
Cristobal[7]	847	363	396	182	....	....	1,241[8]	157	371
Culebra[5]	591	354	414	94	34	41	698	281	412
Gatun	363	193	178	237	5	14	405[6]	36	45
Paraiso	277	73	86	118	6	18	319	101	162
Pedro Miguel	198	125	122	130	....	....	245	....	...
Toro Point	142[9]	2	3	....	....	....	308	....	......
Total	4,722	1,694	1,732	1,647	62	96	5,611	987	1,444

(1) Includes 12 Asiatics. (2) Includes Sabanas police station, Taboga Island, Naos Island, Culebra Island, and Palo Seco (3) Includes Miraflores. (4) Includes 56 Panamanians. (5) Includes Empire, Las Cascadas, and Bas Obispo. (6) Includes eight American negroes. (7) Includes Colon Beach and Colon Hospital. (8) Includes 18 East Indians, nine American citizens, and 272 Panamanians. (9) Includes 120 Coast Artillery men Gold force of contractors (included above). 44 bachelors.

Native Sons of the Golden West.

All native Californians that are employed on the Isthmus and belong to the order known as the Native Sons of the Golden West are requested to send their names and the number of the parlor to which they belong, to E. C. Turner, Box 338, Cristobal, C. Z.

OFFICIAL CIRCULARS.

Work Formerly Under General Superintendent, General Construction Division.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., June 15, 1914.

CIRCULAR No. 660-15:

1. Effective June 16, 1914, the following disposition will be made of the work now under the supervision of Mr. George A. Greenslade, general superintendent, General Construction Division:

WATER AND AIR SERVICE.

2 Water and air service, with the exception of that in connection with the Balboa terminals, will be transferred to the Division of Municipal Engineering.

MIRAFLORES SAND SERVICE.

3. The Miraflores sand service will be turned over to the Division of Terminal Construction.

BALBOA DUMPS.

4. The work on the Balboa dumps will be continued under the supervision of General Foreman Thomas O'Brien, reporting direct to the Governor.

NAOS ISLAND BREAKWATER.

5. The work on the Naos Island breakwater will be continued under the supervision of General Foreman Will B. Casey, reporting direct to the Governor.

GEO. W. GOETHALS,
Governor.

Division of Posts.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., June 20, 1914.

CIRCULAR No. 660-16:

Effective July 1, 1914, the Division of Posts of the Executive Department will be abolished and the work heretofore handled in that division will be transferred to the Division of Civil Affairs.

The Chief of the Division of Civil Affairs will be, *ex officio*, Director of Posts.

GEO. W. GOETHALS,
Governor.

Sales of Materials.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., June 12, 1914.

CIRCULAR No. 630-2:

SURCHARGES.

Effective at once, the following surcharges will be added on material sold from regular stock of the Supply Department:

Fifteen per cent—To churches, lodges, and charitable organizations; detachments of the United States Army, Navy, or Marine Corps (including wireless stations) located on the Isthmus; and to sales which are payable from Canal Zone or Y. M. C. A. funds.

Twenty per cent—To employes (when material is for personal use); naval vessels; steamship companies or their agents; other branches of the United States Government; contractors with the United States Government or Panama Railroad Company, when material is for use in connection with such contract; and to sale of stock material when purchased in connection with second-hand equipment or material.

Thirty per cent—To all other sales of stock material

GEO. W. GOETHALS,
Governor.

Departamentos Para Las Familias de los Empleados del Rol de Plata.

CANAL DE PANAMA,
OFICINA EJECUTIVA,
CULEBRA, C. Z., 1° de Abril, 1914.

CIRCULAR No. 628:

1. En los puntos donde se cobra alquiler, se destinarán departamentos para las familas de los empleados casados del rol de plata, y el alquiler será fijado y cobrado de acuerdo con las siguientes reglas y reglamentos:

2. Los cuartelmaestres de los distritos llevarán una lista metódica de los peticionarios cuyas peticiones serán archivadas a medida de su recibo. Las peticiones se harán sujetándose a las reglas generales que reglamentan la cesión de departamentos para las familas de los empleados del rol de plata.

3. Los departamentos no podran ser subarrendados y serán ocupados únicamente por los empleados a quienes se entregarán y a la familia ó parientes que dependan de dichos empleados.

4. Una vez ocupado el departamento, este y los terrenos adyacentes deberán conservarse aseados y en buenas condiciones sanitarias. Los empleados y sus familias estarán obligados a cumplir con todos los reglamentos de sanidad y a someterse a las reglas que rigen la ocupación de departamentos.

5. A los empleados que ocuparen un departamento al dejar su empleo, ya sea por destitución, ya sea por su

propia voluntad, les será permitido continuar en el hasta que concluya el periodo de alquiler pagado ya antes de su separación del empleo, debiendo al terminarse el alquiler desocupar el departamento.

6. Un arriendo mensual se cobrará por cada departamento. Los precios de arriendo y las fechas de estos serán fijados junto con una copia de los reglamentos sobre cada edificio para arrendar.

7. El periodo de arriendo principiará el día 16 del mes y terminará el día quince del mes siguiente. El arrendamiento deberá pagarse por adelantado al representante autorizado del "Panamá Canal," ó sea antes del primer dia del periodo de arriendo mensual. Un recibo de dicho pago será entregado en debida forma, y deberá ser conservado como comprobante del derecho de tenencia. Estos recibos tendrán que ser presentados a petición del representante del "Panamá Canal."

8. En caso de que la ocupación principiaré en otra fecha que la del 16 del mes, un valor diario equivalente a una trigésima parte de la renta mensual se cobrará por cada día de ocupación del departamento, con la excepción siguiente: Por toda fracción de la mensualidad que principiarè despuès del 16 de Febrero el arriendo se calculará deduciendo del valor de la mensualidad una trigésima parte por cada día entre el 15 de Febrero y la fecha en que principiaré la ocupación.

9. Al dejar el empleado de cumplir con las reglas y reglamentos arriba mencionados se le obligará a desocupar inmediatamente su departamento y no se le hará devolución alguna de dinero por los días de arriendo que faltaren por cumplir.

Geo. W. Goethals,
El Gobernador.

Accountable Officials.

The Panama Canal,
Accounting Department,
Empire, C. Z., June 20, 1914.

Circular No. 62:

All concerned—Effective June 16, 1914, Mr. F. R. Blunt, superintendent of railroad transportation, is designated an accountable official of The Panama Canal, and as such will account for all Panama Canal equipment in the service of the Panama railroad.

H. A. A. Smith,
Auditor, Panama Canal.

Approved:
Geo. W. Goethals,
Governor.

The Panama Canal,
Accounting Department,
Empire, C. Z., June 15, 1914.

Circular No. 61:

All concerned—Effective this date, Mr. T. B. Mönniche, engineer of docks, is designated as an accountable official of the Panama railroad.

H. A. A. Smith,
Auditor, The Panama Canal.

Approved:
Geo. W. Goethals,
Governor.

Assistant Engineer, Fortifications Division.

The Panama Canal,
Executive Office,
Culebra, C. Z., June 22, 1914.

Circular No. 661-10:

Effective June 24, 1914, First Lieutenant A. H. Acher, U. S. A., assistant engineer, will be placed in charge of the fortification work on the Isthmus, vice First Lieutenant Geo. R. Goethals, U. S. A.

Geo. W. Goethals,
Governor.

Energization of Transmission Line Between Miraflores and Balboa.

The Panama Canal,
Office of the Governor.
Culebra, C. Z., June 22, 1914.

Heads of Departments and Divisions:

In order to carry the additional relay pump load at Balboa, it is necessary to energize the west transmission line between Miraflores station and Balboa at 11,000 volts, effective July 1, 1914. All concerned are notified to use due caution to avoid coming in contact with the live wires.

Geo. W. Goethals,
Governor.

Shipments of Material and Claims for Losses.

The Panama Canal,
Executive Office,
Culebra, C. Z., April 1, 1914.

Circular No. 632:

INSTRUCTIONS FOR CONSIGNORS.

1. All material loaded direct by consignor, in box or flat cars, must be properly stowed, staked, or fastened in a manner suitable to prevent damage to the shipment from the ordinary handling of the car in transit. Piling, or other material of sufficient length to require loading on two or more cars, must be loaded in accordance with master car builders' standard, and in no case must the load extend to exceed five feet two inches from center of track. In moving piledrivers, steamshovels, or other equipment, their width must conform to the above unless otherwise specifically authorized.

2. Shipments of glass shall be stood on edge; sewer and water pipe securely stayed to prevent motion; lumber, piling, and timber securely staked, and, when necessary, cross-stayed to prevent motion in transit; part carloads must be secured against motion, and all reasonable precautions observed to insure shipments arriving at destination in good condition.

3. The chains used by the Panama railroad as auxiliary couplings between cars on which is loaded material that extends over the ends of the cars, such as piling, must be returned to the Panama railroad by the official or employe responsible for unloading such cars, or by the inspector removing chains from cars at the terminal.

4. Chains will be waybilled on separate billing (making notation on original waybill of number of chains) by forwarding agent to the consignee of shipments, with a charge of $5. United States currency, for each chain used. Waybill must show, as reference, the initial and number of cars, waybill number, and date of shipment.

5. Receiving agent will make out regular expense bill in duplicate, delivering one copy to consignee and retaining one copy, on which he must obtain consignee's receipt for chain, which will be kept until chain is returned, if returned within 30 days. If chain is not returned within 30 days, the receipted expense bill will be sent to the auditor, taking credit for amount of charges on the same.

6. When chains are returned, agent will turn over to consignee original expense bill on which he has given receipt and forward chain on company's billing to receiving and forwarding agent, or to the local agent at Colon or Balboa, giving reference on waybill to original and chain waybill number and date, name of consignee, numbers of cars on which chains were used, advising the auditor what action has been taken, and taking credit for the value of the chains.

7. Chains used on cars loaded with freight in transit will be billed to receiving and forwarding agents, who will be responsible for return of the same.

8. Car inspectors will report promptly to forwarding agent all chains used on cars, giving car numbers, number of chains used, and lading of cars.

9. Any employe failing to obey these instructions will be held responsible for the value of the chains.

10. It will be considered negligence on the part of a shipper to forward on flat cars material which, following good railroad practice, should be loaded in box cars.

11. Small packages, articles of a valuable nature, material subject to damage from weather, loose articles, packages containing fragile material, packages containing liquids, and similar items, shall be loaded in box cars, except in cases of extreme emergency where there are no box cars available. Whenever shippers are unable to procure box cars for small packages, articles of a valuable nature, etc., they shall deliver the packages to the nearest agent and take his receipt therefor.

12. Any losses incurred through improper loading, as above outlined, shall be the basis of a proper claim against the shipper. In such cases, shipper must produce necessary evidence of his efforts to procure a box car.

13. Shipments shall be packed in a manner sufficient to insure goods arriving at destination in good condition. Articles of a fragile nature must be securely boxed, or crated, and other items boxed, crated, bundled, or sacked (according to the nature of the shipment), and each package properly marked showing shipper, destination, and consignee.

14. Box cars loaded by consignors shall be properly sealed, and cars so loaded must be carded showing shipper, destination, and consignee.

15. Consignors, shall forward an invoice to the consignee at unloading point in time to arrive at destination with the goods. This invoice shall contain particulars of the shipment and shall be used by the consignee for an unloading check. Agents, however, will check Items, such as boxes, barrels, etc., as shown on the waybill. Shipment of bulky materials, such as rails, ties, lumber, piling, or other material of large size, should be carded, card being placed on car containing material, showing exact amount of material on car.

INSTRUCTIONS FOR CONSIGNEES.

16. It shall be the duty of the consignee, or his authorized representative, to unload and check all shipments promptly upon arrival, noting the condition of the seals, and any discrepancies in quantities or conditions.

17. It is hereby directed that all departments shall keep a record of all seals on cars, this record to show the following data:

(*a*) Number and initial of car.
(*b*) Number and initial of seals.
(*c*) Date removed or applied.
(*d*) By whom removed or applied.
(*e*) Condition of end doors must be shown, whether cleated, bolted, or sealed.
(*f*) When loading carload lots, all old seals must be removed and new seals applied.

18. When cars are placed to be opened, the seals must be examined carefully to ascertain if they are in good order before removing them. All cases of seals being found broken or out of order must be reported promptly by telegraph to the superintendent of the Panama railroad and the consignor.

19. (*a*) In cases of damage being noted, the consignee shall have the damage verified by an agent of the Panama railroad. The consignee and the agent shall determine, if possible, whether the damage was occasioned through the fault of the railroad or from defective loading by the consignor.

(*b*) If consignee and agent agree as to responsibility, they will immediately fill out, sign, and forward Form AI 349 to the consignor, superintendent of Panama railroad, and surveying officer.

(*c*) If consignee and agent cannot agree as to responsibility, the matter will be referred to the surveying officer, but there shall be no delay to the car on which shipment is made.

20. In cases of shortages in expendable material not exceeding $3 in value, the consignee will accomplish all papers pertaining thereto, including expense bill and receipts in full, and the accountable officer will drop the article or articles found short from his return, on certificate of the consignee that such articles were short and less than $3 in value. In cases of shortage of nonexpendable material and articles of all classes exceeding $3 in value, the consignee will call for the action of the surveying officer, and hold papers for his disposition.

21. In case the car is received with the original seals intact, it will be considered evidence that the short material was never shipped. and shall be the basis of a claim against the shipper. In case the seals are not intact, the matter should at once be reported as per Paragraph 18. If the Panama railroad's seal record shows that car was delivered on a Panama Canal interchange track with seals intact, the Panama railroad shall not be held for any loss or damage. Written report in full shall be sent to the accountable officer of the department or division of the consignee, the superintendent of the Panama railroad, and the consignor, and no claim will be entertained unless inaugurated within 48 hours.

22. Material loaded by the consignor and accepted by the railroad at "Shipper's load and count" exempts the railroad from any loss by shortage, unless it can be proven that car was received with seals broken.

23. Any shortage developing when shipment is received with seals intact, when billed "Shipper's load and count," shall be borne by shipper, after verification of the shortage by the surveying officer.

24. Concealed damages, that is, damages that are not visible when packages are unloaded, but which are disclosed after the shipment has been unpacked, are to be treated as indicated in Paragraph 20.

25. Articles accepted by the railroad only at owner's risk are shipped with the distinct understanding that the railroad will not entertain any claim for damages or losses, except it can be proved that the car received rough handling in transit.

26. Shipments of glass, sewer and water pipe, liquids, and similar articles are handled only at owner's risk, and claims for damages from losses shall not be made against either the shipper or the railroad, except as hereinafter noted:

(*a*) Claims shall be made against the railroad when it can be proved that the car received rough handling.

(*b*) Claims shall be made against the shipper when it can be proved that the loss occurred through improper loading and packing.

(*c*) When a claim is to be presented against the Panama railroad, the claimant should refer to the Panama railroad freight expense bill, giving its pro number, name of station shipped from, name of station making delivery, date of way bill, number of waybill, car initials and number, as shown on the Panama railroad form AI 274 Rev., and seal record to which it refers.

Geo. W. Goethals,
Governor.

Oils, Lubricants, and Waste.

The Panama Canal,
Executive Office,
Culebra, C. Z., April 1, 1914.

Circular No. 655:

STANDARD OILS AND LUBRICANTS.

1. The following list of illuminating oils, and lubricating oils and greases will be considered as standard for The Panama Canal, and will be used only for purposes indicated, excepting only as indicated in paragraph No. 8 of this order. All requisitions on the Supply Department shall specify the oil or lubricant desired, either by the "P. C." number given below or by name, or by both, and no name other than that given below for each particular oil or lubricant shall be used in designating the same on requisitions, etc. No oils or lubricants will be requisitioned for unless the same are included in the following list, until after application

for authority to procure the same, showing the necessity therefor, has been first submitted to, and approved by the Governor.

2. The metal drums in which most of the lubricating oils are furnished are the property of the oil contractors, and have to be returned to them in good condition. Care should, therefore, be exercised in their handling to prevent both damage and loss of oil, and in no case should they be used as a continuous container for the same or any other oils, but when empty should be returned promptly to the Supply Department.

3. The prices given below indicate the actual cost of all oils, and lubricants, delivered at Cristobal, under the present annual contract (cost of drums not included), and are not intended to supersede the prices given in the price book of the Supply Department, and should not be used in the material accounts.

4. *Lubricating oils*— Cost per gal.
P. C. No. *Drums. Cans.*

1. Valve oil........................$0.25 ......
For the internal lubrication of steam valves and cylinders on all classes of equipment.

2. Air compressor cylinder oil......... .20 ......
For the internal lubrication of air cylinders of air compressors, and for pneumatic hammers and drills.

3. Marine engine oil.................. .22 ......
For marine engines, but not in crank cases, where it would be agitated and mixed with water, for, being a compound oil, it would emulsify if so used; also, for the block bearings of suction dredges.

4. Stationary engine oil.............. .17 ......
For stationary engines, electric dynamos, and motors, wood and metal working machinery, and for the general lubrication of machinery; also, for dies of bolt cutters, turret lathes, etc., except where the use of lard oil is permitted. (See note under lubricant No. 11.)

5. Locomotive engine oil.............. .15 ......
For all locomotives, running gear of all locomotive cranes, deck machinery of dredges (except engines), and for cold saws in machine shops.

6. Turbine engine oil................. .13 ......
For all step bearings of turbines in the Miraflores and Gatun power plants only. This oil is also known as step bearing oil.

7. Gas engine oil..................... .20 ......
For the cylinders of internal combustion engines. The use of Monogram engine oil is permitted on motor boats and motor cars only.

9. Car oil............................ .13 ......
For the journals of all cars, passenger coaches, locomotive tenders, and rolling stock generally; for steamshovel bearings where not equipped with grease cups, and for tripod drills and switches. Nylo car oil shall be standard lubricant for crank cases of Westinghouse vertical compound and other engines.

10. Transformer oil................... .28 ......
For use in the electrical subdivision in air cooled transformers only.

11. Lard oil.......................... ...... .6575
For hand torches for illuminating purposes only on marine equipment. On land, for shop use on pipe-threading machines; and it may be substituted for stationary engine oil (P. C. No. 4) when necessary, on dies and turret machines and on bolt cutters, when working refined iron or tough machinery steel. The use of this oil should be minimized to the greatest possible extent on account of its high cost.

12. Ammonia cylinder oil.............. .35 ......
For the internal lubrication of cylinders of ammonia compressors only.

In bbls.
13. Crude oil................................ .0262
For the lubrication of steamshovel chains, cables where designated, and general purposes where oils and greases have been used as a preservative.

5. *Lubricating greases*— Cost per lb.
In bbls.

20. Nonliquid oil............................ .045
This is an oil of the consistency of vaseline, for the lubrication of sheaves of carriages on the Lidgerwood cableways at Gatun, for air brake cylinders and triple valves, and such pneumatic drills and motors as may be equipped for the use of grease.

In cans.
21. Cup grease (yellow)...................... .065
For all classes of lubrication where grease is used in compression cups. This grease is being received in two consistencies, No. 3 and No. 5, the No. 3, of less consistency, to be used on machinery subject to normal temperature, and the No. 5, of heavier consistency, to be used on machinery subject to higher temperatures.

22. Gear grease.............................. .027
For all classes of lubrication requiring grease for which compression cups are not adapted. This includes the center and side bearings of cars, cranes, and steamshovels, also wire cables, both standing and running, etc.

In bbls.
23. Cable grease............................. .04
For the "Interlocked-wire" track cables of the Gatun cableways exclusively.

24. Crank pin grease......................... .085
For use on locomotive crank pins only where pressure cups are used. Care should be exercised not to confound this grease with cup grease Nos. 3 and 5 (P. C. No. 21), which is not suitable for this purpose.

6. *Illuminating oils*— Cost per gal.
Drums. Cans.

30. Signal oil................................ .44
For use in railroad lanterns only, and in the cab lights of engines.

31. Kerosene oil..................... .102 .169
For use in locomotive headlights, passenger coach, and similar lamps, ordinary lanterns, and for cleaning purposes.

7. *Gasoline*— Cost per gal.
Drums. Cans.

40. Gasoline......................... .254 .318
For use on gasoline launches, motor cars, blow torches, cleaning, etc.

8. Substitutions of cheaper grades of the standard lubricants given above, may be approved by the traveling engineer whenever practicable, the above circular defining in a general way their accepted uses.

STANDARD CONTAINERS.

9. Hereafter, the following hand oilers and oil containers only shall be used, and shall be considered as the P. C. standard. Any other hand oilers or oil containers that may be in stock, however, may be used until the supply is exhausted. All replenishment of the same shall be in accordance with the following list:

No. 40. Twenty-four-inch spring hand oiler, for use on standard gage locomotives only, capacity, two pints.

No. 41. Locomotive tallow pot, for use on locomotives, steamshovels, pumps, portable and stationary plants, and at power plants for filling lubricators, etc., capacity, two quarts.

No. 42. Stationary engine oilers, for general use around stationary power plants on air compressors and marine engines, etc., capacity, two pints.

No. 43. Standard squirt oiler (length of nozzle 4-7/8 feet, diameter 4-3/32 inches), for use on floating equipment, on portable and stationary plants, and on machinery in general, capacity, one pint.

No. 44. Oil can with screw cover and spout, for use on locomotives and small equipment, capacity, one gallon.

No. 45. Oil can with screw cover and spout, for use on locomotives and small equipment where 1-gallon can is not suitable, capacity, two gallons.

No. 46. Oil can with screw cover, for use on steamshovels and floating equipment, capacity, five gallons.

No. 47. Eighteen-inch spring hand oiler (same as type No. 40), for use on dredges, cranes, cableways, steamshovels, narrow-gage locomotives, and smaller equipment, capacity, two pints.

10. All hand oilers and oil containers shall be plainly marked with the standard number given in the above list and with the name of the oil contained. They shall be kept clean and in good repair.

11. Requisitions for the above will be honored by storekeepers only for the purpose indicated, and they may be specified on requisition either by number or by name.

CARE AND USE OF LUBRICANTS, LUBRICATORS, AND EQUIPMENT.

12. The following instructions in regard to the care and use of lubricants, lubricators, and equipment, are issued for the guidance of all concerned:

(*a*) *No. 1. Valve oil*—For the internal lubrication of steam valves and cylinders on all classes of equipment.

A. The points that govern the condition of valve and cylinder lubrication are: The condition of the surfaces, the steam pressure, the amount of moisture in the steam, speed, type of engine, weight and fit of moving parts. Dryness of the steam is a very important factor in cylinder and valve lubrication, engines taking steam from foaming of priming boilers, or through long and uncovered steam pipes, usually require more oil than an engine supplied with dry steam. Wet steam is considered one of the greatest causes for complaint in the lubrication of valves and cylinders.

B. The engineer who is studying the subject of valve and cylinder lubrication, can determine accurately the amount of oil required to sufficiently lubricate the particular equipment under his charge, by the following method: For instance, an engineer wishes to determine, as near as possible, the number of drops to feed per minute to obtain satisfactory lubrication; he will feed, say, six drops per minute, and finding that the valves work free and smooth, the number of drops will be reduced to, say, four drops per minute. After feeding four drops per minute for some time, and finding that the conditions are the same as when feeding six drops per minute, with reference to the eccentric rods developing quiver, and the groaning of the valves (which is an indication of insufficient lubrication), it could then be safely assumed that six drops per minute would be excessive lubrication. Further experiments could be conducted along this line to accurately determine the exact drops per minute to feed to obtain satisfactory lubrication.

C. A very reliable and simple test to determine the lubrication of the valves and cylinders is, to wipe them over with several thicknesses of tissue paper, and note the number of thicknesses that has been saturated by the oil; the greater number of sheets showing evidences of oil would determine the amount of oil on the surfaces.

D. Intelligent and economical results cannot be obtained unless the engineer in charge knows the rate at which the oil is being fed through the lubricator.

E. If a small quantity of valve oil is placed in the lubricator, it should either be filled up with warm water, or sufficient time be allowed for the condensation to fill the cup and raise the oil to the top of feed pipes before the feed valves are opened.

F. Immediately after the oil is placed in lubricator, the steam and condenser valves should be opened, the steam valve should always be opened first and full, and should be shut last. By bearing this particularly in mind, it will be found that most of the trouble will disappear, the water in the feed glasses will remain clear, and there will be no loss of oil by syphoning. If the feed glasses become dirty, they may be cleaned by rubbing a swab, saturated with either turpentine, glycerine, or kerosene. In doing this, always use a wooden stick. A very common cause of trouble is the clogging up of feed glasses, caused by waste or foreign matter getting into the feed passages. This may, in part, be prevented by the proper care being given to oiling equipment and supply cans; also, in the filling of the lubricator, to see that dirt or waste is not allowed to enter.

G. All unions, valve stem, and screw joints should be perfectly tight, as a slight leak may affect the proper working of the lubricator.

(*b*) *No. 2. Air compressor oil* (*cylinder*)—For the internal lubrication of air cylinders of all compressors, and for pneumatic hammers and drills.

A. In the lubrication of the interior of air compressor cylinders, conditions are different than in the lubrication of steam cylinders on account of the heat being a dry heat, while in the steam cylinder, moisture is always present to a more or less degree, and this moisture has a tendency to wash the oil off the surfaces, while in the case of air compressor cylinders, the heat is dry, and the oil adheres to the surfaces better and longer, so that so large a quantity of oil is not necessary to keep the surfaces lubricated.

(*c*) *No. 3. Marine engine oil*—For use in marine engines, but not in crank cases, where it would be agitated and mixed with water, as, being a compounded oil, it would emulsify if so used; also, for the block bearings of suction dredges.

A. This oil is used for heavy work, and will retain its viscosity, or body, longer, under high temperatures than other oils for external uses, and should be confined to the use of the equipment only. This oil should be filtered and reused whenever possible to do so.

(*d*) *No. 4. Stationary engine oil*—For use on stationary engines, electric dynamos, and motors, wood and metal working machinery, and for the general lubrication of machinery; also, for dies of bolt cutters, turret machinery, etc., except where the use of lard oil is permitted. This oil is also used as dynamo oil on the Isthmus. This oil is especially adapted for external lubrication of stationary engines, and it is of such a quality that it will permit of being filtered and reused, which should be done wherever possible.

(*e*) *No. 5. Locomotive engine oil*—For all locomotives, running gears of all locomotive cranes, deck machinery of dredges (except engines), and for cold saws in machine shops.

The general use of this oil is confined to locomotives, the journals of which are lubricated by sponging in the cellars, and a small quantity is received from the top of the driving box. As the wear of these parts, and the jar received from the roadbed tends to create space between the journals, and the sponging in cellars (wool waste), it requires frequent inspection and loosening up or replenishing of the sponging to avoid hot journals. The cavity in the top of the box should be filled with cotton waste, this waste acting as a container for oil, which feeds gradually through the oil holes in the top of the box. The sponging in oil cups on eccentric straps and rocker boxes should be loosened up frequently, so as to prevent its becoming clogged with dirt. When oiling, do not overfill oil holes or oil cups, as it does no good and is wasteful and expensive. When oiling the bottom guides, it should be poured crosswise, so as to permit the crosshead to distribute it over the entire surface. When guide or piston rod cups are equipped with adjustable thumb feeds, they should be closed when the engine is not in use. This would also include the noon hour.

(*f*) *No. 7. Gas engine oil*—For the lubrication of internal combustion engines. In the lubrication of gas engines, the cylinders do not require as much oil as steam engines of the same size, on account of their being subjected to a dry heat. Too much lubrication in the cylinders will cause carbon to be formed, resulting in the igniting apparatus becoming fouled; also, undue amounts of carbon in the cylinders becoming heated will cause premature explosions of gases.

(*g*) *No. 9. Car oil*—For the journals of all cars, coaches, locomotive tenders, and rolling stock generally; for steamshovel bearings, where not equipped with grease cups; for tripod drills, and switches. In the lubrication of the journals of all cars, coaches, locomotive tenders, and rolling stock generally, the conditions met with are entirely different with reference to other methods of lubrication. The journals of this class of equipment receive their lubrication from oil-soaked waste, placed in journal box underneath, and about half way up the journal, the oil feeding through the waste, by capillary attraction, to the journal. The preparing of this waste is of great importance, both for the successful and economical lubrication of this class of equipment. In preparation, wool waste should be soaked in clean oil at least 24 hours, and then placed upon a screen for 12 hours, allowing the surplus oil to drain off; after this, it may be placed in the journal box for lubrication, as follows: In the correct packing of journal boxes, all of the old waste should be removed and the journal examined, care being exercised to see that no dirt or foreign matter remains in the box. In the packing of the box, take a large wad of saturated packing or waste, twist it up, and squeeze out all the surplus oil until there is a long roll of packing, sufficient to reach two-thirds (⅔) of the way around the journal, shove this back to the rear end of the journal box, and let it come up around to form a dust guard in the rear. This packing is not intended to lubricate the journal, but to form a dust guard, preventing dirt from getting into the journal. Then take a piece of packing that has been thoroughly loosened or shakened out, and put it in the box under the journal, bringing it up around the sides, not higher than the center line of the journal. As many pieces of this packing should be put as are necessary to fill the space between the collars of the journal, and care should be taken to get this packing so that the space is entirely filled, and yet it should not be put in so tight as to squeeze the oil out of it. Space between the outside collar and the opening of the journal box should be filled with one large piece of packing, which acts as a wedge to prevent the packing from working out from under the journal. Care should be exercised where new brasses are placed in cars, to see that the waste does not settle away from journal, on account of the slight wear that occurs on new brass. Where waste that is removed from journal boxes is to be used over again, it should be thoroughly shaken out and worked, and, if found too dry, should be resoaked for future use.

(*h*) *No. 21. Cup grease* (*yellow*)—For all classes of lubrication where grease is used in compression cups. This grease is used in two (2) consistencies, Nos. 3 and 5. The No. 3, of the lesser consistency, to be used on machinery subject to normal temperatures; the No. 5, of the heavy consistency, to be used on machinery subject to higher temperature.

A. The use of this lubricant is confined to pressure cups, in the use of which, care should be taken to not compress the grease so as to force it out of the bearings, thereby causing waste. Frequent attention, with a slight compression of the grease, will give better and more economical results than heavier compression at long intervals. This grease should not be confounded with crank pin grease, as it is not suitable for this purpose. Crank pin grease is restricted to use on certain locomotives.

B. Points that govern all classes of lubrication are, the pressure, speed, temperature, composition, and condition of the moving parts, In addition to the above, dry steam is an important factor in the lubrication of steam valves and cylinders, and should receive careful attention.

C. Points to be recognized in effecting economy in the use of all oils and lubricants, are careful oiling. Do not overfill oil holes or cups, as it is wasteful and does no good, and when guides with oil cans, place the oil crosswise on guides, so as to permit the crosshead to distribute the oil over the entire surface.

(*i*) *Reclaiming of oil and filtering*—Drip cans should be placed wherever necessary for the purpose of reclaiming the oil, and all oils so collected to be filtered for further use.

(*j*) *Care and cleanliness of the oiling system and tanks*—Oiling systems and tanks should not be allowed to become dirty or clogged up, and care should be taken in the use of waste around these parts, and all joints should be kept tight and well packed.

(*k*) *Containers and oiling equipment*—These should be kept clean and in good order with reference to leaks, and the keeping of all tops on supply cans to prevent dirt from accumulating.

A. Special care should be taken to see that all oils are removed from tbe 50-gallon drums, and, wherever possible, these drums should be set in a warm place to drain.

B. While economy is desired in the use of all lubricants, it should be remembered that the proper care of the machine or equipment should be the first consideration.

C. In the use of cotton waste, considerable saving can effected by its conservative and intelligent use, and the more attention given to cleanliness with regard to oils will also effect a noticeable saving in the above.

STANDARD ALLOWANCES.

ROLLING EQUIPMENT.

13. The following rules will govern the lubrication of all locomotives, steamshovels, unloaders, spreaders, trackshifters, cranes, and piledrivers of The Panama Canal. No lubricants will be issued or used for the different equipment, except as listed below. The regular allowance given covers a working day of eight hours.

14. *Locomotives*—
(*a*) Valve oil—
Narrow gage engines, per day, one pint.
All other engines per day, one and one-half pints.
(*b*) Engine oil—
French narrow gage and small American engines, per day, two pints.
Large American engines, per day, three pints.
Headlight oil, per month, one gallon.
(*c*) Cup grease—
Narrow gage engines, per month, four pounds.
(*d*) Waste, per day, one-half pound.

(*e*) Each engine will be furnished with one 2-gallon can marked for and containing one gallon of valve oil, and with one 2-gallon can marked for and containing one gallon of engine oil. This oil will be considered emergency oil and will be used only in case of necessity.

(*f*) Engineers will be expected to exercise economy in the use of oil, and if any saving can be made in the regular allowance, the oil remaining should be put into the emergency cans.

(*g*) Any headlight oil in addition to the regular allowance, required on account of night work, may be issued on ticket signed by the engineer, stating reason for which oil is required. Engines equipped with electric headlights will be issued the necessary amount of dynamo oil in 1-gallon cans, and the engines will be equipped, in addition, with a 1-pint oiler.

(*h*) White lead, graphite, tallow, and soap may be issued in small quantities, when required, only on requisition approved by the traveling engineer.

15. *Steamshovels*—
Valve oil, per day, one gallon.
Car oil, per day (to be used for lubrication of bearings), three quarts.
Crude oil, per day (to be used for lubrication of chains), two gallons.
Kerosene, per day, one-half gallon.
Cup grease, per day, two pounds.
Gear grease, per day, one pound.
Graphite, every six months, 5-pound can.
Cotton waste, every day, one and one-half pounds.

(*a*) Steamshovel engineers will be expected to effect as much economy as practicable in the use of lubricants and make any saving possible. If the work requires the use of oil in excess of the regular allowance, an explanation will be required. The allowance is based on the requirements of the 70 and 95-ton steamshovels in the old Central Division, and of shovels working under similar conditions and making an equivalent output. A material reduction in consumption of lubricants will be expected for smaller shovels, and for larger shovels under other conditions.

16. *Lidgerwood unloaders*—
Valve oil, per day, one quart.
Engine oil, per day, one quart.
Kerosene, per month, one gallon.
Gear grease, per month, 25 pounds.
Cotton waste, per month, 15 pounds.

17. *Spreaders*—
Car oil, per month, five gallons.
Gear grease, per month, 15 pounds.
Cotton waste, per month, six pounds.

(*a*) The above allowance is based on the requirements of the large Mann-McMann spreaders. The consumption for other spreaders should be in proper ratio.

18. *Trackshifters*—
Valve oil, per month, two and one-half gallons.
Engine oil, per month, two and one-half gallons.
Kerosene, per month, one gallon.
Gear grease, per month, 10 pounds.
Cotton waste, per month, 10 pounds.

19. *Locomotive cranes* (*25 tons and under*)—
Valve oil, per month, five gallons.
Engine oil, per month, seven and one-half gallons.
Kerosene, per month, two and one-half gallons.
Cup grease, per month, 10 pounds.
Cotton waste, per month, 20 pounds.

20. *Locomotive cranes* (*75 and 100 tons*)—
Valve oil, per month, three and one-half gallons.
Engine oil, per month, two and one-half gallons.
Kerosene, per month, 50 gallons.
Cup grease, per month, five pounds.
Car oil, per month, five gallons.
Cotton waste, per month, 25 pounds.

21. *Piledrivers* (*Bay City*)—
Valve oil, per month, five gallons.
Engine oil, per month, five gallons.
Kerosene, per month, five gallons.
Cup grease, per month, 10 pounds.
Cotton waste, per month, 25 pounds.

22. *Pilderivers* (*Moonbeam*)—
Valve oil, per month, two and one-half gallons.
Engine oil, per month, two gallons.
Kerosene, per month, one gallon.
Gear grease, per month, five pounds.
Cotton waste, per month, 10 pounds.

EQUIPMENT.

23. Each steamshovel shall be furnished with the following:
Two 5-gallon oil containers for valve and car oil.
One 1-gallon oil container for kerosene.
Two 24-inch spring hand oilers of standard locomotive size.
One standard size locomotive tallow pot.
One 2-gallon galvanized bucket.
One long handled chain brush.

(*a*) Oilers and oil containers furnished other equipment shall be standardized in the same manner.

MARINE EQUIPMENT.

24. The following rules will govern the lubrication of marine equipment designated below. No lubricants will be issued or used on such equipment, except as listed hereinafter. The allowances given are monthly allowances, unless otherwise stated, and are based on the maximum requirements of the largest vessels in the classes shown when operated continuously. A corresponding reduction in the consumption of lubricants will be expected on the smaller vessels of a class, and when vessels are not at work the entire month:

25. SEAGOING SUCTION DREDGES.

Marine engine oil, per month, 375 gallons.
Locomotive engine oil, per month, 50 gallons.
Stationary engine oil, per month, 100 gallons.
Valve oil, per month, 20 gallons.
Kerosene oil, per month, 100 gallons.
Lard oil (see Note 2 below), per month, five gallons.
Ammonia oil (see Note 1 below).
Yellow lubricating grease, per month, 100 pounds.
Gear grease, per month, 200 pounds.
Graphite, per month, five pounds.
Cotton waste, per month, 350 pounds.

26. LADDER AND DIPPER DREDGES.

Marine engine oil, per month, 60 gallons.
Locomotive engine oil, per month, 20 gallons.
Stationary engine oil, per month, 25 gallons.
Valve oil for ladder dredges, per month, five gallons.
Valve oil for dipper dredges, per month, 20 gallons.
Kerosene oil, per month, 75 gallons.
Lard oil (see Note 2 below), per month, five gallons.
Yellow lubricating grease, per month, 50 pounds.
Gear grease, per month, 125 pounds.
Graphite, every three months, five pounds.
Waste, cotton, per month, 100 pounds.

27. SUCTION PIPELINE DREDGES.

Locomotive engine oil, per month, 50 gallons.
Stationary engine oil, per month, 50 gallons.
Valve oil, per month, 20 gallons.
Kerosene oil, per month, 75 gallons.
Lard oil (see Note 2 below), per month, two and one-half gallons.
Yellow lubricating grease, per month, 50 pounds.
Gear grease, per month, 50 pounds.
Graphite, per month, five pounds.
Waste, cotton, per month, 100 pounds.

28. TUGS.

Marine engine oil, per month, 100 gallons.
Stationary engine oil, per month, 15 gallons.
Valve oil, per month, 15 gallons.
Kerosene oil, per month, 25 gallons.
Lard oil (see Note 2 below), per month, two and one-half gallons.
Yellow lubricating grease, per month, 25 pounds.
Graphite, every three months, five pounds.
Waste, cotton, per month, 100 pounds.

29. CLAPETS.

Marine engine oil, per month, 30 gallons.
Locomotive engine oil, per month, five gallons.
Stationary engine oil, per month, five gallons.
Valve oil, per month, five gallons.
Kerosene oil (when equipped with dynamo), per month 15 gallons.
Kerosene oil (when not equipped with dynamo), per month, 60 gallons.
Lard oil (see Note 2 below), per month, two and one gallons.
Fish oil (see Note 1 below).
Yellow lubricating grease, per month, 25 pounds.
Graphite, every three months, 5-pound tin.

Waste, cotton, per month, 75 pounds.

30. STEAM LAUNCHES.

Marine engine oil, per month, 20 gallons.
Valve oil, per month, five gallons.
Kerosene oil, per month, 15 gallons.
Waste, cotton, per month, 20 pounds.

NOTE 1. The quantity of ammonia cylinder oil used in refrigerating machinery on vessels is so small that no specific allowance of the same has been made; it may be obtained upon requisition in the usual manner from the Supply Department, as required. This also applies to fish oil.

NOTE 2. Lard oil shall be used for hand lamps only.

Motor boats, rock breakers and drill boats, being considered special equipment and working under widely different conditions, no specific allowance for them has been made. No other than the foregoing standard lubricants, however, shall be used on them.

31. Colored waste is to be standard for all general purposes; the use of white waste will be confined to such special purposes as motor cars, filters, etc., for which colored waste is not suitable.

32. The Supply Department will arrange to carry a suitable amount of the oils, lubricants, and waste listed above at the proper storehouses. The different divisions interested will arrange for the issue of same to engineers on their requisitions. In case engineers make requisition for a greater amount than shown on this schedule covering the periods given, an explanation will be required.

33. Lubricant request (Form C. E. 303) must be used by engineers or other employes in charge of equipment when ordering lubricants. The form will be placed on file at the supply station where it is filled. At the end of the month, they will be used in compiling report on forms C. E. 273-a and 273-b, of oils and lubricants consumed on each item of equipment.

34. A copy of this circular shall be posted prominently in each storehouse issuing oils and aboard each vessel.

GEO. W. GOETHALS,
Governor.

Panama Railroad Transportation.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR NO. 608:

1. The following forms of transportation on the Panama railroad will be issued:

(*a*) Annual and periodical complimentary card passes.
(*b*) Complimentary trip passes.
(*c*) 120-trip tickets.
(*d*) Official business trip tickets.
(*e*) Employes' 24-trip tickets.
(*f*) School passes.
(*g*) Half rate mileage books.

2. Rules and regulations governing the issuance of transportation on the Panama railroad:

(*a*) Annual and periodical complimentary card passes will be issued to such officials of The Panama Canal and others as may be designated by the Governor.

(*b*) Complimentary trip passes will be issued by the Executive Secretary in such special cases as he may deem advisable, and by the district quartermasters at Cristobal and Balboa to the families of employes arriving on the Isthmus.

(*c*) 120-trip tickets (first and second-class) will be issued by the Governor's office, upon regular application through head of department or division, to employes who average at least three trips per week on official business, and in such other cases as may be directed by the Governor. This form of transportation will not be validated for use on Sundays and holidays, except in cases when the employe is compelled to travel regularly on those days on official business.

(*d*) Official business trip tickets (first and second-class), will be issued for the following purposes: To employes traveling on official business, to be issued by all departments: to employes traveling as patients to and from Canal hospitals, to be issued by the Health Department; one first-class round trip per month to each employe on the gold roll acting as volunteer fireman, who has attended at least one fire drill during the preceding month, to be issued by the Executive Secretary; one first-class single trip ticket from residence on the Isthmus to port of embarkation to an employe on the gold roll upon termination of service, to be issued by department in which employed; an employe's family may also be included on last mentioned ticket; one first-class single trip ticket to each new appointee on arrival from the United States, to point of destination, on the Isthmus, when identified as such by appointment papers, to be issued by the district quartermaster at Cristobal and Balboa; one single trip ticket to an employe's family returning from leave of absence; one single trip ticket to an employe when transferred from one station to another, to be issued by department in which employed (in such cases, free transportation for employe's family will be furnished by the local district quartermasters). Tickets must not be made good for a longer period than sufficient to cover the requirements in each case. The nature of the business upon which employe is traveling must appear on every ticket issued. Stopover privilege is allowed on this form of transportation.

(*e*) Employes' 24-trip tickets (one book containing 24 single trip coupons) will be issued on the first of January of each year by the Governor's office to each employe on the gold roll and citizens of the United States on the silver roll. This transportation is furnished the employe gratuitously for his personal use and covers his monthly allowance of transportation for the year in which issued. Lost books should be reported immediately to the office of the Governor and bulletin will be issued. No stopover privilege is allowed on this form of transportation. On termination of service, tickets must be surrendered before issuance of time voucher.

(*f*) School passes will be issued by the Executive Secretary to the children of employes attending school at points other than their residence.

(*g*) Employes' half rate first-class mileage books—Five and 10-dollar first-class mileage books (200 miles, $5, and 400 miles, $10) will be sold to all employes on the gold roll and citizens of the United States on the silver roll, for the personal use of themselves and (*a*) relatives residing with them on the Isthmus who are not engaged in independent business; (*b*) relatives visiting the Isthmus, whether residing with the employe or not; (*c*) servants, when accompanying the employe or a member of his family. An employe desiring to purchase a mileage book must fill out in duplicate a form provided for that purpose and forward the same direct to the chief clerk, office of the Governor. After being checked and validated, one copy of the request will be returned to the employe and will be his authority to purchase a mileage book upon presentation to the local station agent of the Panama Railroad Company. In order that the issue of books may not interfere with the sale of other tickets, the station agent may, at his discretion, refuse to sell mileage books within 15 minutes prior to the departure of trains. Blank forms for requesting mileage books will be distributed to the various department and division offices, so that they may be easily obtainable by any employe desiring them. Unused mileage remaining in a book upon which the time limit has expired, or upon termination of service, will be redeemed upon presentation to the Accounting Department.

BAGGAGE ALLOWANCE.

3. All first-class transportation issued by The Panama Canal carries a baggage allowance of 250 pounds per adult passenger. There is no baggage allowance on second-class transportation unless indorsed "Good with baggage," and in such cases the allowance is limited to 150 pounds.

GEO. W. GOETHALS,
Governor.

Operation of Hydroelectric Station.

CULEBRA, C. Z., June 18, 1914.

To all concerned—Effective June 18, the Division of Erection will be relieved and the Electrical Division will take charge of the operation of the hydroelectric station.

H. F. HODGES,
Engineer of Maintenance.

Change on Form P. C. 171-2.

THE PANAMA CANAL,
OFFICE OF EXECUTIVE SECRETARY,
CULEBRA, C. Z., June 22, 1914.

HEADS OF DEPARTMENTS AND DIVISIONS:

On "Termination of service blank for employes on the gold roll" (P. C. 171-2) in the note on "Workmanship" and conduct ratings, is the sentence:

The rating "Good" indicates "Fairly satisfactory service."

The use of "Fairly" in this connection has been construed as diminishing the strength of "Good." This is not the intention. Circular No. 604, Paragraph 7, Section "d" gives the definition of the rating "Good" as *when workmanship and conduct are average.*

In order that there may be no misapprehension on this point, you are directed to have the word "Fairly" on form P. C. 171-2 inked out.

By direction of the Governor.

C. A. McILVAINE,
Executive Secretary.

Major Wildman Detailed for Duty in the Canal Zone.

WAR DEPARTMENT,
WASHINGTON, June 5, 1914.

SPECIAL ORDERS
No. 131 (*Extract.*)

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36. Maj. Leonard D. Wildman, Signal Corps, now on temporary duty at El Paso, Tex., is relieved from further duty at Fort Leavenworth, Kan., and will proceed from El Paso to this city for consultation with the Chief Signal Officer, and upon the completion thereof will proceed to the Canal Zone and report in person to the Governor of The Panama Canal for duty pertaining to the preparation of estimates of signal corps material for fire control installation for the Canal defenses in Balboa and Cristobal. The travel is necessary in the military service.

(2171483 A. G. O.)

By order of the Secretary of War,

W. W. WOTHERSPOON,
Major General, Chief of Staff.

Official:
GEO. ANDREWS,
The Adjutant General.

Manual Block Signal at Corozal Station.

PANAMA RAILROAD COMPANY,
PANAMA, R. P., June 17, 1914.

TRANSPORTATION BULLETIN NO. 6:

To all concerned—A manual block signal will be erected at the Corozal station and the operators transferred to this point. The interlocking plant at Corozal cabin will be disconnected, blades and lamps removed from the home and dwarf signals, and the plant placed out of service at 12 noon, on Sunday, June 21.

F. R. BLUNT,
Superintendent of Transportation.

Conductors' Instructions to Flagmen.

PANAMA RAILROAD COMPANY,
PANAMA, R. P., June 17, 1914.

TRANSPORTATION BULLETIN NO. 7:

To all concerned—It has come to my notice that conductors are not always furnishing their flagmen with proper instructions when sending them back to flag, especially on work trains, or in case of track difficulties and other unusual occurrences. Effective at once, whenever work train conductors send their flagmen back, they will give them written instructions which can be shown to any train, engine, or motor car which may be flagged. In case of track difficulties or other unusual occurrences, conductors will give their flagmen written instructions which they must instruct flagmen to show to all trains, engines, or motor cars held up.

F. R. BLUNT,
Superintendent of Transportation.

Work Performed on Panama Canal Tracks.

PANAMA RAILROAD COMPANY,
OFFICE OF THE ROADMASTER,
COLON, R. P., June 19, 1914.

CIRCULAR NO. 137:

To all foremen—Whenever you perform any work on Panama Canal tracks, you will send me a daily report showing the number of hours worked at the different rates, and statement of material used.

M. B. CONNOLLY,
Roadmaster.

Examinations by Board of Local Inspectors.

ANCON, C. Z., June 20, 1914.

The Board of Local Inspectors will conduct examinations at the Administration Building, Ancon, on Wednesday, July 1, 1914, beginning promptly at 2 p. m., for persons desiring the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for license must procure from the office of the board, Ancon, forms of applications and information respecting the filling out of same, not later than the day previous to the examination. In addition, all persons desiring chauffeurs' licenses must provide themselves with automobiles with which to demonstrate their ability properly to operate the same.

NOTE.—The demonstration test for applicants for chauffeurs' licenses will be given on Tuesday, the day preceding the day of examination, at 2 p. m., at the Administration Building, Ancon; on Wednesday, the day of the regular examination, for out of town applicants, at 2 p. m., at the Administration Building, Ancon. No demonstration tests will be given at Cristobal, except by appointment.

By direction of the chairman of the board.

W. H. HYDE,
Clerk to the Board.

Applicants for Family Quarters on May 31.

DISTRICT.	List No. 1.	List. No. 2
Ancon	89 (75)	457 (197)
Ancon Hospital	....	9
Corozal	27 (25)	255 (135)
Paraiso	2	140 (30)
Empire	....	1
Gatun	....	105 (5)
Cristobal	1	138 (35)
Total	119 (100)	1,105(402)

NOTE—The figures in parentheses show the number of applicants already occupying regular or nonhousekeeping family quarters at stations other than those at which applications are filed.

CANAL CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The total membership on May 31 was 1,519. Eight thousand five hundred and seventy three games were rolled on the bowling alleys, 21,514 games of pool and billiards were played, 175 men were enrolled in gymnasium work, 45 men were members of chess and checker clubs, 63 entertainments were held, with a total attendance of 11,991, and 1,275 books were drawn from the library.

The moving picture schedule for the week June 29 to July 4 is, as follows: Monday, Culebra; Tuesday, Empire and Balboa; Wednesday, Corozal; Thursday, Pedro Miguel; Friday, Cristobal; Saturday, Gatun.

BALBOA.

S. T. Smith is leading in the handicap pool tournament with eight games won and one lost. J. Dubendorf is second, having won seven and lost one, and J. O'Rourke, third, with eight won and two lost.

As soon as the first 10 lessons in the Spanish class are finished, a beginners' class will be started for the benefit of those who did not have a chance to start with the first class. Information and rates can be procured from the secretary.

A rack for the phonograph records has been installed in the lobby; also, a hat rack.

A checker tournament will be started soon. All those interested are requested to hand their names in at the desk.

The private pool cue rack just installed is for the benefit of members who wish to have a private cue. Racks are rented at the rate of 25 cents per month.

PEDRO MIGUEL.

About 50 new books of the latest fiction have been added to the library.

In the boys' duckpin tournament just ended Richard Roberts won first place, with Pfisterer in second place. Fourteen boys were entered in the tournament.

Ladies' night was observed in the bowling alleys on Tuesday, June 16. The best score was made by Mrs. Landers and Mr. Davis, with a total of 532 pins.

Mr. C. B. Russell, secretary of the local clubhouse, returned from his vacation on Sunday, June 21.

The following names have been entered for a handicap pool tournament: Ludlum, Smith, Eggleston, Murray, Campbell, Turner, Dennis, Kent, Wieben, and Abramson.

CULEBRA.

High scores in bowling for the past week were, as follows: *Tenpins*—Warner, Sr., 202; Moore, 222. *Duckpins*—Mrs. Cook, 102; Ewing, 106.

It is requested that the games remaining in the handicap tenpin tournament be rolled off as soon as possible.

The Y. M. C. A. checker club is desirous of arranging a match with any other club or combination of checker clubs at the other clubhouses.

GATUN.

Instruction on the piano is given at the clubhouse every Tuesday and Friday of each week, and violin instruction on Fridays. New pupils may be taken on at any time.

The baseball game between Cristobal and Gatun held on Saturday evening, June 20, was won by the Gatun team; score, 14 to 8. The captains were McSparren for Cristobal; Thompson for Gatun. The referees were Peters and Rothgeb.

A band concert by the Tenth Infantry band will be given in front of the clubhouse on Friday evening, June 26, at 7.30 o'clock.

The Victrola, formerly at the Empire clubhouse, has been transferred to the Gatun clubhouse.

Since the arrival of Companies A and C of the Tenth Infantry the clubhouse has been filled every evening.

The first basketball practice of the season was held on Thursday evening, June 18. A number of the old-timers were out. Joseph Mitchell is acting as coach of the team.

Indoor baseball is becoming one of the most popular activities of the association.

A large number of members have already entered the 2-man ragtime tenpin tournament, and some creditable scores are being made. Chandler and Humphreys lead with 1,070.

Sales and Wright gave special drum and piano music at the motion picture entertainment on Tuesday, June 16.

CRISTOBAL.

Baseball interest has been keen all of the week. The "Doves" defeated the "Giants" on June 16, 23 to 8. On Wednesday night, June 17, Cristobal defeated Gatun 18 to 8. The battery work of Roberts and McSparren was especially good in this game. On Friday night, June 19, the "White Sox" defeated the "Giants" 12 to 11.

Dr. S. T. Darling of Ancon entertained a good-sized audience with a talk on Africa at the meeting of the discussion club on Thursday night, June 18. He stated that the purpose of the trip was to make an investigation, at the invitation of the Johannesburg Chamber of Mines, of the cause of the diseases that were doing so much damage to the natives in the gold mines on the Rand. The doctor also gave a description of the diamond mines at Kimberly.

Interest is maintained in the local duckpin tournament. The "Senators" are in the lead, with 17 games won and 10 lost.

A local ragtime tournament will be held on Wednesday, July 1. All men interested in bowling are invited to participate. Refreshments will be served.

Corozal has issued a challenge, which has been accepted, for a series of five bowling matches. The first series of games will be rolled at Cristobal on Saturday, June 27.

The high duckpin scores for the week were: Gill, 109; C. Cotton, 108; Smith, 104; Claherty, 102.

Culebra will play volleyball at Cristobal on Saturday, June 27.

Rainfall, June 1 to June 20, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	Ins.		Ins.
Ancon	1.70	18	5.53
Balboa	1.97	18	4.86
*Miraflores	1.65	16	4.75
Pedro Miguel	1.68	8	7.40
Rio Grande	1.58	1	7.48
Central Section—			
Culebra	1.08	18	5.69
*Camacho	1.80	18	8.65
Empire	1.57	9	6.07
Gamboa	5.18	18	14.98
*Juan Mina	2.67	18	10 81
Alhajuela	3.45	9	11.17
*El Vigia	3.94	15	16.63
Frijoles	3.63	18	10.57
Trinidad	......	......	......
*Monte Lirio	2.40	18	9.85
Atlantic Section—			
Gatun	1.64	10	9.49
*Brazos Brook	2.82	18	11.62
Colon	1.82	18	11.92

*Standard rain gage—readings at 5 p. m., daily Automatic rain gage at unstarred stations—values midnight to midnight.

Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun and Miraflores Lakes for the week ending midnight. Saturday, June 20, 1914. All heights are in feet above mean sealevel:

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela	Gamboa.	Gatun Lake.	Miraflores Lake.
Sun., June 14	127.30	93 50	84.92	84.96	54.17
Mon., June 15	131.05	96.38	84.96	84.95	53.96
Tues., June 16	126 75	93.40	84.75	84.88	53.95
Wed., June 17	126 40	92.88	84.85	84.91	53.93
Thurs., June 18	129 80	95.25	84.98	85.15	53.95
Fri., June 19	127.00	93.44	84.88	85.00	53.90
Sat., June 20	126.35	92.90	84.72	84.79	53.56
Height of low water to nearest foot	125.0	91.0			

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending July 4, 1914:

DATE.	High	Low	High	Low	High
	A.M.	A.M.	A.M.	P.M.	P.M.
June 28	......	12.41	6.49	1.10	7.04
June 29	......	1.29	7.36	1.58	7.53
June 30	......	2.18	8.24	2.50	8.45
July 1	......	3.10	9.18	3.48	9.46
July 2	......	4 10	10.16	4.48	10.50
July 3	......	5.12	11 18	5.52	......
			P.M.		
July 4	12.01	6.18	12.24	6.54	......

75th meridian time.

LOST—On the morning of Wednesday, June 17, on the Empire-Balboa labor train, an open face gold watch with silver fob, with the name of F. P. Obee engraved on the back. Reward for its return to F. P. Obee, Paraiso, C. Z.

COMMISSARY DEPARTMENT.

Commissary Operations in May.

The Chief Quartermaster's report for May on the operation of the commissaries is, as follows:

"The new organization of the commisary division was practically put into effect on May 1. The depot commissary, Mr. Benj. L. Jacobson, is now replenishing the stock which was allowed to run down. Efforts have been made to improve the service in the line commissaries. Suggestions were asked from the patrons, and a large number of helpful and practical replies were received. As many of these were adopted as were feasible. The Rio Grande commissary was closed effective May 1. Service at the Paraiso commissary is more unsatisfactory than at any other point along the line on account of the inadequacy of the building.

The commissary accounts for the quarter ending March 30 were closed and show a net profit for the three months of $4,595.22. This is a profit on operations only and does not include depreciation on the manufacturing plant, line commissaries, and equipment. Such depreciation amounts to approximately $2,500 per month, so the commissaries show a loss of $3,000 for the last quarter."

Detaching Commissary Coupons.

THE PANAMA CANAL,
SUPPLY DEPARTMENT,
CULEBRA, C. Z., June 16, 1914.

CIRCULAR No. 156:

District quartermasters and commissary storekeepers—Gold customers will be permitted to detach their own coupons, if they desire to do so, when making payments to solicitors, and in commissaries where there are no cashiers. Coupons must be detached in the presence of the sales person or the solicitor. Previously detached coupons will not be accepted.

To avoid unnecessary issues of change checks, care should be taken by patrons not to detach too many coupons and to always detach the largest possible denominations; as, for a purchase of 93 cents, three 25-cent, one 10-cent, one 5-cent, one 2-cent, and one 1-cent coupon should be detached.

R. E. WOOD,
Chief Quartermaster.

Bread Shipments.

THE PANAMA CANAL
SUPPLY DEPARTMENT,
CRISTOBAL, C. Z., June 18, 1914.

CIRCULAR No. 568:

The bakery at this depot will hereafter be closed on Saturday. Bread baked on the Friday night shift will be shipped on the Saturday morning supply train for use on Saturdays and Sundays. Bread baked on the Sunday night shift will be shipped, as heretofore, on the Monday morning supply train for use on that date. The shipment to hotels on Saturday morning, June 20, will therefore, include the order for that date and for Sunday June 21, and this arrangement will be followed weekly thereafter.

BENJ. L. JACOBSON,
Depot Commissary.

Sale of Ice to Silver Employes.

THE PANAMA CANAL,
SUPPLY DEPARTMENT,
CULEBRA, C. Z., June 22, 1914.

CIRCULAR No. 47-1:

District quartermasters, commissary storekeepers—Effective at once, all silver employes will be permitted to purchase ice. Ice will not be delivered to the quarters of such employes, but must be called for at commissary platform.

Silver employes desiring to purchase ice must pay for same not later than the 28th of each month for the following month. Orders for less than a full month will not be accepted.

R. E. WOOD,
Chief Quartermaster.

Commissary Cold Storage.

The commissary stores are open during the following hours: From 8 a.m., to 12.30 p.m., and 3 to 6.30 p.m.

The gold departments of the Cristobal store will open at 2 p. m. on Saturdays and sailing days of Panama railroad vessels.

In rush periods, all stores will remain open till 7 p. m.

(Continued on next page.)

(Commissary Department continued.)

Retail prices of cold storage provisions for the week beginning June 25, 1914:

FRESH MEATS.	*Price*
Mutton—Stewing, per pound	8
Shoulder, trimmed, per pound	12
Leg (8 to 10 pounds), per pound	19
Cutlets, per pound	20
Short cut chops, per pound	23
Shoulder chops, per pound	14
Lamb—Stewing per pound	10
Shoulder trimmed, per pound	15
Legs (5 to 8 pounds), per pound	24
Chops, per pound	29
Shoulder, chops, per pound	18
Cutlets, perpound	29
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	18
Chops, per pound	27
Loin, for roasting, per pound	27
Cutlets, per pound	31
Beef—Suet, per pound	3
Soup, per pound	7
Stew, per pound	11
Plate, per pound	12
Corned, No. 1, per pound	19
Corned, No. 2, per pound	16
Chuck roast, 3 lbs., and over, per pound	15
Rib roast, second cut (not under 3½ pounds), per pound	21
Rib roast, first cut (not under 3 pounds), per pound	24
Pot roast, per pound	25
Rump roast, per pound	25
Porterhouse roast, per pound	27
Steak, Chuck, per pound	16
Round, top, per pound	19
Round, bottom, per pound	17
Rib, per pound	24
Sirloin, per pound	25
Sirloin, choice cut, per pound	28
Rump, per pound	25
Porterhouse (not less than 1½ pounds), per pound	30
Porterhouse, short, Delmonico, per pound	25
Tenderloin (Western), per pound	40
Pork—Hams, fresh, per pound	§23
Shoulders, fresh, per pound	§19
Spare ribs, per pound	18
Backbones, per pound	15
Loin chops or roast, per pound	20
Pigs' feet, each	7
Pigs' heads, whole	83
Pigs' head, ½-head	42
Sausage, homemade, per pound	23
MISCELLANEOUS.	
Livers—Beef, per pound	15
Calf, each	62
Half, each	31
Steak, Hamburger, package	17
Hamburger, 20-pound containers, per pound	14
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Pure pork, 1-lb. carton, per pound	18
Sweetbread, beef, per pound	*26
Eggs, fresh, per dozen	28
per ½-dozen	14
Bluefish, per pound	09
Halibut, fresh, per pound	05
Salmon, per pound	06
Shad roes, per pair	38
Yeast, per pound	31
per cake	02
POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, per pound	30
Fancy roasting, corn fed, per pound	27
Fowls, per pound	25
Fowls, light, per pound	23
Ducks, Western, per pound	25
Capons, per pound	†33
Broilers, milk fed, per pound	34
Broilers, corn fed, per pound	30
Turkeys, per pound	32
Squabs, each	42
Partridges, per pair	1 30
Grouse, per pair	1.30
Pheasants, per pair	1 30
CURED AND PICKLED MEATS.	
Ham—Real York and Cumberland, per pound	43
Genuine Westphalia, per pound	50
Sugar cured, per pound	21
Sliced, per pound	28
Half, for boiling, per pound	23
Boiled, per pound	30
Hocks, per pound	09
Butt end, about 1½ pounds to butt, per pound	11
Bacon—Breakfast, whole piece, per pound	26
Sliced, per pound	27
Ham, lunch, per pound	40
Pork, salt, family, per pound	14
Ox tongues, each	1 35
Pigs' feet, per pound	7
Tongues, per pound	10
DAIRY PRODUCTS.	
Butter—Creamery, special, per pound	*37
Sheffield Farms, extra fancy, per lb	54
Cheese—Philadelphia cream, cake	09
Cheese—Roquefort, per pound	35
Young America, per pound	25
	Price.
Swiss, per pound	27
Edam, each	81
Edam, tin	29
Parmesan, per pound	38
Gouda, per pound	29
Snappy, per cake	9
Milk (certified), bottle	**.24
Fer-mil-lac, bottle	**.25
Ice cream, quart	‡25
½-gallon	‡50
Cream, Sheffield Farms, quart	**.33
VEGETABLES AND FRUITS.	
Beans, String, per pound	5
Beans, wax, per pound	15
Beets, per pound	*5
Celery, per head	10
Cabbage, per pound	*3
Carrots, per pound	*4
Cucumbers, per pound	4½
Horseradish, per pound	17
Lettuce, per pound	†11
Peas, green, per pound	10
Onions, per pound	5
Peppers, per pound	†8
Potatoes, white, per pound	2½
sweet, tropical, per pound	2
sweet, American, per pound	3
Yams, tropical, per pound	*3
American, per pound	*4
Parsley, per bunch	2½
Artichokes, each	*3
Eggplant, per pound	†6
Rhubarb, per pound	2½
Turnips, per pound	*4
Tomatoes, per pound	8
Spinach, per pound	*7
Squash, per pound	*3
Apples, each	2½
Grape fruit, American, each	7
Tropical, each	4½
Lemons, per dozen	12
Limes, per 100	56
Oranges, Jamaican, per dozen	18
American, each	2½
Canteloupes, each	8

* Indicates advance from preceding list.

† Indicates reduction from preceding list.

**Indicates 5 cents allowed for return of bottle.

‡Sold only from commissaries; no orders taken for delivery.

§ Sold only from cold storage and not from commissaries.

Purchasers desiring crown roasts will be charged for actual cost of materials used and $1 extra for labor. When the following are desired: French lamb chops, mutton saddle, tenderloin roast larded, rib roast boned and rolled, a charge of six cents per pound will be made, based on the original weight and actual cost of the materials used in larding.

Porterhouse roast includes any cut of hind quarter down to rump, and will not be cut if orders for steak will consume the supply.

Tenderloins on porterhouse will not be cut and sold separately

Not less than ½ ham or ½ shoulder of fresh pork will be sold.

Daily cold storage orders will be filed and kept for at least one month.

Price Changes.

The following changes in prices of articles in stock at the commissary stores are effective June 25, 1914:

ARTICLE.	PRICE CHANGE.	
	Old.	New.
Scissors, "Berkshire," 4½", pr	.30	.26
Scissors, "Berkshire," 6", pr	.45	.39
Scissors, "Berkshire," 7" and 8", pr	.55	.48
Pipes, cob, ea	.05	.02
Pipes, clay, ea	.02	.00½
Pipes, "Dribole," ea	.35	.31
Pipes, "Dribole," ea	.40	.33
Pipes, calabash, ea	1.50	1.16
Pipes, calabash, ea	3.60	3.00
Pipes, briar, silver mounted, ea	5.40	4.50
Pipes, briar, silver mounted, ea	4.10	3.40
Pipes, briar, ea	.15	.13
Pipes, briar, ea	.25	.20
Pipes, briar, ea	1.40	1.17
Pipes, briar, ea	1.35	1.15
Pipes, briar, ea	.60	.49
Pipe cleaners, bundle	.02	.01
Pouches, tobacco, seal, ea	.60	.40
Pouches, tobacco, buckskin, ea	.70	.54
Cigarette papers, "Zig Zag," book	.04	.03
Pots, tea, 1-quart, ea	.40	.32
Pots, tea, 1½-quart, ea	.45	.36
Pots, tea, 2-quart, ea	.50	.41
Pots, tea, 3-quart, ea	.55	.45
Pots, coffee, with cover, 2-quart, ea	.45	.38
Pots, coffee, 1-quart, ea	.35	.31
Pots, coffee, ¾-quart, ea	.30	.27
Pots, coffee, 1½-quart, ea	.40	.34
Percolators, No. 069N, ea	6.55	6.30
Percolators, No. 006N	7.25	6.05
Percolators, No. 069N	7.90	6.75
Burners for percolators, without wicks, ea	.10	.08

Sigma Chi Fraternity.

All members of Sigma Chi fraternity on the Isthmus are requested to communicate their names, chapters, and present addresses to the American Legation, Panama.

MOVEMENTS OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.		*Sails.*	*Arrives.*
*Allianca	P. R. R.	June 20	June 26
*Colon	P. R. R.	June 27	July 3
*Advance	P. R. R.	July 3	July 10
*Panama	P. R. R.	July 10	July 16
*Allianca	P. R. R.	July 16	July 22
*Colon	P. R. R.	July 22	July 28
*Advance	P. R. R.	July 28	Aug. 4
CRISTOBAL TO NEW YORK.			
†Panama	P. R. R.	June 28	July 4
†Allianca	P. R. R.	July 3	July 9
†Colon	P. R. R.	July 10	July 16
†Advance	P. R. R.	July 15	July 22
†Panama	P. R. R.	July 22	July 28
†Allianca	P. R. R.	July 28	Aug. 3
†Colon	P. R. R.	Aug. 3	Aug. 9
†Advance	P. R. R.	Aug. 10	Aug. 17
NEW YORK TO COLON.			
*Metapan	U. F. C.	June 17	June 24
Pastores	U. F. C.	June 20	June 26
Tagus	R. M.	June 20	June 28
Prinz August Wilhelm	H.-A.	June 20	June 29
*Zacapa	U. F. C.	June 24	July 1
Tenadores	U. F. C.	June 27	July 3
Prinz Sigismund	H.-A.	June 27	July 7
*Almirante	U. F. C.	July 1	July 8
*Calamares	U. F. C.	July 4	July 10
Oruba	R. M.	July 4	July 12
Prinz Joachim	H.-A.	July 4	July 13
*Santa Marta	U. F. C.	July 8	July 15
*Pastores	U. F. C.	July 11	July 17
Prinz Eitel Friedrich	H.-A.	July 11	July 21
Metapan	U. F. C.	July 15	July 22
*Tenadores	U. F. C.	July 19	July 24
Trent	R. M.	July 18	July 26
Prinz August Wilhelm	H.-A.	July 18	July 27
Zacapa	U. F. C.	July 22	July 29
COLON TO NEW YORK.			
†Calamares	U. F. C.	June 24	June 30
Santa Marta	U. F. C.	June 25	July 2
Prinz Eitel Friedrich	H.-A.	June 28	July 7
†Pastores	U. F. C.	July 1	July 7
Metapan	U. F. C.	July 2	July 9
Prinz August Wilhelm	H.-A.	July 7	July 15
Trent	R. M.	July 7	July 15
†Tenadores	U. F. C.	July 8	July 14
Zacapa	U. F. C.	July 9	July 16
Prinz Sigismund	H.-A.	July 12	July 21
†Calamares	U. F. C.	July 15	July 21
Almirante	U. F. C.	July 16	July 23
Prinz Joachim	H.-A.	July 21	July 29
Orotava	R. M.	July 21	July 29
Pastores	U. F. C.	July 22	July 28
Santa Marta	U. F. C.	July 23	July 30
Prinz Eitel Friedrich	H.-A.	July 26	Aug. 4
†Tenadores	U. F. C.	July 29	Aug. 4
Metapan	U. F. C.	July 30	Aug. 6
NEW ORLEANS TO COLON.			
Heredia	U. F. C.	June 17	June 24
*Atenas	U. F. C.	June 20	June 25
Parismina	U. F. C.	June 24	July 1
*Turrialba	U. F. C.	June 27	July 2
Cartago	U. F. C.	July 1	July 8
*Abangarez	U. F. C.	July 4	July 9
COLON TO NEW ORLEANS.			
‡Abangarez	U. F. C.	June 25	June 30
Heredia	U. F. C.	June 25	July 2
‡Atenas	U. F. C.	July 2	July 7
Parismina	U. F. C.	July 2	July 9
‡Turrialba	U. F. C.	July 9	July 14
Cartago	U. F. C.	July 9	July 16

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Piers 8, 9, and 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays at 3 p.m., for New Orleans, via Bocas del Toro and Havana, on Thursdays at 4 p.m.; for New York direct, on Wednesdays at 2 p. m.; ships for New York, via Kingston, on Thursdays at 2 p. m.; for Limon and Bocas del Toro on Saturdays at 4 p. m.; and for Limon direct on Saturdays at 5 p. m.

The Hamburg-American steamers *Prinz Eitel Friedrich* and *Prinz Sigismund* sail for New York, via Kingston and Fortune Island, on Sundays at 2 p.m.; the *Prinz August Wilhelm* and *Prinz Joachim* sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays at 10 a. m.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, JULY 1, 1914. No. 45.

The Canal Record

Official publication of The Panama Canal.

The Canal Record is published weekly free of charge, one copy each, to all employes of The Panama Canal and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Governor's Report.

A report of the Governor of the Panama Canal to the Secretary of War, of operations in May, is published in this issue of The Canal Record. It recounts the operations on the Isthmus during May, and gives the status of the principal features of the Canal construction at the close of the month.

Pooling of Launches at Cristobal.

Effective July 1, all launches in the Atlantic terminal port were transferred to the Department of Transportation, and operated under the direction of the captain of the port, Cristobal.

The launches will rendezvous at Cristobal boat landing between piers 8 and 9, and will be dispatched from there by telephone orders from the captain of the port's office, when required by representatives of the various divisions. When a launch is required for official use by any representative of a division, the procedure will be to telephone to the captain of the port's office, telephone No. 32, Colon, stating the hour and place for reporting, and nature of service required. The captain of the port will then detail the most suitable launch available for the service required.

The cost of launch service will be at an hourly rate, to be fixed by the costkeeping accountant. For this purpose, the launches are to be divided into three classes, as follows;

Class A—*Patrol, Mary S.*
Class B—*Psyche, Dixie, Vedette.*
Class C—*Bonito, Toro Point, Aranal.*

The above classification is in accordance with probable expense of operation.

Lightning Strikes Range Tower at Gatun.

During an electrical storm at Gatun at about 4 p. m., on Tuesday, June 23, lightning discharged through the range tower on the center wall. An investigation showed three or four places in the roof where the concrete had been knocked off exposing the reinforcement irons, and the curved glass window was cracked in several places. The extension light was punctured and the fuse blown on the grounded side at lighting cabinet in the operating tunnel. The path to the ground for the discharge appeared to be from the ball and point through the reinforcement irons down to the floor on which the light standard is fastened through the extension light to grounded side of lighting cabinet in the operating tunnel.

Canal Zone Supreme Court Dissolved.

The Supreme Court of the Canal Zone held its last session on Tuesday forenoon, June 30, from 9.30 to 10 o'clock, when the organization was formally dissolved and an adjournment was taken *sine die.* Following the session, a photograph was taken of the retiring justices, H. A. Gudger, Chief Justice; Thomas E. Brown, Jr., and W. H. Jackson, Associate Justices, together with other court officers. The Panama Canal Act of August 24, 1912, authorized the President to continue the Supreme Court of the Canal Zone and retain the judges thereof in office for such time as to him seemed necessary to determine finally any causes and proceedings which might be pending therein. The Executive Order of the President carried this plan into effect, and since April 1, the date the Canal law became operative, all business before the Court has been closed up. An article on the establishments of the Courts of the Zone was published in The Canal Record of April 8, 1914.

Life Boats for Lock Approaches.

The General Purchasing Officer was instructed by cable on June 20 to purchase six metallic lifeboats from the Welin Marine Equipment Company at $354 each, a total of $2,124. Bids had been invited from 19 manufacturers of this sort of equipment, nine of whom submitted proposals. The boats are to be 22 feet long by six feet six inches in the beam, and No. 16 B. & W. gage galvanized steel will be used in the construction of the hulls. These boats are to be used at the upper and lower approaches of all locks.

Dock 13 Office Vacated.

The Dock 13 office of the Division of Terminal Construction, Atlantic Terminals, has been vacated. The office force connected with the coaling plant has been moved over to the site of the work on Mindi Island, and the office force connected with the east breakwater has been moved to Coco Solo, at the inner end of the breakwater trestle. Effective at once, all correspondence hitherto addressed to Dock 13 office pertaining to the new coaling plant should be addressed to Superintendent W. G. Thompson, office, Cristobal coaling plant, Mindi Island, Cristobal, C. Z. Similarly, correspondence pertaining to the east breakwater should be addressed to Supervisor C. C. Snedeker, office, east breakwater, Coco Solo, Cristobal, C. Z.

Balboa a Main Line Station.

Beginning with Sunday, June 28, Balboa became for the first time in its history, a regular station for all passenger trains using the main line. The first train making this stop was No. 52, leaving Panama at 12.40 a. m., for Las Cascadas. A temporary shelter for passengers has been erected at the foot of Administration Hill, but plans are under consideration for a permanent modern station, which will be situated, probably, in the same general locality.

The new line to Balboa leaves the direct route to Panama at Diablo Hill, just south of Corozal, and follows the fill begun in 1907 in connection with the project for the formation of a lake on the Pacific side by the construction of three earthen dams, known as Sosa-Corozal, Sosa-San Juan, and Corozal-Diablo, and the building of two flights of locks on the west side of Sosa Hill. The instability of the material overlying the rock in this locality led to the abandonment of the plan and the selection of the Miraflores site instead. For some time after dumping was stopped, the embankments continued to settle, but eventually all movement ceased, and today, the earth fills are as solid as could be desired. At the Balboa station, the new line makes a long curve to connect it with the track to Panama which runs over the fill made a year or more ago, north of the old branch line track. The distance from Colon to Panama, following the new route, is 47.61 miles; the direct line was 47.08 miles long, therefore, the road has been lengthened .53 of a mile.

Balboa (formerly La Boca) was decided upon by the Panama Railroad Company as its deep water port on the Pacific in the early '90s. At that period, the bad condition of the company's wharves in Panama city, and the excessive cost of lighterage made a change highly desirable. Actual work on the new port improvements was begun in 1896. The steel pier was completed in 1899, and at the end of 1900, there remained only a small amount of material to be excavated from the basin, which was alluded to on various occasions in the Panama railroad reports of the period as the "Basin of evolution." In 1900, vessels of 3,000 tons register could come up to the pier and discharge their cargoes. The approximate cost of the port works and all appurtenances was about $1,500,000.

Although Balboa, or La Boca, was the only port of entry on the Pacific side of the Isthmus for handling cargoes from ships engaged in foreign trade, it had always been served by a branch line from Panama up to 1906, when, due to the increase of operations incident to Canal construction, a cut-off, known as the Balboa wye, was completed; thereafter, all through freight and construction trains using the main line were run over it. Passengers disembarking at Colon for the purpose of taking ship at Balboa will continue to use the branch line trains, as the new station is at some distance from the railroad company's wharves; the baggage of these passengers will be transferred at Panama, as heretofore.

PERSONAL.

Joseph Bucklin Bishop will sail for New York, with his wife and daughter, on the *Allianca*, on July 3. He will go to the United States under orders from Governor Goethals for service in connection with the Panama Canal exhibit at the Panama-Pacific Exposition in San Francisco, which will continue until July 16, on which date his resignation will go into effect. He was appointed Secretary of the Isthmian Canal Commission, at the suggestion of ex-President Roosevelt, on September 7, 1905. After two years of service in the Washington office of the Commission, he came to the Isthmus in August, 1907, and has since resided here. He designed and founded THE CANAL RECORD, by authority of the Commission, in September, 1907, and has been its editor from the first number to the present time. He has also been the author of the four editions of *The Official Handbook* of the Canal. Previous to entering the Canal service, he was for 35 years engaged in journalism in New York, chiefly as an editorial writer, first with *The Tribune*, and later with *The Evening Post*. He is the author of several books, including *Cheap Money Experiments*, 1892; *Our Political Drama*, 1904; *Issues of a New Epoch*, 1904, and *The Panama Gateway*, 1913. After retirement from the Canal service, he will enter upon a contract with Charles Scribner's Sons, publishers, New York, for literary work in connection with their magazine and publication department.

Lieut. Geo. R. Goethals, who has been employed as assistant engineer in charge of the fortifications division of the Canal work, sailed June 24, on a month's leave of absence, at the expiration of which, he will be relieved to allow him to comply with War Department orders directing him to report at West Point, where he will become an instructor in the United States Military Academy. He first entered the Canal service on May 20, 1908, as instrumentman, and was relieved on September 1, 1909. He was again detailed for duty on the Isthmus and entered the service on November 11. 1910, and, after completing his work on the Panama railroad, was assigned to the fortification work.

Mr. Hezekiah A. Gudger, formerly Chief Justice of the Supreme Court of the Canal Zone, accompanied by Mrs. Gudger, left the Isthmus on the steamship *Pastores* of the United Fruit Company's line on Wednesday, July 1. He has been on the Isthmus since 1897, when he was appointed United States Consul-General in Panama. He held this office until February 24, 1905, when he was appointed Associate Justice of the Supreme Court of the Canal Zone. This office he held until January 4, 1909, when he was promoted to Chief Justice of the Supreme Court of the Canal Zone. He was born in Marshall, Madison County, North Carolina, and was educated in the public schools, and at Weaverville College, where he took his degree of Master of Arts. He finished his education at Bailey's Law School, Asheville, North Carolina, and in 1872, began the active practice of his profession in Marshall. He represented his State in the Legislature for six years, and was judge of the criminal court in Madison County. He went to Washington in 1894, where he was an assistant in the office of the Attorney General, having special duties in connection with the Indian depredation claims. He is a Royal Arch and Templar Mason; also, a member of the Odd Fellows, and the Knights of Pythias.

Mr. Thomas Edwin Brown, Jr., formerly Associate Justice of the Supreme Court of the Canal Zone, accompanied by Mrs. Brown, sailed from Colon on the steamship *Pastores* of the United Fruit Company's line, on Wednesday, July 1. He has been on the Isthmus since April, 1907, when he entered the service of the Isthmian Canal Commission as District Judge, with station at Cristobal. He continued in this post until April, 1911, when he was appointed Associate Justice of the Supreme Court of the Canal Zone. In addition to his service in the judiciary of the Canal Zone, he has served the Department of Civil Administration by appearing as prosecuting attorney. From August to November, 1907, he was acting prosecuting attorney, and during the spring of 1908, he was special prosecuting attorney. He was born in Brooklyn, N. Y., received his early education in the public schools of Rochester, and fitted for college in the University Grammar School at Providence, Rhode Island. He entered Brown University, and was graduated with the class of 1890. After leaving college, he went West and engaged in newspaper work in Tacoma, Washington. On his return to the East, he studied law at the New York Law School, and was admitted to the New York bar in July, 1893. He practiced law in the City of New York until his appointment to the Government service in the Canal Zone.

Mr. Fred C. Stanton, formerly assistant engineer in local charge of the work at the east breakwater and Cristobal coaling plant, who sailed for the United States on leave of absence on May 28, has cabled his resignation, effective May 27. He entered the Canal service as assistant engineer on September 24, 1907, and arrived on the Isthmus on September 29. He was assigned to duty in the old Chagres Division, which later became a part of the Central Division. On August 26, 1908, he was transferred to the harbor and channel section of the old Atlantic Division, on work in connection with the building of the west, or Toro Point, breakwater. On the completion of this work in the forepart of this year, he was given local charge of the construction of the east breakwater at Coco Solo Point, and, on April 28, in addition to his other duties, he was placed in local charge of the Cristobal coaling plant. Prior to coming to the Isthmus he was with the United States Engineer Department on river and harbor work in Texas, and later, with the Atlantic, Gulf, and Pacific Company of New Jersey.

Obituary.

Jacob R. Shettel, an American, serving as a sergeant in the Signal Corps, United States Army, died at Colon Hospital on Sunday, June 28, following an operation for gangrenous appendicitis and general peritonitis. He arrived on the Isthmus on Thursday, June 25, having been detailed for duty here under Maj. Leonard D. Wildman. He was 43 years of age, and is survived by his wife, living at Fort Leavenworth, Kan.

Notice to Applicants for Hunting, Automobile, Motorcycle, and Bicycle Licenses.

Applicants for hunting, automobile, motorcycle, and bicycle licenses should address all correspondence relating thereto to the Executive Secretary, Ancon, C. Z.

If checks or money orders are sent, same should be made payable to the Collector, The Panama Canal, and forwarded with the application.

Bubonic Plague at New Orleans.

The quarantine authorities have been advised of the reported presence of bubonic plague at New Orleans. The usual precautions are being observed in regard to incoming vessels, which have cleared from that port. So far, these vessels have been required to berth at the new concrete docks at Cristobal, instead of the wooden wharves at Colon.

Estates Being Settled.

The following estates of deceased or insane employes of The Panama Canal or the Panama Railroad Company are now in process of settlement by this office, and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings or postal money order deposits, or any other moneys due them, should be presented at this office at once, in order that the estate may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once:

DECEASED EMPLOYES.

Name.	*Check No.*	*Native of*	*Isthmian residence*	*Employed by*	*Date of death.*
Alexander Belez	69470	Guadeloupe	Empire		June 24.
Clifford Cook	9981	Jamaica	Panama	P. R. R	June 23.
Richard Donaldson	196356	Jamaica	Paraiso	Supply Dept	June 21.
Cyril Gittens	38139	Barbados	Colon	Mechanical Div.	June 18.
Charles Gustave	9213	Martinique	Frijoles	P. R. R	June 20.
James Johnson	86294	Jamaica	Colon	P. R. R	June 18.
Joseph Lewis	202699	Barbados	Culebra	First Div	June 20.
George Troutman	54217	Barbados	Cristobal	P. R. R	June 22.

INSANE EMPLOYES.

Name.	*Check No.*	*Native of*	*Isthmian residence.*	*Employed by*	*Date of commitment.*
Charles Sargent	79009	Montserrat	Gatun	Fourth Div	June 19.

SOCIAL LIFE OF THE ZONE.

High School Commencement.

The fourth commencement of the Canal Zone high school was held in the National Theatre, Panama, on Friday evening, June 26. The stage was set to resemble a conservatory; the high school occupied seats in an open space between running vines and trellises, and the senior class, with their principal, the superintendent of schools, and their guests, were in front. Each of the girls in the class held a bouquet of flowers. Prominent in the decorations of the stage were the high school colors, black and gold. There were nine graduates, making it the largest class that has been graduated from the school. Six of the graduates have taken the four years' work in the Canal Zone school; all are Americans, although one of the girl graduates is a native of Uruguay of American parentage. The States represented were New York, Kentucky, Minnesota, Mississippi, and Ohio. Miss Daniels, the principal, was presented with a silver handbag by the graduating class, following the presentation of diplomas.

The program was, as follows:

Selection	Guatemalan orchestra
Invocation	Rev. Harry Compton
Panama hymn—Recessional	High school
Address	Hon. William Jennings Price
Selection	Guatemalan orchestra
Piano solo	Señor Raul Panaigua
Presentation of the class of '14	Miss Jessie E. Daniels, principal.
Presentation of diplomas	Mr. A. R. Lang, superintendent of schools.
Good night, farewell—	
The star spangled banner	High school
Benediction	Rev. Harry Compton

The members of the class are: Marion Emily Blake, Mary Eleanor Comber, Blossom Compton, Dorothy Elizabeth Magnuson, Miriam Ruth Stevens, Eva Swinehart, Joseph William Udry, Jr., James Augustine Loulan, Jr., and William Alexander Fraser, Jr. Master Udry was not present, having left for the United States a short time before school closed.

Church Notes.

The ladies' auxiliary to the Christian League of Empire, at its meeting on Friday, June 5, held at the residence of Mrs. H. A. A. Smith, changed its title to that of the missionary auxiliary to the Union Church of the Canal Zone. The character of the organization will remain unchanged. Missionary study meetings will be held monthly as usual. The text book now in use is entitled "The King's business." The officers elected for the ensuing six months, June to December, are, as follows: President, Mrs. W. H. Keenan; first vice-president, Mrs. Phil Kelly; second vice-president, Mrs. Joseph Helmer; secretary-treasurer, Mrs. F. E. Greene. Mrs. H. A. A. Smith will represent the society on the board of the Panama federation of societies of women for Christian work, of which she is vice-chairman. The next meeting of the missionary auxiliary will be held at the residence of Mrs. H. Holman, house No. 31, Empire, on Friday, July 3.

The woman's altar guild, and the parish of St. Luke's Hospital church, Ancon, will hold a reception in honor of the Rt. Rev. Albion W. Knight, D. D. at the Hotel Tivoli, on Monday evening, July 6, from 8 to 10 o'clock. Those interested in meeting Bishop Knight will be welcomed by the chaplain and the members of the guild. The reception will be held in the pergola. On July 28, the altar guild will hold a bazaar in Ancon Hall. The arrangements for this bazaar are already under way, and a number of interesting features will be presented. Among the booths will be one for the sale of native articles, one representing the Army and Navy, attended by women of the two govermental departments, and one containing useful and attractive articles cut from native hardwoods. The junior auxiliary of the church will also have its own booth, the members having entire charge of the articles sold. The proceeds of this booth will go toward the work of the auxiliary.

The physical culture class of the junior auxiliary of St. Luke's chapel will meet on July 8 for regular exercise. The class will take folk dancing as its special work during the next few months. On Wednesday afternoon, July 15, there will be a lecture under the auspices of the junior club on the hygiene of the mouth and teeth. The lecture will be given by Dr. M. E. Connor, health officer. The members will be admitted free. Tickets will be sold at the door for 10 cents, United States currency. The business meetings of the auxiliary will be held at the home of Mrs. Charles F. Mason, on July 1, and 22.

Nombre de Dios General Assembly, Fourth Degree, Knights of Columbus.

At the adjourned meeting of the first general assembly of the Fourth Degree, Knights of Columbus, held in Panama on Sunday, June 21, 1914, "Nombre de Dios" was selected as the name of the assembly, and the following officers were chosen for the ensuing term: Faithful navigator, Theo. Aanstoos; faithful captain, Ramón Arias, F., Jr.; faithful admiral, J. F. Stahl; faithful pilot, P. F. Corrigan; faithful comptroller, W. J. Durning; faithful inner sentinel, T. P. Shay; faithful outer sentinel, D. R. Donnelly; faithful scribe, John J. Luckey; faithful purser, Wm. J. Owens. Monthly meetings will be held at Cristobal and Panama, alternately, on the third Sunday in each month.

Washington Cotillion Club.

On account of July 4 being a holiday, the next regular dance of the Washington Cotillion Club will be held on Friday, evening, July 3. BOARD OF GOVERNORS.

CRISTOBAL, C. Z., June 29, 1914.

Order of Isthmian Conductors.

The next regular meeting of the Order of Isthmian Conductors will be held in Ancon lodge hall on Sunday, July 5, at 9.30 a. m.

GEO. B. ALLEN,
Secretary–Treasurer.

COROZAL, C. Z., June 29, 1914.

American Institute of Electrical Engineers.

The July meeting of the Panama section of the American Institute of Electrical Engineers will be held in the control house at Pedro Miguel Lock on Sunday morning, July 12, at 9.15 o'clock. Mr. R. H. Whitehead will present a paper entitled "Hydraulics of the locks." The rates of filling the lock chambers and the currents during lockage will be discussed. Various features of the paper will be demonstrated by actual operation of certain of the valves and gates.

Mr. Horacio Bossi Caceres has been appointed consul general of the Republic of Argentina in Panama.

TO TEACH PANAMA MOTHERS.

Will be Shown how to Properly Feed their Children to Reduce Present High Death Rate.

The mortality rate among children under five years old in the city of Panama has been found to be very high, and the Panama Health Office is preparing to inaugurate a vigorous campaign to relieve this condition. The report for the month of May shows a total of 128 deaths in the city, 53 per cent of this number being children under five years old. A careful study of the situation indicates that the large majority of these deaths among children, the greater number of whom were under two years old, can be traced directly or indirectly to malnutrition, or improper feeding. This was found to be the case in the city of Colon, when, in 1912, a campaign to combat infant mortality was successfully carried on for a considerable period of time, by detailing nurses from the Colon Hospital staff to the work of district visiting in the congested sections of the city.

It has been found that many of the mothers on the Isthmus are unable to nurse their babies beyond three of four months after birth, and that at this period they generally resort to the use of condensed milk or patent baby foods. This is especially true of the poorer class of native mothers, who, when the natural milk fails, appear to be ignorant of any means of nourishing the baby. A formula of condensed and evaporated milk has been developed in the local hospitals which can be modified to meet the requirements of individual infants at any period of their lives. This formula was used in the work in Colon.

A tentative plan has been drawn up by the Health Officer and is now under consideration, for the introduction of the work in Panama under an organization similar to that which was in effect in Colon. For convenience of administration, the city will be divided into four districts, or more if necessary, and a graduate female nurse will be in charge of each district. This nurse will receive special instructions under a head nurse who has been trained in infant feeding, and the entire staff will be under the immediate supervision of the Health Office. In cases where the visiting nurse finds a sick child whose condition is traceable to improper feeding, she will instruct the mother how to prepare and give the food according to the formula, watching the results herself from day to day. These daily visits to the home of the patient will be made until the mother is sufficiently taught to take care of the child without the assistance of the nurse. When children are found suffering from illness not attributable to malnutrition, the visiting nurse will advise the parents to procure the services of a local physician, or, if the family is too poor to do so, she will recommend that the child be taken to Santa Tomas Hospital, where it can receive proper treatment in the free wards.

I. B. of S. S. and D. M.

The next regular meeting of the International Brotherhood of Steamshovel and Dredgemen will be held at Ancon lodge hall on Sunday, July 5, at 1.30 p. m.

R. G. WARREN, *Secretary-Treasurer.*

COROZAL, C. Z., June 28, 1914.

The launch *Pratique*, formerly in the quarantine service at Colon and Cristobal, has been transferred to the Department of Operation and Maintenance and assigned to the use of the captain of the port at Cristobal.

PROGRAM FOR THE FOURTH.

Official List of Events, and Committees—Plans for the Visitors' Comfort.

Preparations for the celebration of the Fourth of July at Cristobal are practically completed. The schedule for the operation of trains on that day will be found on another page of this issue of THE CANAL RECORD. The official program of the day's events is, as follows:

8.45 a. m—Musical drill, Butt's manual—Tenth Infantry.
9.00 a. m—Athletic events.
9.00 a. m—Tennis tournament.
9.00 a. m—Boat regatta.
9.30 a. m—Concert, Colon municipal band.
11.15 a. m—Fire company race—Empire *vs.* Cristobal.
11.30 a. m—Patriotic exercises.
12 to 1.00—Lunch.
1.15 p. m—Exhibition dive by submarine.
1.30 p. m—Water sports.
3.30 p. m—Dancing, pier No. 10, Tenth Infantry band
3.30 p. m—Children's field meet, road between Piers 8 and 9.
5.00 p. m—Presentation of prizes, pier No. 9.
6.00 p. m—Flag lowering by boy scouts.
7.30 p. m—Fireworks.
9.00 p. m—Dancing, Pier 10, Colon municipal band.

PATRIOTIC EXERCISES.

The patriotic exercises will be held on Dock 9, and will consist of the following:

America	Tenth Infantry Band
Invocation	Rev. Harry Compton
Reading of Declaration of Independence	Judge Wm. H. Jackson
Address	Hon. Wm. Jennings Price
Panama National hymn	Colon Municipal band
Star Spangled Banner	Tenth Infantry band

COMMITTEES.

The committees in charge of the various events are, as follows:

EXECUTIVE COMMITTEE.

Chairman—Mr. C. A. McIlvaine.

Chairman, finance committee—Mr. John H. McLean.

Chairman, entertainment committee—Capt. F. O. Whitlock.

Chairman, fireworks committee—Capt. A. A. Maybach

Chairman, transportation committee—Mr. F. R. Blunt.

Chairman, publicity and printing committee—Mr. John K. Baxter.

Chairman, music and dance committee—Mr. R. H. Sartor.

ENTERTAINMENT AND AMUSEMENT COMMITTEE.

Chairman, subcommittee on athletics—Mr. A. B. Dickson.

Chairman, subcommittee on water sports—Capt. C. A. Black.

Chairman, subcommittee on refreshments—Mr. B. L. Jacobson.

Chairman, subcommittee on Tenth Infantry—Capt. R. E. Ingram.

Chairman, subcommittee on Coast Artillery—Lieut. G. A. Mix.

Chairman, subcommittee on reception—Com. D. E. Dismukes.

Chairman, subcommittee on programs and prizes—Mr. J. G. Barber.

Chairman, subcommittee on decorations and stands—Mr. B. C. Poole.

Chairman, subcommittee on patriotic exercises—Mr. J. A. Page.

Chairman, subcommittee on fire department—Mr. Charles F. Koerner.

Chairman, subcommittee on police department—Lieut. Arthur Kennedy.

OFFICIALS FOR ATHLETIC EVENTS.

A. B. Dickson, chairman; referee, F. G. Swanson; clerk of course, A. N. Kjellander; assistant clerks of course, Joe Mitchell, Harry Feehan; property clerk, P. T. Woolworth; starter, S. C. Potts; announcer, G. D. Bliss; assistant announcers, D. V. Raymond, William Mathues; timekeepers, Lieut. W. L. Gruber, Rene Granger, Lieut. C. M. S. Skene, W. G. Russell, D. T. Edwards, C. Dustheimer; track judges, R. L. Dwelle, Paul Wilson, Lieut. John H. Lindt, E. S. MacSparren. field judges, R. P. Drennan, F. Parker, L. A. Clausel, E. L. Koperski; scorer, A. B. Collins; inspectors, Mark A. Hall, F. L. Herron, Lieut. W. H. Wilbur, C. R. Calhoun; marshal, Lieut. Arthur Kennedy.

OFFICIALS FOR AQUATIC EVENTS.

Capt. C. A. Black, chairman; referee, Chas. H. Mann; sergeant-at-arms, W. T. Orr. judges, Lieut. W. L. Friedell, M. McLeod, S. P. Hughlings, Ensign G. L. Dickson, Ensign G. A. Rood, Ensign Sargent Force, Capt. F. F. Stewart, C. J. Reilly, Ensign Hall, C. B. Russell; announcers, John H. Clarke, W. H. Vaughan; clerks, C. R. Chisholm, R. C. Goodfellow, J. C. Hipp, W. F. Smith; A. E. Cotton; starters, W. C. Gardner, E. R. Parsons, George B. Ward, R. Hughes; surgeon, Dr. Miller.

Miscellaneous Notes.

The committee on music and dance are making special provision this year for the dance to be held on Dock 9 in the afternoon and evening of July 4. With that end in view, it was decided to provide a floor of sufficient size to accommodate a large crowd. A floor of tongued and grooved lumber, 175 feet by 42 feet in plan has been constructed on the sea end of dock No. 9. This location gives shelter from rain and sun and a free circulation of air. The decorations will be palms, bunting, signal pennants, and Japanese lanterns, arranged, so as to form a vaulted arch effect over the dancing area. The benches taken from the recently dismantled sightseeing barge will be placed around the edge of the floor to form an enclosed area, and for the convenience of those dancing. Immediately in the rear will be placed rows of chairs for the spectators. The sightseeing cars will also be run in on the adjacent tracks to provide additional seating capacity.

In the afternoon, dancing will be held from 3.30 to 5.30, with music by the Tenth Infantry band. In the evening, when the crowd is expected to be larger, dancing will begin immediately after the fireworks display. The music for the evening dance will be almost continuous, two bands being employed. They will play alternately, allowing about one minute between dances for the floor to clear. The music arranged for the evening dance will be the Colon municipal and the Tenth Infantry bands. Dancing will continue until 12 o'clock, midnight.

Over 150 children have signed entry forms for a total of nearly 400 entries in the children's races on the Fourth. To encourage the school spirit, a different color has been assigned to various schools, and contestants will run under their school colors. The Ancon children will wear orange; Corozal, dark green; Pedro Miguel-Paraiso, purple; Empire-Culebra, blue; Gatun, lavender, and Cristobal, red. The races will begin immediately after the aquatic events, which are scheduled to be completed by 3.30 p. m. The events will be run off on the esplanade and roadway between Piers 8 and 9. An information stand will be located there to satisfy the wants of the children; also, to furnish them their colors, etc.

The children have also been invited to sing in the chorus for the patriotic exercises at 11.30 a. m. Bleachers are being erected close to the speakers' stand large enough to accommodate 250 children.

The headquarters of all committees for the day will be in the new office building of the United Fruit Company, south of the Cristobal fire station, telephone number, Cristobal 4. The boy scouts, under Scoutmaster Ernest C. Bell, will be attached to headquarters, and will act as messengers for committee chairmen and render any other assistence required. Articles lost and found should be reported to Scoutmaster Bell.

Persons desiring to locate friends or points of interest will find a map of Colon and Cristobal, and list of occupants of Canal quarters, at headquarters.

Arrangements have been made for women's and children's rest and toilet rooms, with maids in attendance, in building No. 2, Roosevelt avenue; schoolhouse, between Government hotel and Y. M. C. A., and on the Panama railroad steamship *Colon*, lying at Dock 11.

Men's toilet rooms in Y. M. C. A., and House 220, located directly behind building No. 2.

Parcel check room in United Fruit Company's building, open 8.30 a. m. until departure of last train.

Lemonade, ice water, and sanitary drinking cups may be found at several points on Dock 9 and Roosevelt avenue.

Swimming permitted in the slip between Piers 8 and 9, except during afternoon aquatic events. Dressing rooms for men and women at head of slip between Piers 8 and 9. Police Department and Cristobal swimming club will have launches and rowboats in slip for protection of bathers.

Ice cream served to all at lunch, and during the afternoon to children holding tickets, which may be obtained from any member of the refreshment committee.

Lunch will be served on Pier 9, beginning at 12 noon.

Last train for Panama, making all stops, at 12.55 a. m.

The Strangers Club will hold "Open house" all day on the Fourth of July, and the privileges of the club will be extended to guests holding cards from members. Dinner will be served in the clubrooms on the evening of July 4 from 6.15 to 8.30 o'clock.

A merry-go-round has been procured for the celebration, to be located on Roosevelt Avenue; it will be free to all children all day.

Free refreshments will be served to everybody on Dock 9, from 12 to 1 p. m. Meals may also be obtained at the Panama railroad restaurant, the Cristobal hotel, and the Hotel Washington, during the following hours:

Hotel Washington—A la carte, from 7 a. m. to 11 p. m.; *table d'hote*, from 11 a. m. to 2 p. m., and from 6 p. m. to 9 p. m.

Cristobal hotel—From 6 a. m. to 8 a. m.; from 10 a. m. to 2.30 p. m., and from 4 p. m. to 8 p. m.

Panama railroad restaurant—From 6.30 a. m. to 8 a. m.; from 10 a. m. to 2.30 p. m., and from 4 p. m. to 8 p. m.

Invitations have been sent to the principal Government and municipal officials of the Republic of Panama, which include their families, and to members of the local press. Card passes have also been sent to merchants and others who contributed to past celebrations.

Passes will not be accepted on Panama railroad trains on July 4 from gold employes and Americans who are authorized to buy excursion tickets. These tickets, good for a round trip between any two points on the line, will be sold for 25 cents, United States currency, each, and the money derived from their sale will go toward the Fourth of July fund.

The cover design of the official program this year will represent a young "Patriot" in Fourth of July attire, astride of his hobby horse.

The Canal Zone post-offices will remain closed all day on the Fourth.

Mr. Edward Schildhauer was elected to honorary membership in the Wisconsin Union, an organization composed of alumni of the University of Wisconsin, during his recent visit to Madison, Wis.

A number of athletes of Balboa are training for the meet at Cristobal on the Fourth. The new townsite at Balboa affords an excellent place for running, and is being used for this purpose every night.

CANAL WORK IN MAY.

Monthly Report of the Governor to the Secretary of War.

CULEBRA, C. Z., June 18, 1914.

The Honorable the Secretary of War,
Washington, D. C.

SIR: I have the honor to submit the following report of operations on the Isthmus for the month of May, 1914:

Department of Operation and Maintenance—Work under the Engineer of Maintenance.

DIVISION OF ERECTION.

The principal work was on erection of towing locomotives, chain fender machines, chain fender sump pumps, transformer rooms, and installation of conductor rail at the locks. The installation of timber buffers at Gatun Locks, transformer rooms at Pedro Miguel, and handrail operating mechanisms and miter gate moving machines at Miraflores was completed.

Nineteen lockages were made at Gatun, 19 at Pedro Miguel, and 20 at Miraflores. The towing locomotives were used in the majority of the lockages, and the locks at Gatun and Pedro Miguel were operated by remote control.

Tests were conducted at the hydroelectric station, and the plant will be ready for active operation in the near future. Electrical installation in the substations is progressing as rapidly as the building operations will permit. The transmission line is practically completed between Mount Hope and a point south of Corozal.

ELECTRICAL DIVISION.

The net output of the power plants was: Gatun, 624,360 kilowatt-hours; Miraflores, 1,785,260 kilowatt-hours; Empire, 100,840 kilowatt-hours; Balboa, 7,302 kilowatt-hours.

The output of the Balboa air compressor plant was 290,388,650 cubic feet of free air, compressed to 105 pounds; Empire, 85,533,309 cubic feet. Maintenance and repair work throughout the Canal Zone, and installation in new and reconstructed quarters, and in the new shops at Balboa, were carried on.

DIVISION OF MUNICIPAL ENGINEERING.

In addition to maintenance work throughout the Canal Zone, this division continued the construction of the new water works for Panama and vicinity. Construction of the purification plant at Miraflores was continued; Miraflores pump station No. 2 was begun; the Ancon pump station was advanced to near its completion, and the high service reservoir at Ancon was completed.

DIVISION OF LIGHTHOUSES.

During the month, work was in progress in constructing the special foundation for beacon No. 32, Culebra Cut section; painting Culebra Cut beacons, and hanging doors in same; installing lanterns in beacons Nos. 3 and 4, Atlantic section; painting spar buoys, and placing 27 gas buoys and five spar buoys on their stations in Gatun Lake; installing light apparatus in Gatun Lake towers Nos. 3 and 22; constructing transmission lines from the east side of Gatun Locks to range towers Nos. 5 and 6, Atlantic section, and along the west side of the Canal between Bas Obispo and Pedro Miguel, and making the necessary surveys and reconnaissances.

SECTION OF METEOROLOGY AND HYDROGRAPHY.

During the month of May, the rainfall was above the station averages at seven stations and deficient at 12 stations. The monthly totals ranged from 5.66 inches at Alhajuela, to 17.76 inches at Colon. The maximum precipitation recorded in one day was 4.91 inches, at Colon. The estimated yield for Gatun Lake watershed was about 10 per cent below the May average, based on 14 years' record, but the lake continued to rise steadily during the month, it being necessary to open the spillway gates at Gatun to keep the level from rising above plus 85.

Seismic disturbances were recorded at Ancon on the 19th, 28th, and 31st of the month. Aside from slight surface damage to the new administration building at Balboa, the Canal work suffered no ill effects from the shocks.

Division of Terminal Construction.

PACIFIC TERMINALS.

Dry docks—The construction of dry dock No. 2 was discontinued, and no more work will be done upon it for the present. Design and construction were continued on dry dock No. 1. The total excavation for both docks and the entrance basin was 102,676 cubic yards. Four steamshovels were employed. Designs were started for the concrete mixing plant.

Quay wall and piers—Studies and design were continued for adapting the cranes on the Panama railroad wharf to pier No. 1; to compare the relative economy of wood, steel, and reinforced concrete pontoons for boat landing at the quay wall; eight schemes for landing for oil ships were prepared, and a report was made on the construction of 6-foot concrete cylinders for wharf foundations. Excavation amounted to 1,033 cubic yards; concrete placed, 5,917 cubic yards; piles driven for construction trestle of quay wall, 11,470 linear feet. Heavy anchors were placed on the lumber wharf to prevent movement toward the basin, when the dredging is carried to 45 feet below sealevel.

Coal and fuel oil plants—Design was continued on supports for the berm cranes, was begun on the reloader wharf, requisition was made for the greater part of the steel forms for the concrete cylinders for the reloader wharf, and the modification of four berm cranes for use in the plant was advanced. Excavation for the coal pocket amounted to 10,998 cubic yards; concrete placed, 971 cubic yards; rubble masonry retaining walls, 297 cubic yards.

Location of the fuel oil handling plant at Balboa was approved; arrangements were were made to move a 4,000-barrel tank from Aguadulce to Balboa; two 250-horsepower boilers from Mount Hope, and two from Rio Grande, were transferred, and will be used in the oil handling plant. The fire wall at tank No. 3 was 50 per cent completed, and completed at tank No. 4; the concrete apron and drain has been completed at both tanks.

Balboa shops—Design and construction were continued on the shop buildings.

ATLANTIC TERMINALS.

West breakwater—The breakwater was completed on May 12, the work for the month including the placing of 825 linear feet of armor rock fill, the total unloaded and placed being 456,549 cubic yards. The total length of the breakwater, including the "Ell," is 11,467 feet.

Porto Bello quarry was closed on April 30, and the work of removing plant was done in May. The quarry was left in shape to be reopened, if necessary.

East breakwater—Work on this project included construction of yard storage tracks at Coco Solo, installation of tools in the machine shops, ballasting main line tracks, erection of water tank for watering locomotives, and the construction of the double track trestle.

Coaling plant—Plans were issued for the concrete and pile foundation work at the shore end of the site, and requisition was made for steel forms required for the concrete cylinders supporting the wharf structure proper. Piledriving for bridge track foundations, and trestle construction for setting caissons in water were continued; the setting of caissons under reloader foundations, and pouring of concrete for unloader foundations, were begun. Tests of the hydraulic fill were continued.

Dredging Division.

The status of dredging on May 31 was, as follows:

LOCATION.	May. *Cu. Yds.*	Remaining. *Cu. Yds.*
Miraflores Locks to Pacific..	33,201	2,022,983
Miraflores Lake............	45,181	308,167
Culebra Cut..............	474,131	902,096
Gatun Lake..............	....	51,000
Gatun Locks to Atlantic....	....	410,973
Total Canal prism.......	552,513	3,695,219
Balboa harbor............	143,543	5,429,393
Cristobal terminals.........	303,036	795,155
Fortifications..............	172,521	....
Miscellaneous.............	47,019	....
Total general............	666,119	6,224,548
Grand total...........	1,218,632	9,919,767

Culebra Cut—Seven dredges removed 114,830 cubic yards of earth and 359,301 yards of rock from the Canal prism. Dredge *No. 86* sluiced 6,500 cubic yards of material from Cucaracha slide.

Following is a statement of the excavation in detail:

LOCATION.	Earth. *Cu. Yds.*	Rock. *Cu. Yds.*	Total. *Cu. Yds.*
Hagan's slide.........	7,043	40,042	47,085
East Culebra slide....	811	38,350	39,161
West Culebra slide....	....	35,226	35,226
Cucaracha slide.......	106,976	245,683	352,659
Total..............	114,830	359,301	474,131

Mechanical Division.

Shop orders issued and completed consisted of: Uncompleted, April 30th, 384; authorized during May, 844; total, 1,228; completed during May, 716; uncompleted, May 31st, 298. The foundry output was: Iron, 292,126 pounds; steel, 131,569; brass, 19,010; total, 442,705 pounds. Hostling was done on 5,867 pieces of equipment, repairs on 7,111 cars and 867 other pieces of rolling stock. The work of concentrating hostling and repairs at Balboa shops was continued. The new costkeeping system for Balboa shops had been in effect two months and had already proved its effectiveness; a similar system was put into effect at Cristobal dry dock. At the Cristobal and Paraiso shops, the work was principally on dredging equipment, and seven vessels were docked in the dry dock. Two large jobs were done for steamship companies, and both companies expressed appreciation of the results. An effort is being made to cut down the amount of overtime work.

Division of Canal Transportation.

The offices of the captains of the ports at

Cristobal and Balboa were established on May 5. The respective offices assumed charge of the assignment of wharves, docking and berthing of vessels, furnishing of pilot service to shipping, the admeasurement of vessels for transit through the Canal, and the general supervision and enforcement of Canal and harbor regulations relating to shipping.

Pilots were employed by transfer from the Panama Railroad Company, two; by transfer from the Dredging Division, four; by request on the Washington Office, two; and request was approved by the Governor for the transfer of another employe from the Dredging Division.

On May 14, the superintendent rendered a report on all motor launches in the Canal service, giving general description, service performed, and making recommendations with a view of pooling such floating equipment under the supervision of the captains of the port at the respective terminals.

On May 18, the project of lightering cargo through the Canal was begun. Twelve lighters were diverted to this service, and regular traffic operations have developed, with an approximate round trip schedule of 24 hours. The tug *Mariner* is employed in this work. During the month, 3,276 tons of cargo (vessel measurement tons of 100 cubic feet) were handled by this method.

The Board of Admeasurement, designated by the Governor's circular No. 661-4 of April 9, met in the office of the superintendent on May 20 and discussed the interpretation of the President's Proclamation for the measurement of vessels. Two employes from other divisions were transferred for duty as measurers and experimental measurements of barges and ships were made.

Supply Department.

FORCE.

The force reports for the last week in May show 31,021 employes at work. Of these, 4,349 are white Americans, 693 are European laborers, and the balance are West Indian laborers and artisans. The occupants of Government quarters numbered 8,148 Americans, 1,805 Europeans, and 8,042 West Indians. A congestion exists in family quarters at Ancon, Balboa, and Corozal.

BUILDINGS.

Work on the permanent quarters has been delayed on account of lack of plasterers, all of the plasterers being used in the administration building.

All of the original work authorized at La Boca has been completed. Two Type-18 houses and the Y. M. C. A. from Porto Bello, and one of the wards at Ancon Hospital, authorized afterward, are now in course of construction at La Boca.

MATERIALS AND SUPPLIES.

The movement of material was heavy during the month. All live stock has been transferred from Empire and that store left in charge of a caretaker to inventory the obsolete and surplus material left at the storehouse, disposition of which has not yet been determined.

The total value of material received during the month was $1,025,088.36. The material came forward in 44 steamers, total weight of cargo, exclusive of lumber, ties, and piling, being 21,297 tons. Some of the more important items received were: Lumber, 2,035,057 feet; cement, 232,795 bags; pig iron, 156,230 pounds; clay conduit, 54,451 pieces; hollow tile, 41,976 pieces.

SUBSISTENCE.

Subsistence operations showed a net profit of $2,288.91, of which $777.30 was returned by the Hotel Tivoli. Operations of the Hotel Washington in April returned a profit of $723.34. The accounts for May are not yet closed. These profits do not take into account depreciation of plant.

COMMISSARY.

The new organization of the commissary division was practically put into effect on May 1. Efforts have been made to improve the service in the line commissaries. Suggestions were asked for from the patrons and a large number of helpful and practical replies were received. As many of these were adopted as were feasible. The Rio Grande commissary was closed, effective May 1. Service at the Paraiso commissary is more unsatisfactory than at any other point along the line, on account of the inadequacy of the building.

The commissary accounts for the quarter ending March 30 were closed and show a net profit for the three months of $4,595.22. This is a profit on operations only, and does not include depreciation on the manufacturing plants, line commissaries, and equipment. Such depreciation amounts to approximately $2,500 per month, so the commissaries show a loss of $3,000 for the last quarter.

Accounting Department.

Classified Canal expenditures to March 31 were, as follows:

Civil Administration	$6,972,122.09
Law	60,109.73
Sanitation	17,106,313.22
Construction and Engineering	204,087,126.12
General items	89,947,354.99
Fortifications	4,485,976.35
Total	$322,659,002.50

The status of appropriation cash on May 31 was:

Cash balance	$9,083,812.75
Estimated payments, June	3,125,000.00
Cash balance, fortifications	5,226,071.30
Cash balance, private acts	3,500.00

The salaries and wages for the month of June, and the amount of rolls for accrued leave, for which no definite figures are available, are payable in July and are proper charges against the above appropriations. The amount remaining in the salaries and wages appropriations will not be sufficient by several hundred thousand dollars to meet the expenditures properly chargeable against such items. The amount of the deficiency cannot be estimated until the accrued leave roll has been completed.

Department of Health.

The health of employes has continued good. No cases of yellow fever, smallpox, or plague originated on, or were brought to, the Isthmus during the month. The number of admissions to hospitals and quarters was 1,633, or a rate of 407.92 per thousand per annum, as compared with 350.59 for the preceding month, and 468.59 for the corresponding month of last year.

The number of deaths from all causes was 39. Of these, 23 died from disease, or 5.74 per thousand per annum, as compared with 5.52 for the preceding month, and 5.42 for the corresponding month of last year. The diseases causing the largest number of deaths, were, as follows: Lobar pneumonia, seven, and tuberculosis, six. No other disease caused more than one death.

The number of employes per thousand constantly sick was 11.65, compared with 12.07 for the preceding month, and 15.35 for the corresponding month of last year. The admission rate to hospitals for malaria was 50 per thousand per annum, as compared with 36 for the preceding month, and 36 for the corresponding month of last year; 21 per cent of all admissions were due to this cause. The next highest admission rate was due to diseases of the digestive system, and the respiratory system, each having the same number of admissions, and the next to venereal diseases.

The admission and death rates for disease for black employes were 124.70 and 5.95 per thousand per annum, as compared with 393.37 and 4.66 for white employes. The noneffective rate for disease and injuries for black employes per thousand was 9.94. as compared with 20.55 for white employes. The admission rate for malaria was 42.56 per thousand per annum for blacks, as compared with 87.07 for whites. The much higher admission and noneffective rates for whites, as compared with blacks is, no doubt, due to the fact that the whites receive pay for 24 days per year while sick from disease, while the blacks do not.

Executive Department.

COURTS.

Four cases were disposed of in the Supreme Court, and eight cases were pending at the end of the month. In the district court, seven civil. 50 criminal, and 60 probate cases were settled. In the magistrates' courts, 32 civil and 351 criminal cases were tried.

POSTS.

Money order sales amounted to $293,501.56, and the fees to $1,407.64; receipts from stamp sales, $6,457.46; deposits in savings accounts, $109,580; withdrawals, $136,346.

POLICE AND FIRE DIVISION.

Arrests numbered 369, of which 30 were of women. Fourteen convicts were committed to the pentitentiary, and seven were discharged; total in confinement at the close of the month, 84. The cost of guarding and subsisting the convicts was $1,234.31, and the value of their work was $1,208.10.

Nine fires occurred, with merely nominal loss.

SCHOOLS.

The net enrollment in the white schools was 1,266, the average number belonging, 876.1, and the average daily attendance, 836.3. In the colored schools, the net enrollment was 1,484, the average number belonging, 723.7, and the average daily attendance, 557.2.

Respectfully,
Geo. W. Goethals,
Governor.

To Close Corozal Junction.

On account of the decreased use of the tracks leading to Miraflores Locks, the interlocking plant at Corozal Junction was placed out of service on Sunday, June 21. A new manual block signal will be erected at Corozal station to govern the territory, and trainmen entering or leaving the branch to Miraflores Locks will protect with flags.

Pasturing Animals at Corozal Farm.

The rate for pasturing private animals at the Corozal farm is $3 a head per month; the rate for Government animals is $2 a head per month.

NEW TUGS FOR THE CANAL.

Boats of Powerful and Heavy Type for Handling Vessels at Entrances.

Bids for furnishing two or four steel tugboats, complete, and ready for operation, for use in handling and docking vessels at the entrances to the Canal were opened at the Washington Office on March 23. The bids were forwarded to the Isthmus, to be passed on by the officials in charge of the work in which the tugs are to be used. The committee, to which the bids were referred, returned them with its recommendations, and award for two tugs has been made, by authority of the Secretary of War, to the Staten Island Shipbuilding Company, Port Richmond, N. Y., for $152,000 each, a total of $304,000. Delivery of the first tug is to be made within 295 days, and of the second within 440 days. Both will be delivered at Colon.

The two tugs will be identical in measurements, equipment, and finish. Their principal dimensions are, as follows: Length over all, 125 feet six inches; length between perpendiculars, 112 feet; breadth on deck, 30 feet; depth molded, low point, 17 feet; mean draft, loaded, 13 feet three inches. Their normal speed is to be 13 knots per hour, under the propulsion of engines of 1,000 horsepower, driving single screws.

These tugs will be heavier and more powerful than the general run of tugs at present in the Canal service. Their length exceeds that of all of the present tugs, except the *Reliance* and the *Porto Bello*, which are 134 feet and 126 feet long, respectively. Their beam considerably exceeds that of any of the present tugs, the nearest being the *Mariner*, with a breadth of 25 feet five inches. The only tug in the present service having engines of 1,000 horsepower is the *Reliance*. The present tugs burn coal for fuel, and the two new vessels will be equipped to use crude oil. In general, it is the plan to have them of the most modern and efficient type of harbor tug.

The materials and assembling of the tugs are to conform in every respect with Lloyds' Rules for vessels of this class, and with the requirements of the United States Steamboat Inspection Service. Upon the completion of each vessel, and before its departure for the Isthmus, it is to be tested by a 6-hour run of its machinery at dock, a 5-hour speed test, and heeling tests to determine the transverse stability. After arrival at the Canal, the tugs will be required to undergo 30 days' satisfactory operation under working conditions before final acceptance.

The propelling engine of each tug will be a vertical inverted compound surface condensing engine of standard marine design, having cylinders 24 inches and 50 inches in diameter, with a stroke of 30 inches. It must develop not less than 1,000 indicated horsepower at 100 revolutions per minute, under a steam pressure of 150 pounds to the square inch at the boiler, without the use of by-passes. The engine will be be fitted with an independent surface condenser and an independent air pump. All forgings and all steel castings in the engine are to have a tensile strength of 60,000 pounds, with an elongation of at least 30 per cent in two inches. The reversing engine will have a cast iron steam cylinder eight inches in diameter by 16-inch stroke. The crank shaft for the propelling engine will be of the built-up type; the propeller shaft will be 11¾ inches in diameter, 12 inches at the bearings. The propeller will be of cast steel, 11 feet six inches in diameter, and with a pitch of 14 feet six inches. It will be fitted to the shaft with a taper, and held in place with a key and nut.

There will be two single-ended return tubular cylindrical boilers of the Scotch type, each measuring 12 feet six inches by 12 feet, and having two 44-inch corrugated furnaces. The boilers will be built for a working pressure of 150 pounds per square inch, conforming to the requirements of the United States Steamboat Regulations and Lloyds' Rules. All circular seams will be double-riveted; longitudinal seams will be double butt-strapped and treble-riveted. Plates will lie up, metal to metal, before being riveted, and rivets will be driven hydraulically as far as possible. The boilers will be arranged for burning oil fuel. The usual dry pipes, steam and reflex water gages, main and auxiliary stop valves, feed, check, and blow-off valves will be fitted, in addition to duplex safety valves. The boilers will be operated under a system of forced draft; a diamond flue blower, hydrokineter, and automatic circulator will be fitted to each boiler. Forced draft will be furnished by a direct-connected turbine fan blower, mounted on a common bedplate, amply able to deliver 10,500 cubic feet of air per minute against a 3-inch static water gage pressure at the fan while operating under a steam pressure of 125 pounds at the turbine.

Lubricating oil will be supplied from three 60-gallon tanks installed in the engine room.

The one condenser will be of the surface, circular, steel plate type, having not less than 2,000 square feet of cooling surface. Tubes will be of brass, ⅝-inch outside diameter, tinned inside and out, and with a pitch of one inch. An auxiliary circulating connection is to be made from the general service pump to the condenser.

The circulating pump will be of the centrifugal type, with an 8-inch discharge pipe and two independent 8-inch suctions from the sea. The sea valve strainers will each have 100 square inches clear area. The pump will be direct-connected with an 8-inch by 8-inch vertical engine, both mounted on a common bedplate, and will be arranged to discharge through the condenser, or overboard. This pump is to be fitted as a wrecking pump.

A separate general service pump is to have cylinders 18 by 10 by 12 inches, and draw from the sea, peak tanks, or bilge, and will discharge into the condenser, fire mains, peak tanks, or sea. A return relief valve is to be placed in the fire main, so that the pressure in the main will not exceed 150 pounds. In connection with the fire pumping, four 50-foot lengths of 2½-inch linen fire hose, with standard nozzles and spanners, will be coiled in suitable hose racks of the swinging type, in various parts of the vessel.

The vessel will be lighted by electricity, generated by two 10-kilowatt, 110-volt, direct-connected, turbine driven generators. Eighty-four 16-candle power tungsten filament lamps will be placed in the vessel, and an 18-inch, 35-ampere searchlight will be mounted on top of the pilot house. The searchlight circuit will lead from the switchboard, having no connection with the incandescent circuit. The ship's running lights will be combination, oil and electric, fitted with 6-inch fresnal lenses in brass cases.

A 20-foot metallic lifeboat will be fitted on suitable chocks beneath a set of davits, and provided with mast, sail, oars, 27-inch ring life buoy, water breaker, etc. Two 30-inch ring buoys, attached to 100 feet of manila rope, and 18 cork life jackets are to be stowed aboard the tug.

A 10 by 24-inch deep tone single chime whistle, fitted with automatic recording whistle control, will be placed on the forward side of the smokestack and arranged with double pulls in the pilot house. An electric signal whistle will be installed to work in conjunction with the steam whistle.

Complete tool equipment is to be furnished for the engine and dynamo rooms; the quarters, galley, and mess room are to be completely equipped with furniture, linen, utensils, etc., a great many spare parts supplied for the machinery, and general equipment and materials are to be furnished to fit the vessel completely for occupation and operation.

Sales of Old Material.

Sales of material and equipment by the Supply Department during May aggregated $94,192.10, divided, as follows: Stock material, $12,868.46; second-hand and obsolete material and equipment sold on the Isthmus, $8,756.06; second-hand and obsolete material and equipment sold in the United States, $2,193.59; collections under scrap contracts, $141.39; sales to the Panamá railroad, $70,232.60. The second-hand equipment sold included two 2-yard concrete mixers, one engine, and a boiler to the Chile Exploration Company of Chuquicamata, Chile.

Gamboa Shows Slight Growth.

Forces of the building division of the Supply Department are completing a 4-family house at Gamboa, to be occupied by the families of gold men working at the gravel plant. This will increase the family quarters for gold employes to eight, in addition to such accommodations as are afforded by four box cars. Twenty inspected and condemned box cars are occupied by silver employes and their families. A commissary store is housed in two box cars. The local agent of the Panama railroad is acting as postmaster. The village will probably be slightly enlarged with the erection of quarters for employes working at the north end of the Cut, but it is not the intention to issue leases on building lots to private individuals

Value of Canal Supplies Received in May.

The total value of material received during the month of May was $1,025,088.36, distributed, as follows:

Mount Hope (stock)	$432,777.01
Division of Erection	280,394.98
Light house Division	719.79
Meteorology and Hydrography Division	389.15
Division of Terminal Construction	41,976.20
General Construction Division	570.00
Dredging Division	43,114.46
Mechanical Division	76,833.60
Health Department	5,755.60
Panama railroad	48,249.70
Division of Municipal Engineering	34,098.60
Executive Secretary	1,314.54
Fortifications Division	11,334.01
Auditor, Panama Canal	245.45
Permanent buildings	47,315.27
Total	$1,025,088.36

The material came forward in 44 steamers, the total weight of cargo, exclusive of lumber, ties and piling, being 21,297 tons.

COMMISSARY ORGANIZATION.

Outline of Plan Under which its Various Units Are to be Operated.

The Chief Quartermaster has issued a memorandum to the retail commissary storekeepers, reading in part, as follows:

Under the Supply Department have been consolidated the former Quartermaster's, Commissary, and Subsistence Departments. It is intended that this consolidation shall be actual and not merely nominal, and that, as soon as possible, the three organizations shall be fused into one working unit.

ORGANIZATION.

From the old commissary organization three divisions have been formed:

1. Purchasing.
2. Wholesale.
3. Retail.

The purchasing department will make purchases on requisitions prepared by the wholesale department. The purchasing department will be in charge of the assistant chief quartermaster, as purchasing commissary.

The wholesale department will be charged with the upkeep of stock and the operation of all wholesale warehouses and manufacturing plants; it will prescribe a standard stock for each "Line" commissary. This department will be in charge of the depot commissary, reporting to the assistant chief quartermaster.

The retail department will consist of the "Line" commissaries. The "Line" commissaries, excepting only the Ancon, La Boca, Balboa, Camp Bierd, and Cristobal branches, are placed under the direction of the respective district quartermasters. The excepted stores will report direct to this office.

The district quartermasters will handle the "Line" commissaries through the storekeepers in the same manner that they now handle the quartermaster's storehouses in their districts. I will hold them responsible and they will hold you.

Before the district quartermasters can exercise any effective control over the commissaries in their districts, they must become familiar with the commissary operations and methods; you will be expected to give them every assistance in acquiring this knowledge.

The district quartermasters will be expected to make frequent inspections of the commissaries in their districts and to take up with the storekeepers any matter which they think requires attention.

The general policy of the department will be determined upon by this office, and deviations therefrom made only after securing authority from me.

The commissary inspector will report direct to the Chief Quartermaster. It will be his duty to interpret the policy of the department and advise with the district quartermasters and storekeepers and to submit recommendations as to discipline and distribution of force. He will call the attention of storekeepers to matters relative to force, stock, or condition of stores requiring correction, and report thereon to the Chief Quartermaster.

STOCK.

The depot commissary will prescribe a standard stock for each "Line" store. In the meantime you will make a careful examination of every item of merchandise in your stock as directed in my letter of April 14. Any article that you consider unsalable at the present price, or that you do not expect to sell within a reasonable time, say three months, should be listed and the lists forwarded to the depot commissary. In their preparation, pay special attention to colors and sizes. It frequently happens that while some colors and sizes sell more rapidly, it is almost impossible to get rid of others before they deteriorate, so as to become unsalable. This is especially true of such articles as straw hats, shirts, collars, belts, etc. This survey of dead and surplus stock must be exhausted and complete. No excuse will be excepted for failure to include therein any such articles in your stock at the present time.

It is proposed to include in the standard stock articles for which there is constant demand. Articles for which the demand is known in advance may also be stocked, but the general policy will be to purchase articles not included in the standard stock only when ordered and paid for in advance. In such cases we will add to the cost price an agent's commission equal to our usual surcharge on the class of merchandise purchased. The demand will be arrived at by the consumption records for articles in stock and the calls for articles out of stock. A pad of paper will be left on each counter to record the latter. Salesmen will be required to make a note of all articles out of stock, or sizes or colors called for. These will be compiled in your office and weekly report made to the depot commissary, copy being sent to this office. This report must show number of calls, steps taken to procure stock, and if procured, when and where.

It is understood that a complete line cannot be carried in all stores, and that many articles cannot be regularly stocked without loss. When calls for these are received, your answer must be in effect, "We do not have it in stock, but will get it for you if it is on the Isthmus."

The smaller stores should use the larger stores in their districts as subdepots, and draw freely on them for such articles as they cannot keep in stock. They should also obtain from them cigars, cigarettes, and tobacco that they cannot take in unbroken boxes or cases; and groceries, etc., that they cannot take in case lots.

The inventories of the wholesale departments are being typewritten, and several copies of them will be distributed among you and passed from store to store. They will show the name, stock number, price, and quantity on hand in the wholesale stores. These are to be used in the preparation of your requisitions, and in laying in a stock of all articles for which you believe there is a demand in your territory. They will also be used in the preparation of your inventories, and should be checked against the retained copy of your last inventory sheets, in order that your sheets may be brought to conform with those in the wholesale stores. This applies not only to the descriptions, but to the order in which the various items appear.

Fresh fish should always be ordered for Friday, and every day if the demand warrants it. Special orders for fresh fish should be placed with the local buyer, Panama, whenever requested by patrons.

In regard to carrying cold storage meats and fresh vegetables for sale over the counter, you must be guided by the demand. It is desired, so far as possible, to keep a quantity of such items in stock sufficient to meet all ordinary demands. This stock will be kept fresh by your cooperation with the hotel stewards. The latter will be required to consult with you daily before placing their requisitions, and to clear you of such meats, vegetables, and bread as you may desire to dispose of, the price to be agreed upon between you.

This is not to be construed as authorizing you to work off foodstuffs in bad condition on the hotels, but rather to insure that your supply for sale over the counter is always fresh and in good condition, and that the hotels get the benefit of any reduction in price necessitated by this policy.

The practice of making monthly requisitions for drygoods, hardware, and boots and shoes, and letting it go at that, must be at once discontinued. The main requisitions may be placed monthly, but supplemental orders should be sent in at least once a week.

You all have, or should have, stock books made up showing the name, stock number, and price of articles carried. For the present, use these as a standard stock list and show opposite each item the maximum and minimum stock to be carried. Where your trade runs to particular sizes or colors, show the proportions of each to be ordered. See that your salemen, checkers, and store assistants keep the stock up. Do not forget, however, that to the public and to me, you, personally, are and will be held responsible for its upkeep.

Coffee should be ordered at least twice a week, so as to keep the stock fresh and prevent deterioration. Tobacco should be ordered at least once a week. Go through your show cases and tobacco safes and sort out all molded, musty, broken, or worm-eaten cigars, cigarettes, and tobacco. Working off broken, musty, or otherwise imperfect cigars, cigarettes etc., on either the gold or silver side is absolutely prohibited. Send any that you have back to the warehouse at Cristobal, where they will be examined and the price reduced if found in any way salable. See that hereafter you buy in such small quantities and so frequently that, while keeping up an ample stock, none of it spoils on you.

EMPLOYES AND THE PUBLIC.

There must be a radical change in the attitude of the commissary employes to the public. There are frequent complaints of discourtesy, inexcusable delays in waiting on customers, unwillingness to show goods, and lack of interest in making sales on the part of the selling force, and of curtness and indifference on the part of the storekeepers and their assistants on the gold roll. From now on it must be understood by every one of you, and by every employe working under you, that, as public servants, the employes of the retail stores will be required to serve the public promptly, efficiently, and with courtesy and interest. Your men will be judged, and you will be judged, by their sales records, their courtesy, their accuracy, and the satisfaction they give their customers.

When a customer approaches a counter the salespeople must be alert to serve and painstaking and obliging in showing goods and replying to inquiries. Watch them in action and weed out the slow, the sulky, the impolite, and indifferent. The same holds true of checkers and store assistants. Service and courtesy have to be the keynotes of the organization, and those who feel they cannot conform had better leave while they have any option.

One point that deserves and must be given special consideration is the reception of complaints, whether relating to character of service or goods supplied. To the storekeeper, the handling of complaints is part of his daily work, (it must be a constantly decreasing part of his daily work in the future), and individual complaints do not assume much importance; in his eyes. But to the customer the subject of the complaint is of considerable importance, otherwise, they would not come to you, and its reception by the storekeeper may make a friend or an enemy of the department. Show interest in what they have to say. Accede to their request if you can do so consistently and if you cannot, explain briefly the rule governing the point. Under all circumstances keep your temper. The policy of the department is to be liberal in the matter of exchanges. Give the customer the benefit of the doubt. It is the exception when employes deliberately try to cheat the commissary.

The silver customers cannot be handled with the same nicety that is expected to characterize the service on the gold side. Their number, the physical limitations of the commissaries, and the prime necessity of getting them served in the short time allowed them by their working hours for the making of purchases, preclude this. They must, however, be treated with politeness and every effort made to show them goods, and to see that they get what they want. No discrimination must be shown against them in the matter of wrapping their purchases.

Salesmen and checkers must not enter into arguments with insulting, obstreperous, or disorderly customers. They should notify their immediate superior, and if authorized by him, decline to serve the customer. Swearing at, or getting into fights with customers will be considered cause for summary dismissal. The aid of the police may and should be invoked to keep order. In aggravated cases, complaint to this office will result in recommendation that the commissary privilege be withdrawn from the offender.

Be sure that your men know their stock. Transfer them from department to department, and teach them prices and selling methods until you have a mobile force that you can swing from one counter or department to another from hour to hour as the volume of your business may demand. Train your office clerks in the same manner, so that in the busy season every man in the store can and will be used to sell goods, especially during the hours of from 11 to 1, and 5 to 7, when the silver employes make the bulk of their purchases.

The greater part of the force are West Indians and naturally imitative. If the storekeeper is alert all the time, bright, snappy, and obliging, his men will follow him. If he is discourteous, inefficient, and negligent, they will be the same. Your personality and your energy, or lack of it, will be reflected in your force.

Orders in Case Lots.

THE PANAMA CANAL,
SUPPLY DEPARTMENT,
CRISTOBAL, C. Z., June 29, 1914.

CIRCULAR No. 577:

Chief stewards—Hereafter, chief stewards will make requests for case lots on the depot commissary, transmitting same through the local commissaries. These requests for case lots should be placed about every 10 days, and, if practicable, the date of delivery should correspond to date of local commissary solid car shipment, so that the quantity ordered by hotels may be taken in consideration by the commissary storekeeper when placing solid carload orders. The depot commissary in filling case lot orders from chief stewards, will supply barrel goods in bulk only and tin goods in the larger sizes. Please make the necessary arrangements with local commissary storekeeper.

F. O. WHITLOCK,
Assistant Chief Quartermaster.

Price of Beef.

THE PANAMA CANAL,
SUPPLY DEPARTMENT,
CULEBRA, C. Z., June 22, 1914.

CIRCULAR No. 137-1:

HINDQUARTER.

(*Average weight 187 pounds.*)

			Present selling price No. 1.
Suet	28 lbs.	at .03 ..	$ .84
Soup meat	18¼ lbs.	at .07 ..	1.28
Stew meat	25¼ lbs.	at .11 ..	2.78
Round, top	28½ lbs.	at .19 ..	5.41
Round, bottom	15¾ lbs.	at .17 ..	2.68
Sirloin, choice	9 lbs.	at .28 ..	2.52
Sirloin	14½ lbs.	at .25 ..	3.63
Porterhouse, 1st	13¾ lbs.	at .30 ..	4.13
Porterhouse, 2d	6 lbs.	at .25 ..	1.50
Tenderloin	3 lbs.	at .40 ..	1.20
Bone	11 lbs.	at .005 ..	.06
Excess fat	8 lbs.	at .03 ..	.24
Waste, no value	6 lbs.		
Total hindquarter	187 lbs.		$26.27

FOREQUARTER.

(*Average weight 203 pounds.*)

			Present selling price No. 1.
Ribs	32 lbs.	at .21 ..	$6.72
Chuck	68 lbs.	at .15 ..	10.20
Stew	18 lbs.	at .11 ..	1.98
Corned beef, No. 1	29 lbs.	at .19 ..	5.51
Corned beef, No. 2	38 lbs.	at .16 ..	6.08
Soup	12 lbs.	at .07 ..	.84
Bones	6 lbs.	at .005 ..	.03
Total forequarter	203 lbs.		$31.36

Total selling price, hindquarters........$26.27
Total selling price, forequarters......... 31.36

Total selling price........................$57.63

COST ON DOCK, COLON.

Hindquarters, 187 pounds at 15 cents... 28.05
Forequarters, 203 pounds at 14 cents.... 28.42

Total cost, 390 pounds...................$56.47
Excess of selling price over cost on dock...... $1.16

The above table gives the average weight of a hindquarter and forequarter of beef as received under the present contract with the various classes of cuts, and the present cost and selling prices, the cost being the actual cost of the beef delivered on the dock at Colon.

A half carcass of meat weighing 390 pounds costs $56.47 on the dock at Colon, and sells at the present prices for $57.63, leaving $1.16, or approximately one quarter of a cent per pound to cover handling at Colon, refrigeration, freight on the Isthmus, cutting up in the retail commissaries, waste in delivery, and cost of delivery to the houses of employes. This service costs considerably more than this, and there is a loss on every pound of beef now sold, even at the present prices.

In 1908, when beef cost less in the United States, the retail prices in the commissaries were more than at present; the reduction was obtained by raising prices on other commodities. Later on, it may be possible to procure the present grade of beef from the United States for less than the prevailing prices.

Commissary Hours.

The commissary stores are open during the following hours: From 8 a. m., to 12.30 p. m., and 3 to 6.30 p. m.

The gold departments of the Cristobal store will open at 2 p. m., on Saturdays and sailing days of Panama railroad vessels.

In rush periods, all stores will remain open until 7 p. m.

Cold Storage Prices.

Retail prices of cold storage provisions for the week beginning July 2, 1914:

	Price.
FRESH MEATS.	
Mutton—Stewing, per pound	8
Shoulder, trimmed, per pound	12
Leg (8 to 10 pounds), per pound	19
Cutlets, per pound	20
Short cut chops, per pound,	23
Shoulder, chops, per pound	14
Lamb—Stewing, per pound	10
Shoulder trimmed, per pound	15
Leg (5 to 8 pounds), per pound	24
Chops, per pound	29
Shoulder, chops, per pound	18
Cutlets, per pound	29
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	18
Chops, per pound	27
Loin, for roasting, per pound	27
Cutlets, per pound	31
Beef—Suet, per pound	3
Soup, per pound	7
Stew, per pound	11
Plate, per pound	12
Corned, No. 1, per pound	19
Corned, No. 2, per pound	16
Chuck roast, 3 lbs., and over, per pound.	15
Rib roast, second cut (not under 3½ pounds), per pound	21
Rib roast, first cut (not under 3 pounds), per pound	24
Pot roast, per pound	25
Rump roast, per pound	25
Porterhouse roast, per pound	27
Steak, Chuck, per pound	16
Round, top, per pound	19
Round, bottom, per pound	17
Rib, per pound	24
Sirloin, per pound	25
Sirloin, choice cut, per pound	28
Rump, per pound	25
Porterhouse (not less than 1½ pounds), per pound	30
Porterhouse, short, Delmonico, per pound	25
Tenderloin (Western), per pound.	40
Pork—Hams, fresh, per pound	§23
Shoulders, fresh, per pound	§19
Spare ribs, per pound	18
Backbones, per pound	15
Loin, chops or roast, per pound	20
Pigs' feet, each	7
Pigs' heads, whole	83
Pigs' heads, ½-head	42
Sausage, homemade, per pound	23
MISCELLANEOUS.	
Livers—Beef, per pound	15
Calf, each	†53
Half, each	†27
Steak, Hamburger, package	17
Hamburger, 20-pound containers, per pound	14
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Pure pork, 1-lb. cartons, per pound	†17
Sweetbread, beef, per pound	26
Eggs, fresh, per dozen	28
per ½-dozen	14
Bluefish, per pound	9
Halibut, fresh, per pound	5
Salmon, per pound	6
Yeast, per cake	2
Yeast, per pound	31
POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, per pound	30
Fancy roasting, corn fed, per pound.	27
Fowls, per pound	25
Fowls, light, per pound	23
Ducks, Western, per pound	25
Capons, per pound	33
Broilers, milk fed, per pound	34
Broilers, corn fed, per pound	†25
Turkeys, per pound	32
Squabs, each	42
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30
CURED AND PICKLED MEATS.	
Ham—Real York and Cumberland, per pound	43
Genuine Westphalia, per pound	50
Sugar cured, per pound	21
Sliced, per pound	28
Half, for boiling, per pound	23
Boiled, per pound	30
Hocks, per pound	09
Butt end, about 1½ pounds to butt, per pound	11
Bacon—Breakfast, whole piece, per pound	26
Sliced, per pound	27
Ham, lunch, per pound	40
Port, salt, family, per pound	14
Ox tongues, each	1.35
Pigs' feet, per pound	7
Tongues, per pound	19.
DAIRY PRODUCTS.	
Butter—Creamery, special, per pound	37
Sheffield Farms, extra fancy, per lb.	54
Cheese—Philadelphia cream, cake	9
Roquefort, per pound	35
Young America, per pound	†22
Swiss, per pound	27
Edam, each	81
Edam, tin	29
Parmesan, per pound	38
Gouda, per pound	29
Snappy, per cake	9
Milk (certified), bottle	**24
Fer-mil-lac, bottle	**25
Ice cream, quart	‡25
½-gallon	‡50
Cream, Sheffield Farms, quart	**33
VEGETABLES AND FRUITS.	
Beans, string, per pound	*8
Beans, wax, per pound	†8
Beets, per pound	*7
Celery, per head	10
Cabbage, per pound	3
Carrots, per pound	4
Cucumbers, per pound	†4
Horseradish, per pound	17
Lettuce, per pound	11
Onions, per pound	5
Peas, green, per pound	10

	Price.
Peppers, per pound	8
Potatoes, white, per pound	2½
sweet, tropical, per pound	2
sweet, American, per pound	3
Yams—Tropical, per pound	3
American, per pound	†3
Parsley, per bunch	*3½
Artichokes, ea	*4
Eggplant, per pound	6
Rhubarb, per pound	2½
Turnips, per pound	*4½
Tomatoes, per pound	8
Spinach, per pound	†6
Squash, per pound	3
Apples, each	2½
Grape fruit—American, each	7
Tropical, each	4½
Lemons, per dozen	*18
Limes, per 100	56
Canteloupes, each	8
Oranges—Jamaican, per dozen	18
American, each	2½

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* Indicates advance from preceding list.

† Indicates reduction from preceding list.

**Indicates 5 cents allowed for return of bottle.

‡Sold only from commissaries; no orders taken for delivery.

§Sold only from cold storage and not from commissaries.

Porterhouse roast includes any cut of hind quarter down to rump, and will not be cut if orders for steak will consume the supply.

Tenderloins on porterhouse will not be cut and sold separately.

Not less than ½ ham or ½ shoulders of fresh pork will be sold.

Daily cold storage orders will be filed and kept for at least one month.

◆

Rainfall, June 1 to June 27, 1914, Inclusive.

Stations.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	1.70	18	6.64
Balboa	1.97	18	6.35
*Miraflores	1.65	16	5.43
Pedro Miguel	3.03	23	10.48
Rio Grande	1.87	23	9.40
Central Section—			
Culebra	1.82	23	7.54
*Camacho	1.80	18	10.14
Empire	2.09	23	8.20
Gamboa	5.18	18	16.45
*Juan Mina	2.67	18	11.86
Alhajuela	3.45	9	12.89
*El Vigia	3.94	15	16.98
Frijoles	3.63	18	12.53
Trinidad	......	......	......
*Monte Lirio	2.40	18	13.90
Atlantic Section—			
Gatun	1.64	10	11.45
*Brazos Brook	2.82	18	14.66
Colon	1.37	5	14.47

*Standard rain gage—readings at 5 p. m., daily; Automatic rain gage at unstarred stations—values midnght to midnight.

◆

Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes for the week ending midnight, Saturday, June 27, 1914. All heights are in feet above mean sealevel:

Day and Date.	Stations.				
	Vigia.	Alhajuela	Gamboa.	Gatun Lake.	Miraflores Lake.
Sun., June 21	126.40	92.89	84.72	84.79	53.66
Mon., June 22	125.95	92.53	84.72	84.75	53.63
Tues., June 23	126.10	92.60	84.86	84.91	54.10
Wed., June 24	127.90	94.00	84.96	84.94	54.22
Thurs., June 25	126.30	92.90	84.85	84.90	53.90
Fri., June 26	125.90	92.48	84.90	84.86	53.77
Sat., June 27	125.80	92.40	84.87	84.88	53.71
Height of low water to nearest foot	125.0	91.0			

◆

Movements of Vessels at the Port of Balboa.

The arrivals and departures of steamships at th port of Balboa for the week ending June 27 were, as follows:

Arrivals—June 22, *Ucayali*, from Callao; *Peru*, from Callao; June 23, *Ecuador*, from intermediate ports.

Departures—June 21, *Trinculo* (oil vessel), to Port Harford, Cal; June 22, *Pachitea*, to Callao; *Limari*, to Valparaiso; *Acajutla*, to Ocos, Salvador; June 26, *San José*, to San Francisco.

OFFICIAL CIRCULARS.

◆

Accountable Official.

The Panama Canal,
Accounting Department,
Empire, C. Z., June 24, 1914.

Circular No. 63:

All concerned—Effective June 24, 1914, First Lieut. A. H. Acher, assistant engineer in charge of fortification work on the Isthmus, is designated an accountable official of The Panama Canal, vice First Lieut. Geo. R. Goethals.

H. A. A. Smith,
Auditor, The Panama Canal.

Approved:
Geo. W. Goethals,
Governor.

◆

Concerning Silver Employes Living on West Bank of Canal.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., June 15, 1914.

To all Concerned:

Effective July 1, 1914, heads of departments and divisions, in making reduction of force on the silver roll, should, other things being equal, select for discharge those employes who live on the west bank of the Canal between Rio Grande and Las Cascadas, who use the labor trains that run between Empire and the Pacific end of the Canal. This action is necessary to accelerate depopulating the settlements on the west bank of the Canal.

Geo. W. Goethals,
Governor.

◆

Issuance of Force Reports.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., June 17, 1914.

Heads of Departments and Divisions:

Effective June 17, the force reports heretofore issued weekly will be issued semimonthly, showing the force on the second and fourth Wednesdays of each month. The data for all departments and divisions, except the accounting departments and the Panama railroad, will be compiled by the timekeeping bureau, Executive Department, and all offices, except those mentioned, may cease to send in the weekly reports.

Geo. W. Goethals,
Governor.

◆

Balboa Dumps and Naos Island Breakwater.

The Panama Canal,
Executive Office,
Culebra, C. Z., June 29, 1914.

Circular No. 600-17:

Effective July 1, 1914, all work on the Balboa dumps and the Naos Island breakwater will be placed in charge of Mr. Will B. Casey, general foreman, reporting to Civil Engineer Harry H. Rousseau, U. S. N., Engineer of Terminal Construction.

Geo. W. Goethals,
Governor.

◆

Time Books, Metal Checks, Commissary and Hotel Books.

The Panama Canal,
Executive Office,
Culebra, C. Z., June 24, 1914.

Circular No. 663-1:

FOUR-DAY-PERIOD TIME BOOKS.

1. The new 4-day-period time books will be used effective July 1, 1914.

2. The following books are available, and a supply of the proper form will be delivered by the chief timekeeper for use:

First period—1 to 4, 9 to 12, etc. Form A-72, a 60-line book; Form A-74, a 120-line book; Form A-76, a 3-shift book.

Second period—5 to 8, 13 to 16, etc. Form A-73, a 60-line book; Form A-75, a 120-line book; Form A-77, a 3-shift book.

3. The books for gold and silver gangs are the same, and the word "Gold" must be written or stamped on all books for gold employes.

4. Time books must be kept on the job during each 4-day-period and then sent immediately to the timekeeping office.

5. Entries of time should be made in the same manner as required for the old *odd and even day time books*, and in accordance with the instructions printed in the back of each book.

6. The labor distribution pages in the back of the book will not be used until further instructions are issued.

7. Field timekeepers and foremen will make no entries in the space under "*Pay number.*"

8. The name of each employe and his rate of pay will be written on the first line of the double space, the occupation below. The old metal check number will be written opposite the occupation, and the number of the new metal check, which is to be issued, will be written above the old metal check number and opposite the employe's name.

9. The 3-shift books are to be used only when expressly authorized, for gangs operating in shifts. The names of all employes will be entered in the book regardless of the shift they are in, keeping each shift by itself as much as possible, but care must be taken to enter the time in the spaces provided for the shift in which the man actually works. The pages are marked "Regular shift," "Second shift," and "Third shift," and are readily distinguishable by the ink used in printing.

METAL CHECKS.

10. Checks up to No. 19,999 are reserved for gold employes. Checks from 20,000 upward will be given to silver employes. There will be no preferred checks for silver employes, but, as far as practicable, a different series will be assigned to each division or department.

11. The new metal checks will be delivered by the Auditor to the offices in which the time books are written up.

12. New metal checks will be assigned to all employes and the numbers entered in both the first and second period time books when they are written up.

13. The metal checks assigned to a gang as shown by the time books will be sent out on the work with the first period time book and delivered by the foreman or outside timekeeper, who will be held responsible for delivery of the checks to the right persons.

14. The old metal checks are not to be taken up when the checks of the new series are issued. The new metal checks will be taken up by the paymaster when paying a time voucher issued on termination of service.

15. The metal checks and the time books must be on the work on July 1.

COMMISSARY BOOKS.

16. Paragraphs 4, 5, 9, and 10 of Circular No. 663, dated April 1, 1914, are modified by the following rules:

Commissary coupon books of the $2.50 denomination will be provided for sale and for issue to silver employes. Not to exceed two books in any one month will be issued for pay roll deduction.

17. Commissary books of all denominations will be sold to silver employes for cash. Application will bemade to foremen for an authorization card, Form P. C. 478, which authorizes the sale of commissary books to the value of $15. The foreman will complete the card, sign the same and forward it to the time office for validation with the time books. The roll keeper will check the cards to ascertain if the applicants are employes, after which they will be validated by an issuing clerk and returned to the foreman for delivery.

18. Foremen will be held responsible for issuing one card only each month to an employe. Selling agents will punch the card to show the value of books sold.

19. The chief timekeeper will furnish the first supply of cards. Thereafter, requests for cards should be forwarded to the field offices.

20. Commissary coupon books will be issued for pay roll deduction from the 7th of the month to the 26th, inclusive. Books may be ordered at any time, requests therefor being entered in the space provided in the time books for the purpose.

21. The delivery of books will be made on the 7th, 11th, 15th, 19th, 23d, and 26th of each month, except when these dates fall on Sundays or holidays, in which cases, issues will be made on the day following.

22. The No. 2 coupon must not be torn from books until time of actual delivery, and the name of the person actually making delivery must appear on this coupon.

HOTEL BOOKS.

23. Paragraph 5 of Circular 663 is changed to read, as follows:

(*a*) Hotel books will be issued to all gold employes and white employes carried on the silver rolls, and to such nonemployes as may be authorized by the Governor.

(*b*) The $4.80 books may be issued to the following parties:

1. To new employes arriving from the United States to whom one book may be issued, and to new employes appointed on the Isthmus after they have earned a sufficient amount to cover value of book.

2. To married employes occupying family quarters, and employes boarding at regular messes, who are detailed for duty away from their official station.

3. The $4.80 hotel books which have been issued to new employes who do not render any service and therefore, are not entitled to transit time, will b charged to recruiting.

4. All requests for the issue of $4.80 hotel books must be approved by the head of the department or division in which the applicant is employed.

24. Requests for hotel books should be entered in the time books in the space provided for requests for commissary books. These requests must be clearly marked with the letters "H. B," so as to indicate that hotel books are desired.

25. Both hotel and commissary books will be sold to

gold employes upon presentation of the new "Panama Canal" brass checks to sales agents.

GEO. W. GOETHALS,
Governor.

◆

Acting General Foreman, Balboa Shops.

THE PANAMA CANAL,
MECHANICAL DIVISION,
BALBOA, C. Z., June 29, 1914.

ALL CONCERNED—During the absence on leave of Mr. S. G. Shearer, general foreman of the machine department of Balboa shops, Mr. C. S. Perry is designated as acting general foreman.

J. J. EASON, *Ass't. Superintendent,*
Mechanical Division.

APPROVED:
D. C. NUTTING.
Superintendent, Mechanical Division.

Telephones.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 650:

1. Telephones will be installed in offices and private residences for the transaction of official business, cost of installation, changes, additions, and removals being borne by the division or department making the work request.

2. The telephone instrument and its necessary accessories are to remain the property of the Panama railroad at all times.

3. Personal calls must not be made between the hours of 7 a. m. and 12 noon, and between 1 p. m. and 5 p. m., except in cases of emergency.

4. Telephones for private use will be installed upon approval by the superintendent of the Panama railroad, and will be classed as A and B.

5. A monthly charge of $2.50, United States currency, will be made for Class A telephones, and this service will cover local calls that pass through the home exchange only. An additional charge of 25 cents, United States currency, will be made for all calls going to another exchange.

6. A monthly charge of $7.50, United States currency, will be made for Class B telephones, and this service will cover business to any other exchange on the Panama railroad telephone system.

7. The subscriber for telephones of Class A and Class B shall pay for installation, changes, or removal of telephone.

8. Calls from Class A and B telephones will be limited to five minutes between the hours of 7 a. m. and 12 noon, and between 1 p. m. and 5 p. m., except on Sundays and holidays.

9. Telephones at the Hotel Tivoli, Hotel Washington, and at railroad stations, will be maintained on a strictly pay station basis, except that holders of telephone franks may use such telephones on official business, by giving the operator on duty their name and the number of their frank. Such franks will also permit the holder to call subscribers on the Panama railroad telephone system from the telephones of the Isthmian Telephone Company, and the Cía. de Teléfonos de Panamá, provided he gives the operator his name and frank number.

GEO. W. GOETHALS,
Governor.

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Tide Table.

The following table shows the time of high and low tides at Panama for the week ending July 11, 1914:

DATE.	Low	High	Low	High	Low
	A.M.	A.M.	A.M.	P.M.	P.M.
July 5........	......	1.10	7.21	1.27	7.56
July 6........	......	2.12	8.21	2 26	8.52
July 7........	......	3 09	9.17	3 22	9.44
July 8........	......	4 00	10.09	4.02	10.32
July 9........	......	4 48	10.57	5.00	11.19
July 10........	......	5.31	11 44	5.46	......
			P.M.		
July 11........	12.04	6.14	12.29	6.31	......

75th meridian time.

◆

LOST—Near Gatun Spillway, on June 27, an embossed leather pocketbook containing $34, Panama railroad passes Nos. 348 and 1319, telephone frank, and numerous other papers which will show ownership. The finder may keep one-half of the money if he will return the balance and papers to the Chief Health Office, Ancon, C. Z.

LOST—On Monday morning, June 29, in Panama or Ancon, between the Tokio Bazaar and house No. 74, Ancon, two rings, one diamond solitaire and one sapphire, both Tiffany settings. Reward offered if finder will return to Miss Bertha Mallory care THE CANAL RECORD, Ancon.

PANAMA RAILROAD COMPANY.

TIME TABLE FOR PASSENGER SERVICE ON JULY 4, 1914.

Supplement No. 1 to Current Time Table No. 18, Effective from 5.30 a.m., Saturday, July 4, to 4.30 a.m., Sunday, July 5, Only.

SOUTHWARD.									STATIONS.	NORTHWARD.								
FIRST-CLASS.										FIRST-CLASS.								
157	155	153	151	149	147	145	143	141		140	142	144	146	148	150	152	154	156
A.M.	P.M.	P.M.	P.M.	P.M.	P.M.	A.M.	A.M.	A.M.	Leave Arrive	A.M.	A.M.	A.M.	P.M.	P.M.	P.M.	P.M.	A.M.	A.M.
12.55	......	......	......	......	......	......	......	......	Third street	......	......	......	......	......	......	......	......	......
s12.57	11.40	9.30	7.00	4.00	1.00	10.00	7 30	6 25	Colon	8.33	8.43	11.43	2.45	6.38	8.40	11.17	1.22	2.43
s1 00	s11.42	s9.32	s7.02	s4.02	s1.02	s10.02	......	......	Commissary	s8.30	s8.40	s11.40	s2.42	s6.35	s8.39	s11.15	s1.19	s2.40
s1.05	s11.47	s9.37	s7.07	s4.07	s1.07	s10.07	s7.35	s6.30	Mount Hope	8.25	s8.35	s11.35	s2.37	s6.31	s8.34	s11.10	s1.14	s2.35
1.10	11.52	9.42	7.11	4.11	1.11	10.12	7.39	6.34	Mindi	8.20	8.30	11.31	2.32	6.27	8.30	11.06	1.10	2.31
1.15	11.55	f9.46	7.14	4.14	1.14	s10.15	f7.42	6.37	New Gatun	8.16	f8.27	f11.27	2.29	f6.24	f8.27	f11.03	1.07	f2.28
s1.18	s11.59	s9.50	s7.17	s4.17	s1.17	s10.18	s7.45	s6.40	Gatun	8.13	s8.24	s11.25	s2.26	s6.22	s8.25	s11.00	s1.05	s2.25
	A. M.																	
1.25	12.06	9.57	7.24	4.24	1.24	10.25	7.53	6.47	Quebrancha	8.04	8.16	11.17	2.18	6.15	8.17	10.52	12.58	2.17
f1.30	f12.11	f10.02	f7.29	f4.29	f1.29	f10.30	f7.58	f6.52	Monte Lirio	7.58	f8.11	f11.12	2.13	f6.10	f8.12	f10.47	f12.53	f2.12
1.34	12.16	10.07	7.34	4.34	1.34	10.35	8.04	6.57	Bohio	7.51	8.04	11.07	2.08	6.05	8.07	10.42	12.48	2.07
f1.40	f12.23	f10.14	f7.41	f4.41	f1.41	f10.42	f8.11	f7.04	Frijoles	7.43	f7.58	f11.00	2.01	f5.58	f8.00	f10.35	f12.41	f2.00
1.47	12.30	f10.22	f7.48	f4.48	1.48	10.49	f8.18	7.12	Darien	7.33	f7.51	10.53	1.53	f5.50	7.53	10.27	12.34	1.52
1.49	12.32	10.24	7.50	4.50	1.50	10.51	8.21	7.14	Caimito	7.30	7.49	10.51	1.50	5.48	7.50	10.24	12.32	1.49
f1.56	f12.39	s10.32	s7.58	s4.57	s1.58	s10.58	s8.28	s7.22	Gamboa	7.22	s7.42	s10.41	s1.43	s5.41	f7.41	s10.14	s12.22	f1.41
2.06	12.49	f10.44	f8.08	f5.07	2.08	f11.08	f8.38	7.32	New Culebra	7.12	f7.32	f10.31	1.33	f5.32	f7.32	f10.04	f12.12	1.31
s2.16	s1.01	s10.56	s8.19	s5.17	s2.20	s11.19	s8.49	s7.43	Pedro Miguel Jct.	7.00	s7.21	s10.21	s1.22	s5.20	s7.20	s9.52	f12.02	s1.20
																	A. M.	
s2.21	1.07	f11.02	8.25	s5.23	2.26	11.25	f8.55	7.48	Miraflores Lock	......	f7.14	10.15	1.15	f5.15	7.15	9.45	11.55	1.15
s2.26	s1.12	s11.07	s8.30	s5.28	s2.30	s11.30	s9.00	s7.53	Corozal	......	s7.10	s10.10	s1.10	s5.10	s7.10	s9.40	s11.50	s1.10
2.29	1.15	11.12	8.33	5 33	2.33	11.34	9.03	7.57	Balboa yard	......	7.07	10.07	1.07	5.07	7.07	9.37	11.47	1.07
s2.31	s1.17	s11.15	s8.35	s5.35	s2.35	11.36	s9.05	s8.00	Balboa	......	s7.05	s10.05	s1.05	s5.05	s7.05	s9.35	s11.45	s1.05
2.35	1.22	11.20	8.40	5.40	2.40	11.40	9.10	8 05	Panama	......	7.00	10.00	1.00	5.00	7.00	9.30	11 40	1.00
A.M.	A.M.	P.M.	P.M.	P.M.	P M.	A.M.	A.M.	A.M.	Arrive Leave	A.M.	A.M.	A.M.	P.M	P.M.	P.M.	P.M.	P.M.	A.M.
157	155	153	151	149	147	145	143	141		140	142	144	146	148	150	152	154	156

PANAMA-LAS CASCADAS SHUTTLE SERVICE.

SOUTHWARD.										STATIONS.	NORTHWARD.									
SECOND-CLASS.											SECOND-CLASS.									
199	197	195	193	191	189	187	185	183	181		180	182	184	186	188	190	192	194	196	
A.M.	A.M.	P.M.	P.M.	P.M.	P.M.	P.M.	A.M.	A.M.	A.M.	Leave Arrive	A.M.	A.M.	P.M.	P.M.	P.M.	P.M.	P.M.	A.M.	A.M.	
3.05	1.40	11.37	9.15	6.45	4.40	12.45	9.45	6.45	6.25	Las Cascadas	6.33	9.23	12.03	2.53	5.53	8.53	11.25	1.29	2.53	......
3.10	s1.45	s11.41	s9.20	s6.50	s4.45	s12.51	s9.50	s6.51	6.30	Empire	s6.28	s9.18	s11.58	s2.48	s5.48	s8.48	s11.21	s1.25	s2.48	......
3.14	s1.50	s11.43	s9.25	s6.55	s4.51	s12.56	s9.55	s6.57	6.34	Culebra	s6.23	s9.13	s11.53	s2.43	s5.43	s8.43	s11.18	s1.21	s2.43	......
3.16	1.52	11.45	9.27	6.57	4.53	12.58	9.57	6.59	6.36	Summit	6.21	9.11	11.51	2.41	5.41	8.41	11.16	1.19	2.41	......
......	......	......	......	......	......	......	......	......	......	Rio Grande	......	......	......	......	......	......	......	......	......	......
3.29	s2.06	s11.57	s9.41	s7.11	s5.04	s1.12	s10.11	s7.12	6.49	Paraiso	s6.08	s8.58	s11.38	s2.28	s5.28	s8.28	s11.03	s1.06	s2.28	......
......	......	......	......	......	......	......	......	......	......	Paraiso cabin	......	......	......	......	......	......	......	......	......	......
3.32	s2.09	s12.01	s9.44	s7.14	s5.07	s1.15	s10.14	s7.15	6.52	Pedro Miguel Jct.	s6.05	s8.55	s11.35	s2.25	s5.25	s8.25	s11.00	s1.03	s2.25	......
3.37	......	s12.06	s9.49	s7.19	......	s1.20	s10.19	s7.20	......	Miraflores Lock	s6.00	s8.50	s11.30	s2 20	......	s8.20	s10.55	s12.55	......	......
3.42	......	s12.11	s9.54	s7.24	......	s1.25	s10.24	s7.25	......	Corozal	s5.55	s8.45	s11.25	s2.15	......	s8.15	s10.50	s12.50	......	......
3.45	......	12.14	9.58	7.28	......	1.29	10.28	7.29	......	Balboa yard	5.52	8.42	11.22	2.12	......	8.12	10.47	12.47	......	......
3.47	......	s12.16	s10.00	s7.30	......	s1.32	s10.30	s7.32	......	Balboa	s5.50	s8.40	s11.20	s2.10	......	s8.10	s10.45	s12.45	......	......
3.50	......	12.21	10.05	7.35	......	1.37	10.35	7.37	......	Panama	5.45	8.35	11.15	2.05	......	8.05	10.40	12.40	......	......
A.M.	A.M.	A.M.	P.M.	P.M.	P.M.	P M.	A.M.	A.M.	A.M.	Arrive Leave	A.M.	A.M.	A.M.	P.M.	P.M.	P.M.	P.M.	A.M.	A.M.	
199	197	195	193	191	189	187	185	183	181		180	182	184	186	188	190	192	194	196	

Northward main line trains, excepting No. 140 and 156, will wait at Pedro Miguel Jct., for southward Las Cascadas branch trains.

Northward Las Cascadas branch trains, excepting No. 180, will wait at Pedro Miguel Junction, for southward main line trains.

Nos, 181 and 140 will carry members of Infantry only from Las Cascadas.

Nos. 141, 146, 147, 156, and 157 will carry first-class passengers only.

CANAL CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The schedule for the moving picture shows for the week July 6 to 11 is, as follows: Monday, Pedro Miguel, Tuesday, Empire and Balboa; Wednesday, Corozal; Thursday, Gatun; Friday, Culebra; Saturday, Cristobal.

BALBOA.

The moving picture machine, formerly used at Porto Bello, has been repaired and installed for permanent use at the Balboa clubhouse. Moving picture shows are held every Tuesday night at 8 p. m. sharp.

A large blackboard has been received for the use of the Spanish class.

Seven Morris chairs, with covers, have been received for the reading room; also, an umbrella rack for the lobby.

COROZAL.

The barber shop service has been improved.

The high scores on the bowling alleys for the past week were, as follows:

Tenpins—Thirsk, 234; 220, 219, 210; Boesen, 219, 210, 208; Parkis, 209, 205.

Duckpins—Harper, 111, 105; Boesen, 110; Orr, 106: Roberts, 104; Webb, 101.

PEDRO MIGUEL.

The Tenth Infantry band gave a concert to the people of Pedro Miguel on Tuesday evening, June 23.

About 60 people attended the song service held on Sunday evening, June 28. In order to popularize these services, an effort will be made to organize a Christian Endeavor society, and a meeting for the purpose has been called for Sunday evening, July 5. All interested are requested to be present and lend their aid to the movement.

The people of Pedro Miguel gave a reception to Mr. and Mrs. Russell on Wednesday evening, June 24. There was a program of music by Gray's orchestra and local residents, followed by refreshments.

High scores in duckpins for the month were made by Mr. Piper, 106, and by Mr. Vandeburgh, 104.

A duckpin match was rolled off on the local alley on Friday evening between the married men of Corozal and the married men of Pedro Miguel. The results were, as follows:

Corozal.... 457 432 458 Pedro Miguel 415 447 425

The first games of the local pool tournament were played off on Saturday evening.

CULEBRA.

The following high scores were rolled off on the local alleys during the past week:

Tenpins—Bliss, 203; Barnes, 201.

Duckpins—Bliss, 104; Phillips, 103; Warner, Jr., 102, 102.

In the handicap pool tournament recently closed, Barnes (scratch) won first place, and Cook won second.

Arrangements are being made to have the Gatun pool, billiard and bowling teams play return matches with the local teams on Saturday night, July 11.

GATUN.

The Tenth Infantry band gave a concert in front of the clubhouse on Friday evening, June 26.

"Open house" was observed at the Gatun clubhouse on Saturday evening, June 27. Prochaska's orchestra played during the evening. Gatun took all three games of tenpins from Culebra, and the results of the pool and billiard contest were:

Pool—Gatun 964 points; Culebra, 659 points.

Billiards—Gatun, 100 points; Culebra, 70 points.

Corozal defeated Gatun in a game of baseball; score, 21 to 3. The batteries were: Gatun—Loulan, Thompson, and Dustheimer. Corozal—Duer and Ridge. Refreshments were served during the evening.

Gatun has been playing Cristobal a series of four indoor baseball games. The Gatun team won three out of the four played.

The Gatun Y. M. C. A. has entered perhaps a larger number of names in the Fourth of July athletic meet than any of the other clubs on the Isthmus. About 50 men have been signed up.

CRISTOBAL.

The "Doves" defeated the "Giants" in a game of ndoor baseball, on June 23, by a score of 20 to 19.

Gatun won the championship of the Atlantic end of the Isthmus by defeating Cristobal, 18 to 14, at indoor baseball, on Wednesday, June 24.

D. Raymond and Miss Gay Butler won first place in the single folks duckpin tournament, on June 24. It required a roll-off, however to decide the contest between D. Raymond and Miss Butler, and Mr. Smith and Miss Vickery. The winning score was 484.

The monthly married folks bowling tournament will be held on Monday, July 13.

An all-star duckpin elimination tournament is planned for Saturday, July 11, at Cristobal.

High score in duckpins for the week were: Smith' 121; Gill, 107, Quinn, 104; Grover, 103; Cotton, 103; Pinney, 102; Steele, 102, Peterson, 101.

The debate on the Colombian Treaty, between Messrs. Hipp and Rigney, before the discussion club on June 25, showed careful preparation on both sides. The talks following the debate seemed to indicate that most of those present were not in favor of an indemnity to Colombia.

Supplies for the Canal.

The following steamers with supplies for The Panama Canal and Panama Railroad Company arrived at the ports of Colon, Cristobal, and Balboa during the two weeks ending June 27, 1914:

Aztec, June 14, from San Francisco, with 17 coils manila rope, for stock.

Prinz Joachim, June 15, from New York, with 120 barrels carbolineum, for Division of Terminal Construction; 133 coils manila rope, for stock.

Origen, June 16, from Mobile, with 500 cases turpentine, 200 drums gasoline, for stock.

Advance, June 16, from New York, with 20 cases machinery, for municipal division; 60 rolls reinforcement wire, for Supply Department; 233 bundles reinforcing steel, for Fortification Division; 6,125 pieces hollow tile, 17 cases concrete mixer machinery, for permanent buildings; 62 cases iron lockers, for Mechanical Division; 342 bales hay, 140 boxes rubber hose, 1,000 kegs spikes, 214 kegs bolts, 79 boxes bolts, 185 boxes window glass, 241 bundles galvanized pipe, 251 pieces galvanized pipe, 256 boxes soap, 40 coils manila rope, 905 bales hay, for stock; and a miscellaneous cargo, the whole consisting of 10,570 packages weighing approximately 549 tons.

Cartago, June 17, from New Orleans, with 620 barrels paving brick, 23 reels cable, for Panama Railroad Company; 16,608 board feet oak lumber, for Mechanical Division.

Santa Marta, June 17, from New York, with 16 cases steel doors, for Fortification Division; 100 cases asphaltum varnish, for stock.

Abangarez, June 18, from New Orleans, with 123 boxes window and door frames, etc., for Division of Erection.

Calamares, June 19, from New York, with 34 packages electrical material, for Fortification Division; 86 kegs bolts, for stock.

Santa Clara, June 19, from San Francisco, with 106,040 board feet redwood lumber, for Mechanical Division; 20 pieces piling, untreated, for Division of Terminal Construction; 2,051,573 board feet fir lumber, 150,171 board feet redwood lumber; 2,707 sacks oats, for stock.

Panama. June 21, from New York, with seven fender chains, 16 crates, two boxes window material, for Division of Erection; 90 rolls roofing paper, for permanent buildings; 100 rolls insulating paper, 800 bags oats 42 boxes bronze wire cloth, 97 drums lubricating oil, 50 cases lubricating oil, 300 cases linseed oil, 64 crates valves, for stock; and a miscellaneous cargo, the whole consisting of 1,985 packages, weighing approximately 163 tons.

Prinz Eitel Friedrich, June 23, from New York, with 87 bundles reinforcing rods, for Division of Terminal Construction.

Harry T. Inge, June 19, from Galveston, with 296,840 board feet yellow pine lumber, for stock; 176,590 board feet yellow pine lumber, creosoted, for Fortification Division.

Novian, June 23, from Liverpool, with 155 barrels carbolic acid, for stock.

Invergyle, June 23, from Gulfport, with 365,411 board feet yellow pine lumber, 40 cases benzine, for stock.

Olaf, June 23, from Fernandina, with 9,091 board feet cypress lumber, 1,810,512 board feet yellow pine lumber, for stock.

Heredia, June 24, from New Orleans, with 106 barrels paving brick, for Panama railroad; 953 crates fire brick, for stock.

Metapan, June 24, from New York, with 550 pieces Natco tile, for permanent buildings; 24 packages electrical material, for Mechanical Division; 100 pieces angles, 48 pieces beams, for stock.

Atenas, June 25, from New Orleans, with 45,393 board feet yellow pine lumber, 12,509 board feet oak lumber, for Mechanical Division; 39 reels cable, for Panama Railroad Company; 100 pieces piling, untreated, 517 bales straw, for stock.

Carisbrook, June 26, from Gulfport, with 33 pieces piling, untreated, for Division of Terminal Construction; 396 pieces piling, untreated, for stock.

Pastores, June 26, from New York, with 27 packages structural material, 17 packages lighting fixtures, for Fortification Division; 350 kegs paint, 60 kegs zinc oxide, 22 bundles conduit pipe, 200 pieces conduit pipe, for stock.

Allianca, June 26, from New York, with 135 rolls asphalt felt, 50 cases woodwork, 153 cases marble 25 barrels pitch, 107 barrels enameled brick, for permanent buildings; 15 boxes glass shades, 48 dry kiln trucks, 109 packages toilet fixtures, for Mechanical Division; 60 cases machinery, four skids, for Fortification Division; four fender chains, for Division of Erection; 35 barrels alcohol, 16 cases brass rods, 300 kegs nails, 46 boxes 69 kegs bolts, 20 kegs rivets, 50 boxes washers, 22 cases batteries, 10,000 pieces fibre conduit pipe, for stock; and a miscellaneous cargo, the whole consisting of 11,847 packages, weighing approximately 286 tons.

MOVEMENTS OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

		Sails.	Arrives.
NEW YORK TO CRISTOBAL.			
*Colon	P. R. R.	June 27	July 3
*Advance	P. R. R.	July 3	July 10
*Panama	P. R. R.	July 10	July 16
*Allianca	P. R. R.	July 16	July 22
*Colon	P. R. R.	July 22	July 28
*Advance	P. R. R.	July 28	Aug. 4
CRISTOBAL TO NEW YORK.			
†Allianca	P. R. R.	July 3	July 9
†Colon	P. R. R.	July 10	July 16
†Advance	P. R. R.	July 15	July 22
†Panama	P. R. R.	July 22	July 28
†Allianca	P. R. R.	July 28	Aug. 3
†Colon	P. R. R.	Aug. 3	Aug. 9
†Advance	P. R. R.	Aug. 10	Aug. 17
NEW YORK TO COLON.			
*Zacapa	U. F. C.	June 24	July 1
Tenadores	U. F. C.	June 27	July 3
Prinz Sigismund	H.-A.	June 27	July 7
*Almirante	U. F. C.	July 1	July 8
*Calamares	U. F. C.	July 4	July 10
Oruba	R. M.	July 4	July 12
Prinz Joachim	H.-A.	July 4	July 13
*Santa Marta	U. F. C.	July 8	July 15
*Pastores	U. F. C.	July 11	July 17
Prinz Eitel Friedrich	H.-A.	July 11	July 21
Metapan	U. F. C.	July 15	July 22
*Tenadores	U. F. C.	July 19	July 24
Trent	R. M.	July 18	July 26
Prinz August Wilhelm	H.-A.	July 18	July 27
Zacapa	U. F. C.	July 22	July 29
*Calamares	U. F. C.	July 25	July 31
Prinz Sigusmund	H.-A.	July 25	Aug. 4
Almirante	U. F. C.	July 29	Aug. 5
*Pastores	U. F. C.	Aug. 1	Aug. 7
Orotava	R. M.	Aug. 1	Aug. 9
COLON TO NEW YORK.			
†Pastores	U. F. C.	July 1	July 7
Metapan	U. F. C.	July 2	July 9
Prinz August Wilhelm	H.-A.	July 7	July 15
Trent	R. M.	July 7	July 15
†Tenadores	U. F. C.	July 8	July 14
Zacapa	U. F. C.	July 9	July 16
Prinz Sigismund	H.-A.	July 12	July 21
†Calamares	U. F. C.	July 15	July 21
Almirante	U. F. C.	July 16	July 23
Prinz Joachim	H.-A.	July 21	July 29
Orotava	R. M.	July 21	July 29
Pastores	U. F. C.	July 22	July 28
Santa Marta	U. F. C.	July 23	July 30
Prinz Eitel Friedrich	H.-A.	July 26	Aug. 4
†Tenadores	U. F. C.	July 29	Aug. 4
Metapan	U. F. C.	July 30	Aug. 6
Prinz August Wilhelm	H.-A.	Aug. 4	Aug. 12
Danube	R. M.	Aug. 4	Aug. 12
†Calamares	U. F. C.	Aug. 5	Aug. 11
Zacapa	U. F. C.	Aug. 6	Aug. 13
NEW ORLEANS TO COLON.			
Parismina	U. F. C.	June 24	July 1
*Turrialba	U. F. C.	June 27	July 2
Cartago	U. F. C.	July 1	July 8
*Abangarez	U. F. C.	July 4	July 9
Heredia	U. F. C.	July 8	July 15
*Atenas	U. F. C.	July 11	July 16
COLON TO NEW ORLEANS.			
‡Atenas	U. F. C.	July 2	July 7
Parismina	U. F. C.	July 2	July 9
‡Turrialba	U. F. C.	July 9	July 14
Cartago	U. F. C.	July 9	July 16
‡Abangarez	U. F. C.	July 16	July 21
Heredia	U. F. C.	July 16	July 23

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alahama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Piers 8, 9, and 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays at 3 p.m., for New Orleans, via Bocas del Toro and Havana, on Thursdays at 4 p.m.; for New York direct, on Wednesdays at 2 p. m.; ships for New York, via Kingston, on Thursdays at 2 p. m.; for Limon and Bocas del Toro on Saturdays at 4 p. m.; and for Limon direct on Saturdays at 5 p. m.

The Hamburg-American steamers *Prinz Eitel Friedrich* and *Prinz Sigismund* sail for New York, via Kingston and Fortune Island, on Sundays at 2 p.m.; the *Prinz August Wilhelm* and *Prinz Joachim* sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays at 10 a. m.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, JULY 8, 1914. No. 46.

The Canal Record

Official publication of The Panama Canal.

The Canal Record is published weekly free of charge, one copy each, to all employes of The Panama Canal and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Temporary Arrangement for Supplying Coal to Vessels Using the Canal.

In order to supply coal to vessels using the Canal before the permanent coaling plants at the terminals are ready for service, the Panama Railroad Company is constructing a temporary wharf at the north end of Dock 13, Cristobal. The coal will be chuted from dump cars into lighters, as is done at the Dredging Division's coal wharf at Paraiso, and the lighters will be towed alongside the ships, which will coal by means of their own tackle. The dump cars will be loaded by the Brown hoist alongside the approach to the Mount Hope dry dock. It is estimated that 40,000 tons a month can be supplied to shipping without interfering with the supply for the Canal and the railroad.

The coal wharf will be 56 feet wide by 150 feet long, and will be reached by a 300-foot trestle, running from the end of Dock 13 to deep water in the French canal. The wharf will be built on new piles, with its superstructure of second-hand lumber taken from storage; the approach trestle will be of second-hand lumber, and will use piles recovered from the former bridge No. 57½, crossing the Canal at Paraiso. The total estimated cost is $13,553.98.

◆

Progress on Cristobal Terminals.

Dock No. 9 at Cristobal was completed in the afternoon of July 7, when the last smoothing work was done on the interior of the five south bays.

The work begun on June 5, of driving the first of a series of four trestles to extend from the Cristobal terminal mole over the site of the proposed additional pier No. 7, in preparation for the sinking of caissons, has been advanced at an average rate of five bents per working day. To the evening of July 7, about 25 per cent of the required total of 4,800 feet of trestle had been driven.

The last of the roof trusses for the adjoining new dock, No. 10, were placed at its east end, adjoining the end of Pier 11, on May 29, and it is expected that this structure will be completed about August 1. The roof for No. 10 was completed on June 27. The walls along the water side of the wharf and on the land side have been built, and are being finished off. The erection of the unloader masts along the face of the wharf was begun as soon as the locomotive crane, which had been used in lifting the roof trusses to their places, could be spared, and has been completed. The remaining work includes erecting and painting 11 steel doors, 90 per cent of the concrete protection for the roof trusses, waterproofing the roof, laying 2,900 square yards of paving, and placing 50 fender piles.

◆

Restoration of Automatic Signals.

Automatic signals Nos. 812, 857, 934, and 995, on the main line of the Panama railroad between Quebrancha siding and Gatun, were restored to service on Thursday, July 2. They had been out of service since 3 a. m., on June 24, at which time they were demolished by the beams of a piledriver which swung loose while in transit in a northbound extra freight train.

◆

Work of American Dipper Dredges.

A comparison of the work of the American dipper dredges *Chagres*, *Mindi*, and *Cardenas*, for the first five months of this year, with similar periods for the years 1911, 1912, and 1913, shows that the output of the two first mentioned dredges so far in 1914 has been increased very materially, notwithstanding the fact that this year these dredges have been working on an 8-hour shift, instead of on a 10-hour shift, as formerly. The dredge *Cardenas* made a high record for the first five months in 1911, but fell off in 1912 and 1913; the output for the first five months in 1914 was only 49,939 cubic yards less than in 1911. The *Chagres* and *Mindi* were operated up to April 1 by the same crews that operated them on the Atlantic side. The record of the three dredges for the first five months periods for the years abovementioned is, as follows:

Dredge.	*1911.*	*1912.*	*1913.*	*1914.*
	Cu. Yds.	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
Chagres	179,253	167,947	193,336	290,996
Mindi	141,409	117,712	100,856	247,502
Cardenas	323,765	1'1,171*	*93,104	273,826

**Cardenas* on single shift 1912 and 1913.

The increased output for each of the dredges for the first five months of 1914 over the mean output of the first five months periods of the years 1911, 1912, and 1913, was:

Dredge.	*Mean of three years.*	*1914.*	*Per cent increase.*
	Cu. Yds.	*Cu. Yds.*	
Chagres	180,179	290,996	61.5
Mindi	119,992	247,502	106.3
Cardenas	250,772*	273,826	9.2

* In computing this mean the actual figures for 1912 and 1913 have been doubled to reduce to an equivalent 2-shift basis.

The percentage of increase or decrease in output shown by each of the dredges for the five months of 1914, as compared with the highest output for the first five months of the previous three years is, as follows:

Dredge.	*Previous high year.*	*1914.*	*Per cent increase.*	*Per cent decrease.*
	Cu. Yds.	*Cu. Yds.*		
Chagres .	193,336 (1913)	290,996	50.5	....
Mindi ..	141,409 (1911)	247,502	75.0	....
Cardenas	323,765 (1911)	273,826	....	15.4

The dipper dredge *Chagres* was built by the Atlantic, Gulf, and Pacific Company at a cost of $102,500, and was delivered on the Isthmus on February 10, 1908. Its twin, the dipper dredge *Cardenas*, was built under the same contract. Its length is 110 feet, breadth, 38 feet, depth 11 feet, and it is equipped with a 5-yard dipper to dig to 45 feet. The *Mindi* was constructed by the Featherstone Foundry and Machine Company at a cost of $100,000, and was delivered on the Isthmus on December 2, 1907. It is of the same capacity, and its specifications vary but little from the *Chagres*. With the exception of time off for necessary repairs, the *Chagres* and the *Mindi* were in continuous service on the Atlantic side up to October 22, 1913, when they were transferred to the Culebra Cut section.

The *Cardenas* was transferred to Culebra Cut from the Pacific entrance on December 15, 1913.

◆

Extension to Panama Tramways Completed.

The extension of the Panama tramway system from a point near the East Balboa commissary to the Panama railroad steel pier at Balboa was completed and turned over to the street railway company by the contractor, R. W. Hebard and Company, Incorporated, on Thursday, June 15. Street cars were operated over the extension for the first time on the following day, but until the improvement work on the continuation of B street, which necessitates the transfer of passengers, is completed, the company will not be able to maintain a regular schedule. The original contract covered the construction of the line to the Panama railroad wharves, but owing to delays, due principally to the crossing of the railroad tracks, between East Balboa and the wharves, it was terminated, and a supplemental contract was entered into later, covering the extension. The work performed by the contractor under this supplemental contract included the laying of 4,800 feet of route, 3,700 feet of which was double track, and the installation of seven crossovers. The crossovers were made by a Cincinnati firm from a special design furnished by the contractor, and were placed, as follows: Four where the line crosses The Panama Canal tracks to the East Balboa dump; one near the La Boca silver camp, where there is a temporary railroad track for delivering cars loaded with building materials for the houses to be erected in that settlement; and two west of the La Boca silver commissary, where The Panama Canal tracks extend out over the Naos Island breakwater. All of the railroad tracks, with the exception of the two last mentioned, will probably be removed in time. The tramway extension, in general, parallels the front street in the silver settlement, and this part of the line is double-tracked, with the trolley poles in the space between the two tracks. The double track ends near the silver commissary, and the single track at the office of the Pacific Steam Navigation Company.

The above work completes the system as orginally planned, but it is proposed to double-track all of the line outside of city limits later. Furthermore, the abandonment of the old Panama railroad wharves at Balboa will, in time, cause a change in the present route after it leaves the silver commissary, in order to serve the new docks, shops, and the Balboa townsite. The system now comprises a little over 10 miles of trackage. The steepest grade on the entire line is on East Thirteenth street, where it is 7.4 per cent; the steepest grade on the new extension is that between the silver commissary and the wharves, which approximates four per cent. The total construction cost of the system to date is about $500,000.

Anticipating an increase in business due to the extension of the line, and to the continued building up of the eastern part of the city, the tramways company ordered seven additional cars recently, which, when received, will make a total of 23 in the service. To date, all of the new cars have arrived, and most of them have been placed in operation. The added equipment will permit the company to operate its cars on a more frequent schedule. On the Balboa line, it is proposed to run a car to the wharves every nine minutes. Effective Saturday, July 11, cars will be operated from Ancon to Balboa, and from the National Palace to Bella Vista and Las Sabanas, instead of from the National Palace to Ancon, and Balboa to Bella Vista, and Las Sabanas, as at present. This change, it is announced, will be permanent.

The entire electrical equipment, as well as the trucks of the 15 original passenger cars, is being replaced by equipment similar to that on the new cars. It is expected to have all changes completed by August 1. The traffic shows a considerable fluctuation; it is greatest during the week following the Canal pay day, and smallest toward the end of the month. The traffic on the Balboa line is the most important at present, and is steadily increasing. The largest number of passengers carried on any one day to date is 15,000, on Sunday, April 12. The greatest number of 5-cent fares collected during any one day to date is 19,500; this was on April 12, also.

Rates on United Fruit Company's Vessels.

The United Fruit Company advises that, effective June 15, the rate via direct line sailing Wednesdays from Colon to New York will be $56.25, without meals, in staterooms without bath. The rates for children via all of their lines, will be half fare for children three to 12 years of age; one child under three years, not occupying berth in stateroom or seat at table, free; each additional child under three years, half fare.

An old spearhead has been found by A. M. Butcher of Gatun embedded at a depth of about 15 feet in the spillway channel. It was turned over by him to the Governor's office for preservation with other relics of the Canal.

Area Along Velasquez River to be Vacated.

A settlement has been effected with the squatters on property along the Velasquez River, west of the Canal and north of Balboa, and the houses in this area will be destroyed. The port of Cochinito is within this territory, and in view of the fact that the two or three houses there are desired for use by the people of Arraijan for storing supplies and building materials in going to and returning from Panama, permission has been granted by the Governor to retain them until further notice.

PERSONAL.

Lieut C. W. Fisher, Jr., U. S. N., formerly superintendent of erection in the Mechanical Division, has been transferred for duty in the United States, and sailed for New York on the *Panama* on Sunday, June 28, accompanied by Mrs. Fisher, and his mother-in-law, Mrs. M. S. Gielow.

Mr. W. M. Baxter, Jr., who has been in the Canal service since March, 1911, and who has been employed jointly by The Panama Canal and the Panama Railroad Company since February, 1912, as the official guide and lecturer for parties visiting the Canal, resigned, effective June 15, to enter the employ to The L. E. Myers Construction Company of Chicago, who are building, on a large scale, a complete working model of The Panama Canal, as an exhibit at the International Panama-Pacific Exposition at San Franscico. Mr. Baxter will remain on the Isthmus for one or two months longer collecting data for the exhibit, and will then report to the company's office to assist further in working up the plans.

Civil Service Examination.

Examination will be held, probably on July 26, for the position of mechanical draftsman in The Panama Canal Service. Applications will not be received after July 13; this date may be changed if necessary. The place and date of examination should be omitted in application forms. A card of admission will be sent to those found eligible to be admitted, just before the examination.

ISTHMIAN CIVIL SERVICE BOARD.
CULEBRA, C. Z., July 7, 1914.

Missing Men.

Any one having information regarding the present whereabouts of Mr. Edmund A. Robins, who is supposed to be on the Isthmus of Panama, is requested to communicate with the American Legation, Panama.

Any one having information regarding the whereabouts of Mr. John J. Fox, who is supposed to be on the Isthmus of Panama, is requested to communicate with Mrs. Lena J. Fox, No. 488 Spring street, Buffalo, N. Y.

Independent Order of Odd Fellows.

The sovereign grand sire of the Independent Order of Odd Fellows has approved the transfer of the meeting place of Gatun lodge, No. 5, from Gatun to Cristobal. The regular meetings will be held on Friday of each week, in the lodge hall, building No. 1, Cristobal. On Friday evening, July 17, the installation of officers for the second term of 1914 will take place. All Odd Fellows on the Isthmus are invited to attend. Refreshments will be served after the meeting.

Obituary.

Gordon, the infant son of Mr. and Mrs. John Baty of Ancon, died in Ancon Hospital on July 3, aged six months.

Order of Railroad Telegraphers.

There will be a regular meeting of Panama Railroad Division, No. 158, Order of Railroad Telegraphers, on Saturday, July 11, at Moose Hall, Hotel Normandie, Panama, at 8 p. m., All operators are requested to attend.

JOHN F. STAHL,
Secretary-Treasurer.

Cristobal Dancing Club.

The Cristobal Dancing Club will hold a "Hard time dance" on Saturday, July 11. All members are requested to dress accordingly.

Pedro Miguel Dancing Club.

The Pedro Miguel Dancing Club will hold its first dance for July at the Pedro Miguel clubhouse, on Saturday evening, July 11.

GEORGE B. WARD, *Acting Secretary.*
PARAISO, C. Z., July 7, 1914.

Permission has been granted the inhabitants of the native village of Chagres, situated on right or eastern bank of the river of that name, near the ruins of Fort San Lorenzo, to cross the locks at Gatun, and carry on their customary trading with Colon.

LOST—In the ladies' retiring room (on wash stand) aboard the Panama railroad steamship *Colon* at Cristobal on the afternoon of July 4. about 2.45 o'clock, two diamond rings, one, a 1-k, in Tiffany mounting, the other, a ⅛-k. flower mounting; and one wedding ring (Tiffany) with the following inscription: "F. P. H. to E. C. H., May 19, '13." The sum of $50, United States currency, will be given to the finder if the rings are returned to Mrs. F. P. Hall, Gatun, C. Z.

Estates Being Settled.

The following estates of deceased or insane employes of The Panama Canal or the Panama Railroad Company are now in process of settlement by this office, and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings or postal money order deposits, or any other moneys due them, should be presented at this office at once, in order that the estate may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once:

DECEASED EMPLOYES.

Name.	*Check No.*	*Native of*	*Isthmian residence.*	*Employed by*	*Date of death.*
Samuel Bailey	86605	Panama	Colon	P. R. R.	June 26.
Rogelio Moreno	29296	Colombia	Panama	Mun. Eng. Div.	June 28.
Leonidas Segura	18588	Peru	Panama	First Division	June 26.

THE 1914 FOURTH OF JULY.

Over 5,000 People at Celebration at Cristobal—Result of Contests.

The celebration of the Fourth of July at Cristobal by The Panama Canal force was carried out according to program. The day was pleasant up to about 3.30 p. m., when rain began to fall. By that time, however, all of the aquatic and field events had been held, with the exception of the children's races, which were transferred to the interior of Dock 9. Roosevelt avenue, the fire station, the police station, the United Fruit Company's new building, and Dock 9 were appropriately decorated with flags and bunting; many of the places of business along Front street in Colon had special displays, and some of the automobiles and carriages were half hidden in the national colors. A decorated arch formed the entrance to the dock enclosure. At night, the varicolored electric lights strung along Roosevelt avenue were quite effective.

The conveniences provided for the visitors were unusually complete. No conveyances were permitted to pass on Roosevelt avenue, and boy scouts and policemen guarded the entrance. Boy scouts distributed programs and furnished information on request. A parcel room was maintained in the United Fruit Company's building in charge of men of the Tenth Infentry, and rest rooms were provided for the women and children. Dock 9 was used for the patriotic exercises, for the distribution of lunches, and for dancing in the afternoon and evening. The crowding which characterized the lunch hours at former celebrations was to a large measure eliminated by the erection of stands separated by narrow passageways through which people were required to walk in single file. As they passed through they were handed the ready prepared lunches, and afterward walked down the dock to another booth where ice cream cones were served. The lunch consisted of two kinds of sandwiches wrapped in oil paper, an apple, also wrapped, and a tin cup of coffee. Each package of sandwiches contained an ice cream ticket. The food supply was ample, and every applicant entitled to the privilege was served.

The total number of 25-cent special excursion tickets sold by the Panama railroad during the day was 4,334.

PATRIOTIC EXERCISES.

The patriotic exercises took place at 11.30 a. m. A speakers' platform had been erected at the east end of Dock 9, and to the right were several tiers of seats reserved for the schoolchildren who took part in the choral singing. Directly in front of the speakers' stand were seated the members of the Tenth Infantry band, and to the left, the members of the Colon municipal and Republican National bands. Among the invited guests who occupied chairs on the platform were President Belisario Porras of Panama, and Mrs. Porras. The Declaration of Independence was read by Judge William H. Jackson, and the address was made by the Hon. William Jennings Price, United States Minister to Panama. The Panama National Hymn was sung by the schoolchildren (words from an English translation), accompanied by the Republican National Band, followed by the "Star Spangled Banner," accompanied by the Tenth Infantry Band. An original selection entitled "Panama, My Panama," and fitted to the air of "Maryland, My Maryland," written by C. C. Brown, was also sung by the schoolchildren.

ATHLETIC EVENTS.

The official results in the field meet were, as follows:

100-yard dash—First, Levy, Cristobal; second, Hoff, Balboa; third, Lichtner, Coast Artillery. Time, 10 4/5 seconds.

Shot put—First, Riddle, Coast Artillery; second, Del Valle, Coast Artillery; third, Neeson, Cristobal. Distance, 40 feet 10 inches.

880-yard dash—First, Hulsebosch, Balboa; second, Russell, Cristobal; third, Simka, Balboa. Time, two minutes 3 1/5 seconds.

Running high jump—First, Rodriguez, Panama; second, Robinson, Balboa; third, Rose, Culebra. Height five feet six and one quarter inches.

**Boys' 75-yard dash*—First, Pratt, Cristobal, second, Minot Cotton, Cristobal; third, Billett, Cristobal. Time, 8 3/5 seconds.

440-yard dash—First, Anderson. Cristobal; second, Hulsebosch, Balboa; third, Simka, Balboa. Time, 58 1/5 seconds.

Pole vault—First, Rose, Culebra; second, DeCora, Culebra; third, Godwin, Gatun. Height, nine feet nine inches.

**Wall scaling contest*—Won by Tenth Infantry. Time, 19 seconds. Second. Coast Artillery, Time, 25 seconds.

**Tug of war*—First, Coast Artillery; second, Tenth Infantry; third, Gatun.

220-yard dash—First, Hoff, Balboa; second, Levy, Cristobal; third, Quinn, Cristobal. Time, 24 2/5 seconds.

100-yard low hurdles—First, Quinn, Cristobal; second, Stamm, Gatun; third, McEwen, Balboa. Time, 15 3/5 seconds.

**Potato race*—First, Chute, Coast Artillery; second, Farrell, Cristobal; third, Engelke, Empire. Time, 38 seconds.

**Exhibition fire drill, hose laying and coupling contest*—Cristobal won from Empire. Time, one minute nine seconds.

**Three-legged race*—First, Bouche and Weiss, Gatun, second, Golden and Duncan, Culebra-Empire; third, Fraser and Farrell, Cristobal. Time, seven and four-fifths seconds.

**Boys 75-yard relay*—First, Pedro Miguel; second, Cristobal.

One mile relay—First, Coast Artillery; second, Corozal; third, Balboa. Time, four minutes five and one fifth seconds.

Running broad jump—First, Godwin, Gatun; second, Dwelle, Corozal; third, Hoff, Balboa. Distance, 17 feet nine inches.

*Special events. Entrants in regular events were not allowed in special events.

Balboa won first place with 24 points in the regular track and field events, and Cristobal was second, with 23 points.

AQUATIC EVENTS.

The official results were:

Gasoline boat race—First, *Dixie*; second, *Psyche*.

Lifeboat race—First, *Leonidas* crew; second, *Hannibal* crew.

Sailing canoe race—First, L. Foote and A. Paulsen.

Gasoline boat race—First, *Vedette*.

Paddling canoe race—First, N. Kaunitz and W. L. Stone; second, J. C. Moons and T. A. Aanstoos; third, W. C. Gardner and L. Foote.

50-yard swimming dash for men—First, D. E. Simons; second, W. A. Fraser, third, B. Alvine.

50-yard swimming race for women—First, Miss M. Stevens; second, Miss D. Hill; third, Miss B. Compton.

50-yard swimming race for boys under 16—First, H. Wardlaw; second, E. L. Green; third, S. McKeown.

50-yard tub race—First, W. Frazer; second, M. Hollowell.

880-yard swimming race for men—First, J. W. Green; second, E. L. Green; third, W. Frazer.

Greased spar contest—First, W. Lillycrop.

60-foot form dive—First, R. Nelson, second, D. V. Raymond; third, J. S. Williams.

One mile swimming race for men—First, F. Hansman; second, J. H. Clayton; third, H. W. Porter.

Fancy diving contest—First, R. Nelson; second, J. A. Hanson; third, S. D. Rousseau.

Aquatic wrestling match—Protested.

100-yard swimming race for men—First, D. Simons; second, P. Simons; third, J. C. Russell.

440-yard swimming race for men—First, J. Bingaman; second, J. Hansen; third, A. Mitchell.

Relay swimming race for men—First, E. L. Green, J. Bingaman, W. Green, and W. A. Frazer.

CHILDREN'S RACES.

The children's races, on account of rain, took place in the east end of Dock 9; one side of the dock floor was kept cleared for the purpose. The participants evinced considerable interest in the meet, and in view of the short time for practice some good records were made. The winners of first place received a blue badge, second place, a red badge, and third place, a white badge. Each badge bore in addition to a representation of the United States flag, the words "Cristobal, C. Z., Fourth of July celebration, 1914.....(first, second, or third) prize, schoolchildren's athletic meet." The results in the several events were, as follows:

75-pound boys' 60-yard dash—Frank Raymond, Cristobal, first; L. Davis, Cristobal, second; Geo. Smallwood, Ancon, third.

90-pound boys' 75-yard dash—L. Appleton, Cristobal, first; Alson Seers, Cristobal, second; Hugh Sargent, Corozal, third.

110-pound boys' 75-yard dash—S. Engelke, Empire, first; S. McKeown, Cristobal, second; Selkirk Ellenwood, Corozal, third.

130-pound boys' 75-yard dash—J. Loulan, Gatun, first; R. Billett, Cristobal, second; R. Penman, Corozal, third.

75-pound boys' 300-yard relay—Cristobal, first; Empire, second; Corozal, third.

90-pound boys' 300-yard relay—Empire, first; Cristobal, second.

75-pound girls' 50-yard dash—Hazel Mitchell, Corozal, first; May Brugge, Cristobal, second; Helen Huber, Empire, third.

90-pound girls' 50-yard dash—A. Appleton, Cristobal, first; S. Allen, Cristobal, second; J. Wardlaw, Cristobal, third.

110-pound girls' 60-yard dash—B. Glawson, Cristobal, first; R. Farrel, Cristobal, second; M. McKeown, Cristobal, third.

90-pound girls' relay—Cristobal, first; Corozal, second; Empire, third.

110-pound girls' relay—Cristobal, first; Empire, second.

On the basis of points, three for first place, two for second, and one for third, the standing of the towns is, as follows: Cristobal, 42; Corozal, 14; Empire, 12; Gatun, three; Ancon, two.

TENNIS TOURNAMENT.

The results in the tennis tournament held at Cristobal on the Fourth were, as follows:

Finals in doubles—Fechtig and Snyder defeated Smith and Hart, 6–0; 6–2.

Consolation doubles—Shropshire and Ohlson defeated Wechsler and Russell, 6–1; 6–2.

The finals in singles will be played on the Ancon court, on Sunday, July 12.

MISCELLANEOUS EVENTS.

One of the most interesting features of the day's program was the submersion of submarine C–1 in the slip between Dock 9 and Pier 8. The vessel submerged twice, the operation each time consuming only a few minutes.

The fireworks display was held on Pier 8, and had proceeded for about half an hour, when a spark set off a pile of unexploded fireworks inside the dock, causing a blaze which brought out the Cristobal fire department. The fire was extinguished within a short time, and the loss was confined principally to the fireworks and to some canvas and rope belonging to the dock.

The dancing pavilion at the outer end of Dock 9 was well filled at night, both with dancers and spectators. Hundreds of Japanese lanterns were suspended from the ceiling which added effectively to the scene.

Married.

BECKSTED-BROWN—On Monday, July 6, 1914, at the home of Mrs. H. P. Warrick, Cristobal, Miss Gladys Ada Brown of Black River, N. Y., to Mr. Lorne Becksted of Waterloo, N. Y. Canal Zone residence, Cristobal.

FOUND—One watch, chain, and fob. Owner can have same upon proper identification at police and fire headquarters, Ancon.

POWDER MAGAZINE EXPLODES.

Stock of Explosives at Mindi Amounting to Nearly Half a Million Pounds Totally Destroyed.

The Mindi powder and dynamite magazine maintained by the Supply Department, under the direction of the Depot Quartermaster at Mount Hope, situated at a point near the Gatun–Colon wagon road, about five miles from Colon and two miles from Gatun, was destroyed by an explosion at 9.20 a. m., on Sunday, July 5, together with its contents, consisting of 435,525 pounds of dynamite, and 15,394 pounds of Trojan powder.

The day watchman, a West Indian named Gilbert Wint, was instantly killed, and his body was found shortly after the accident lying in the bush about 72 paces distant from the magazine. The family of the night watchman, a West Indian named James Richards, consisting of himself, wife, and seven children, who lived in a small house about 300 yards south of the magazine, escaped with slight injuries. The magazine was entirely demolished, a wall of the detonator house, situated about 150 feet distant, was drawn out, allowing a part of the roof to fall in, while the watchman's house was completely wrecked.

An investigation made by the Zone police authorities shows that Arturo Richards, a young son of the night watchman, noticed smoke rising over the crest of the hill nearest the magazine a few minutes before the explosion. He at once notified his father, who, with all the other members of the family then in the house, started for a place of safety, The elder Richards was the nearest to the magazine when the explosion occurred, and, although thrown to the ground, escaped with a severe shaking up. One of the children, a little girl, had her arm bruised, and was subsequently removed to Colon Hospital. The day watchman, who lived with the Richards family, went on duty at 6 a. m. He returned later for his morning meal, but was seen by no one after he returned to his work again. The night watchman had been in the Canal service as a powderman for over seven years; the day watchman was a comparatively new man at the work.

The shock was strongly felt in Mount Hope, Colon, Gatun, and contiguous territory; and some damage, consisting of broken window glass, etc., was caused. In the vicinity of the magazine, vegetation was shorn off close to the ground, and trees of considerable size were broken down. The blast tore a large hole in the earth where the magazine stood, and deposited the material from it, and from the adjoining side of the hill, in a huge mound in front, 12 to 15 feet in height. The bed of the Mindi River nearby was filled to a height of from 10 to 12 feet, the barrier completely damming the stream and causing it to seek a new course. Considerable animal life within a radius of several hundred yards was destroyed, as evidenced by the carcasses of deer, iguanas, etc., found by the people who visited the scene.

Upon the first alarm, the Chief of the Division of Police and Fire Protection despatched the automobile from the Cristobal fire station to be on hand in case of need. Police from the Gatun station left at once to render any aid that might be required. The Depot Quartermaster procured a locomotive and a flat car which was run over the main line and the powder house spur to the scene.

The greater part of the stock of powder and dynamite on hand in the magazine was received on the Isthmus on May 28. Since that time, it has been inspected at the intervals required by the regulations, and, in addition, readings of temperature have been taken daily. The explosion is thought to have been due to spontaneous combustion. A detailed statement of stock in the magazine is, as follows:

Class.	*Pounds.*
45 per cent dynamite, 1¼ x 8	210,875
60 per cent dynamite, 1¼ x 8	180,200
60 per cent dynamite, 2 x 8	44,450
45 per cent Trojan powder, 1¼ x 8	3,794
60 per cent Trojan powder, 1¼ x 8	11,600

The stock of caps and fuses in the detonator house were uninjured.

The magazine had been in use ever since October, 1908. The following description of it appeared in THE CANAL RECORD of October 21, 1908:

"The magazine is located one and one-half miles southwest of the Mindi spur, and is so surrounded by hills that an explosion would not seriously affect the nearby villages of Cristobal, Colon, Mount Hope, and Gatun. It is built into the hillside in such a manner that at the back and sides it is surrounded by earth. Hollow concrete blocks, 12 inches thick and bullet proof, have been used for the walls, and the roof is composed of concrete reinforced with old Belgian rails and waterproofed. The magazine is 112 feet long, 48 feet wide, and nine feet high inside. The concrete roof keeps the interior dry and cool. Ventilation has been provided by air flues which open under the roof. Six hundred thousand pounds of dynamite can be stored in the building. Near it, and yet so far away that an explosion in one would not affect the other, is a detonator house. It is 33 feet six inches long, 17 feet three inches wide, and 10 feet high inside. It is also built of concrete blocks, and has a ceiling of reinforced concrete, with a corrugated iron roof above it."

◆

Isthmian Sunday School Association.

The regular quarterly meeting of the Isthmian Sunday School Association will be held in the Union chapel, Cristobal, on Sunday, July 12, at 1.30 p. m. An appropriate program, with special music, is being prepared. Delegates will be present from the Zone Sunday schools, and all interested are invited to attend. Train leaves Panama at 11 a. m., and returns from Colon at 4.30 p. m.

◆

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending July 18, 1914:

DATE.	Low	High	Low	High
	A.M.	A.M.	P.M.	P.M
July 12	12.47	6.55	1.13	7.14
July 13	1.30	7.37	1 58	7.56
July 14	2.14	8.16	2 43	8.38
July 15	2.58	8 58	3.31	9.23
July 16	3.43	9.43	4.22	10.14
July 17	4.35	10.32	5.16	11.13
July 18	5.32	11.30	6.14	......

75th meridian time.

◆

Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes for the week ending midnight, Saturday, July 4, 1914. All heights are in feet above mean sealevel:

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela	Gamboa.	Gatun Lake.	Miraflores Lake.
Sun., June 28	125.75	92.20	84 88	84.90	53.71
Mon., June 29	125.75	92.25	84.96	84.98	53.70
Tues., June 30	136 90	99.95	85.01	85.02	53.42
Wed., July 1	128 20	94.49	84.77	84.85	53.41
Thurs., July 2	126 25	92.75	84.80	84.80	53.47
Fri., July 3	125.90	92.42	84.85	84.84	53.59
Sat., July 4	127.80	93.75	84.81	84.85	53.86
Height of low water to nearest foot	125.0	91.0			

LAUNDRIES CONSOLIDATED.

Operation of Ancon Hospital Laundry Under Supply Department From July 1.

The Ancon Hospital laundry was consolidated with the Cristobal laundry and placed under the supervision of the Supply Department on July 1. At the same time, the Hotel Tivoli laundry was discontinued. This arrangement had been under consideration for several months, and decision was made that it would be best to put all laundries under one management. Under the new plan, it is proposed to transfer all of the work formerly performed by the Hotel Tivoli laundry to the Ancon laundry, which takes over also all piece work of employes at Ancon, Balboa, and Corozal, and such flat work as may be required by Ancon Hospital. All other flat work, and piece work of employes in towns other than those abovementioned, is to be handled by the Cristobal laundry, as before.

The Ancon hospital laundry dates back to the French days, and was in use to some extent, and with inferior equipment, when the Canal property was taken over by the United States Government on May 4, 1904. On November 14, 1904, the linen room in the hospital, with its equipment, including clothes presses, tables, chairs, sewing machines, and smoothing irons, was moved to the laundry, and two of the nurses were placed in charge; girls from the orphanage were procured to perform the work.

It was early recognized that more modern machinery would be required, and in the latter part of 1904, a requisition was placed for new equipment. This order was shipped from the United States in January, 1905, but it was not until the following November that installation of the machinery by the old Department of Labor and Quarters was completed. The French used an old tubular boiler, which was subsequently displaced.

Prior to the introduction of the new machinery, and the reducing of the work to a systematic basis, the operation of the laundry was attended by numerous difficulties, chief among which were labor troubles. On September 28, 1904, the superintendent of the hospital was authorized to employ Chinamen to take the place of the native washerwomen, who had become careless in their work, and were dissatisfied at the wages paid them. Some difficulty was met with, however, in obtaining Chinamen, but, later, they were engaged to do the private work, while the hospital laundry was performed by other help. The wages of the Chinamen were first placed at $30, United States currency, a month, but not long afterward they refused to work for this amount, and were raised to $37.50 a month, and ultimately to $40 a month. With the installation of the new machinery, the services of the Chinamen were dispensed with, and native and West Indian woman labor was substituted, which practice has been followed since. Work for employes, outside of hospital and sanitary department employes, has been performed to some extent ever since 1904, but only through special permission of the head of the department. The work of the laundry steadily increased, and in one month in 1913, a total of over 288,000 pieces was handled.

◆

LOST—On road east of Gold Hill and north of Paraiso, a pocketbook containing a sum of money, Panama railroad steamer ticket to New York, and papers establishing the ownership of Lion Mason. Finder will please deliver to Colonel Hodges at Culebra and receive reward.

RECORD OF GATUN LAKE.

Proof of Capacity Given by Elevations During Season of Abnormally Small Run-off.

The past dry season was the first one during which Gatun and Miraflores Lakes were approximately at the operating level, thus exposing their maximum surface to the influence of evaporation. The records for the season are, therefore, indicative of what may be expected in the coming years of Canal operation.

The run-off from the watershed of Gatun Lake during the dry season, January to April, inclusive, amounted to 16,953 million cubic feet. This is 61 per cent of the normal dry season run-off, as determined by the average of 25 years of record. The lake was maintained at approximately normal elevation throughout the season. The total wastage of water through the spillway amounted to 4,854 million cubic feet. The amount consumed by lockages to and from the Atlantic entrance was 256 million cubic feet, and the amount of lockages, filling, tests, and pumping to and from Miraflores Lake was 581 million cubic feet. In addition, 137 million cubic feet were passed through the tunnel at Quebrancha divide for supply to Brazos Brook reservoir.

It is estimated that if none of the water had been allowed to pass out of the lake, except by evaporation, the run-off was sufficient to have raised the surface of the lake to 86.18 feet above sealevel.

Miraflores Lake watershed run-off amounted to nine million cubic feet, including negative yields, 21.33 million cubic feet, during February and March. The evaporation amounted to 81 million cubic feet. Except for water supplied to this lake from Gatun Lake, it would have fallen to an elevation of approximately 16 feet above sealevel, or 38.7 feet below its normal operating level, by April 30.

Miraflores Lake may always be kept at its operating level by water from Gatun Lake. To fill it completely from Gatun Lake would lower the latter 0.20 of a foot from an elevation of 85 above sealevel.

The record of the season of 1912, in which the run-off from Gatun Lake watershed was the smallest observed during the past 22 years, demonstrates its capacity for all the traffic that can be brought through the Canal.

Assuming that Gatun Lake was at elevation plus 87, at the beginning of the dry season on December 1, and that the hydroelectric plant at the Gatun Spillway was in continuous operation, and that 48 lockages a day were being made, the elevation of the lake would be reduced to its lowest point, plus 79.5, on May 7, at the close of the dry season, after which it would continuously rise. With the water at plus 79 in Gatun Lake there would be 39 feet of water in Culebra Cut, which would be ample for navigation.

The surface of Gatun Lake is to be, at the end of the rainy season, at 87 feet above sealevel, making the minimum channel depth in the lake and Cut 47 feet. As navigation can be carried on with about 39 feet of water, there will be stored, as a dry season surplus, over seven feet of water. Making due allowance for evaporation, seepage, leakage at the gates, and power consumption, this would be ample for 41 passages daily through the locks, using them at full length, or about 58 lockages a day when partial length is used, as would be usually the case, and when cross-filling from one lock to the other through the central wall is employed. This would be a larger number of lockages than would be possible in a single day.

The average number of lockages through the Sault Ste. Marie Canal, on the American side, was 41.7 per day in the season of navigation of 1912, which was about eight months long. The average number of ships passed was about 1½ per lockage. The total number of vessels was 14,916, registering 30,947,133 net tons. The Suez Canal passed 5,373 vessels in 1912, about 12 per day, with a total tonnage of 28,008,945, the largest of record; the number of vessels in the year 1913 was 5,085 and the total tonnage was 27,737,180.

JOINT LAND COMMISSION.

A Resolution.

The Joint Land Commission has adopted the following resolution:

WHEREAS, The United States of America and the Republic of Panama have adopted the following three rules for the guidance of the commissioners of the Joint Land Commission in the transaction of their business, namely:

1. The jurisdiction of the commission shall be invoked by petition of the claimant verified by his oath, or that of his agent, made before some officer authorized to administer oaths in the United States, the Republic of Panama, or the Canal Zone.
2. The commission may designate two of its members, one from each country, to make inspections and to take evidence, but the decision shall be based on all the evidence in the case and shall be made only by the commission, and in every case the commission shall, upon the request of either party, grant a full and free hearing.
3. Claims not presented to the commission within six calendar months after it resumes its sessions at Panama shall be barred, unless the commission shall, for exceptional reasons, extend the time three months in a particular case.

WHEREFORE BE IT RESOLVED that the secretary of this commission be and he is hereby instructed to enter the said rules of record as part of the rules for the government of the commission in the adjustment of all claims coming before it.

These rules were negotiated between the Department of State at Washington and the Panamanian Minister to the United States, and were accepted by the two governments, and the Joint Land Commission advised of that fact.

The Joint Land Commission resumed its sessions on May 25, 1914, and in consequence, the bar of limitation prescribed by rule No. 3 begins to run on that date.

Rule of Dismissal.

The following rule of dismissal, No. 128, was issued from the office of the Joint Land Commission at Ancon, C. Z., on July 2:

In the matter of sundry claims—With reference to the claims for improvements of the persons hereinafter named, the evidence before the Commission is that they have made settlements with the United States for their houses and other improvements. The names of such persons, their docket numbers, the tax numbers (where stated) of the houses included in the settlements, and their locations follow:

Docket No.	Name.	Vou. No.	Tax No.	Locality.
546	Aguilar, José	3230	.....	Juan Mina.
1145	Aguirre, Julian	3233	.....	Quebrado Ancho.
569	Allen, Clifford	3803	468	Matachin.
65	Allison, Jno. Hy	3402	1721	Matachin.
1660	Arispe, Juan	2767	.....	Near Gorgona.
904	Arispe, Juan	2767	.....	Santa Rosa.
1079	Arispe, Juan	1699	301	Cruces.
1229	Barela, Daniel	3316	.....	Lake area.
1118	Barrio, Juanita	289	.....	Caño Quebrado.
735	Blackwood, John	1203	219	Gamboa.
629	Barrios, Pedro	2334	.....	Matachin.
490	Barios, Gregorio	3231	....	Juan Mina.
976	Budreu, Julio	1921	927	Dos Hermanas.
641	Cabeza, Santo	2957	440	Matachin.
1224	Cerezo, Gregorio	4891	.....	Monte Lirio.
439	Cerezo, Aquilino	4914	.....	Monte Lirio.
645	Chico, José	2952	356	Matachin.
1626	Chico, José	2952	.....	Matachin.
979	Chifunda, Martin	1052	.....	Guarapo.
209	Conte, Rosendo	576	.....	El Guineal.
1680	Diaz, Mariana	4720	1120	Juan Grande. (Dump 7).
1661	Dominguez, Juan	3247	.....	Las Delicias.
655	Ellis, Eustache	1012	270	Matachin.
548	Estrada, Julian, Jr.	3228	.....	Juan Mina.
547	Estrada, Cruz	3248	.....	Juan Mina.
545	Estrada, Lino	3241	.....	Juan Mina.
1703	Fenton, Alice	353	2087	Near Gamboa.
1446	Fonoroso, Doxiri (Feraux, Doxirie)	20186	43	Near Frij'les.
1112	Fernandez, Ignacio	3249	....	Near Matachin.
658	Gomez, Candelaria	2834	427	Matachin.
660	Gonzales, Vicente	2954	447	Matachin.
911	Gutierrez, Manuel	3242	1797	Topeka and Carabali watershed.
479	Herron, John D	1501	1610	Palmito.
1415	Herron, John D	1501	214	Gamboa.
513	Jones, Francis	470	537	Bas Matachin.
72	Julian, Felix	192	604 605	Bas Matachin.
125	De Leon, Lorencio	3237	.....	Monte Lirio.
455	De Leon, Lorenzo, Jr	3038	.....	Near Monte Lirio.
544	Masa, Miguel	3229	.....	Juan Mina.
1050	Mindieta, Thomas	2336	.....	Aguardiento Adentro.
1350	Montesa, Patricia	1056	921	Torno Sabalo
1161	Moreno, Justo	2955	531	Matachin.
949	Montenegro, Juan P. Montenegro, Juan B.	4327	913 228	Topeka and Frijoles.
1562	Natera, Agustina	2337	128	Near Matachin.
1131	Orejula, Hipolito	131	.....	Gatun Lake area.
1330	Pinillo, Genobila	1704	1670	Cruces.
1132	Perez, José F	4907	.....	Buena Vista.
1651	Prade, Ezequiel	2195	.....	Aguardiente, Palo Grande, and Pisva.
1683	Rodriguez, Pedro	3928	.....	Rio Casano.
1557	Ruiz, Encarnación	3799	.....	Cerro Viejo.
80	Rodriguez, Marcelino	1409	883	Cuatro Calles.
1110	De Salas, Celestino	3997	.....	Monte Vistoso.
486	Theophile, Theodore	1459	139 147 146	 Bas Obispo. Palmito.
1046	Urena, Concepción	492	.....	Caño Quebrado.
1069	Villareal, Vicente	2339	.....	Cruces.
717	Villarreal, Liborio	2338	.....	Matachin.
730	Williams, Joseph	2981	458 507	Matachin.
1076	Aguilar, José	2969	.....	Matachin.
724	Bishop, Lawton	1473	1631	El Hato.
1673	Castillo, Catalino	4565	.....	Bohio.
1604	Castillo, Catalino		.....	Bohio.
471	Estrada, Julian	1816	292	Cruces.
1521	Gomez, Andreas	3991	186	Quebrada Macho and Caimito Mulato.
662	Guerrero, Claudio	2461	.....	Matachin.
517	Ramirez, José María	3568	.....	Matachin.
811	Urena, Juan	4237	.....	Valley of Chagres.

In view of the agreements before noted, these claims call for no further action by this Commission, and they are accordingly dismissed.

Federico Boyd, Levi Monroe Kagy, S. Lewis, David Marks, *Commissioners.*

Panamanian Policeman Found Dead in Canal Zone Territory.

Arturo Fuentes, a Panamanian policeman, was found dead in Canal Zone territory, on the beach northeast of Panama City, at about 12.15 a. m., Friday, July 3, with a bullet hole in the center of the back. Death had apparently occurred at the spot on which the body was found; this was about 675 yards northeast of the limits of the Bella Vista bathing pavilion, or 500 yards from the boundary line. The Police and Fire Division held a coroner's inquest on Thursday, and has since been conducting an investigation to determine the responsibility for the death.

OFFICIAL CIRCULARS.

Accountable Officials.

THE PANAMA CANAL,
ACCOUNTING DEPARTMENT,
EMPIRE, C. Z., June 27, 1914.

CIRCULAR No. 64:

Effective at once, Mr. C. C. Snedeker, supervisor, east breakwater, Atlantic terminals, is designated an accountable official of The Panama Canal.

H. A. A. SMITH,
Auditor, Panama Canal.

Approved:
GEO. W. GOETHALS,
Governor.

THE PANAMA CANAL,
ACCOUNTING DEPARTMENT,
EMPIRE, C. Z., June 27, 1914.

CIRCULAR No. 65:

Effective at once, Mr. W. G. Thompson, supervisor, Cristobal coaling station, Atlantic terminals, is designated an accountable official of The Panama Canal.

H. A. A. SMITH,
Auditor, Panama Canal.

Approved:
GEO. W. GOETHALS,
Governor.

Papers and Metal Checks to Be Surrendered at Termination of Service.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., June 26, 1914.

CIRCULAR No. 675:

1. Prior to the delivery of final papers to an employe of The Panama Canal by timekeepers, such employe shall surrender to the timekeeper or clerk approving his voucher for payment, the following:

a. The 24-trip ticket with unused coupons.

b. Until the new series of metal checks is issued, the identification cards used by employes in the purchase of coupon books for cash.

c. Release from quarters. In case an employe does not occupy Panama Canal quarters, the release must so state.

d. Release from property accountability from both gold and silver employes responsible for Government property. Property releases will be issued to responsible officers by accountable officials. Property releases to all other employes responsible for property will be issued by responsible-officere. Accountable officials will furnish the chief timekeeper with lists of responsible officers, and will advise him of all additions to or changes made in these lists from time to time. Requests on timekeepers for the issue of time vouchers must show whether the employe is responsible for property, except in the case of laborers and other classes not entrusted with property. Time vouchers for accountable officials will be held in the office of the Auditor until such time as their property account is audited, and release signed by the Auditor.

2. If in any case the timekeeper is unable to take up all of above papers, he will notify the Auditor's office and advise payee what papers he must present at that office before receiving his time voucher.

3. Effective July 1, 1914, or as soon thereafter as the new series of metal checks is issued, the Paymaster will take up the new Panama Canal metal checks from employes upon payment of time vouchers issued on account of termination of service. Such metal checks shall be forwarded to the Auditor the first of each month. Should the employe fail to surrender his metal check, 50 cents shall be deducted.

4. Employes leaving the service will be furnished a single trip pass for themselves and dependent members of their families from the place of employment to port of embarkation by the department or division by which they are employed.

GEO. W. GOETHALS,
Governor.

Examination by Board of Local Inspectors.

BOARD OF LOCAL INSPECTORS,
ANCON, C. Z., July 6, 1914.

The Board of Local Inspectors will conduct examinations at the administration building, Ancon, on Wednesday, July 15, 1914, beginning promptly at 2 p. m., for persons desiring the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for license must procure from the office of the board, Ancon, forms of application and information respecting the filling out of the same, not later than the day previous to the examination. In addition, all persons desiring chauffeurs' licenses must provide themselves with automobiles with which to demonstrate their ability to properly operate the same.

The demonstration test for applicants for chauffeurs licenses will be given on Tuesday, the day preceding the regular examination, at 2 p. m., at the administration building, Ancon; on Wednesday, the day of the regular examination, for out-of-town applicants, at 2 p. m., at the administration building, Ancon.

Effective with the next examination, applicants for license as navigator of motor boats will be required to give a demonstration of their ability to operate such boats, and will be obliged to provide themselves with boats for this purpose. This test will be given on Thursday, the day following the written examination, as follows: At Cristobal, upon arrangement with the captain of the port; at Gamboa, at 8 a. m.; and at Balboa, at 2 p. m. Applicants for the test at Cristobal or Balboa should present themselves at the office of the captain of the port; at Gamboa, the deputy inspector will be present at the Panama railroad station at the hour abovementioned.

By direction of the chairman of the board.

W. H. HYDE,
Clerk to the Board.

Concentration of Timekeeping Offices in New Administration Building.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., July 3, 1914.

All concerned—Effective July 15, 1914, the timekeeping offices now located at Culebra, Cristobal and Balboa, will be consolidated in the new administration building at Balboa.

All timekeeping matter now addressed to district timekeepers, Cristobal and Balboa, and chief timekeeper, Culebra, should be addressed to chief timekeeper, Balboa, commencing July 15, 1914.

E. W. PALMER,
Chief Timekeeper.

Approved:
C. A. MCLVAINE,
Executive Secretary.

Supplies for the Canal.

The following steamers, with supplies for The Panama Canal and the Panama Railroad Company, arrived at the ports of Colon, Cristobal, and Balboa during the week ending July 4:

Prinz August Wilhelm, June 29, from New York, with 200 cases soap, for stock.

Pennsylvania, June 29, from San Francisco, with 581 pieces redwood lumber, for Mechanical Division.

St. Andrews, June 29, from Baltimore, with 661 barrels reinforcing bars, for Division of Terminal Construction; 232 barrels reinforcing bars, for permanent buildings; 32 packages machinery, for Mechanical Division; 8,041 barrels reinforcing bars, for stock.

Parismina, July 1, from New York, with 114 boxes marble, for permanent buildings; 664 barrels brick, for Division of Terminal Construction; 13,352 board feet oak lumber, 15,975 board feet yellow pine lumber, for Mechanical Division; 200 pieces piling, untreated; 15,027 board feet yellow pine lumber, for stock.

Zacapa, July 1, from New York, with 98 reels cable, for Division of Fortifications; 14 packages electrical material, for Mechanical Division; 51 boxes caustic soda, for stock.

Turrialba, July 2, from New York, with 6,811 board feet yellow pine lumber, 14,290 board feet poplar lumber, 33,840 board feet yellow pine lumber, for Mechanical Division; 771 barrels brick, for Division of Terminal Construction; 16.672 board feet yellow pine lumber, 38 reels cable, 504 bales straw, for stock.

Nortonian, July 2, from Liverpool, with 155 barrels carbolic acid, for stock.

Navisbrooke, July 2, from Gulfport, with 105,302 board feet switch ties, 636 pieces piling, untreated, for stock.

Colon, July 3, from New York, with 14 crates wire fabrics, for Division of Terminal Construction; 35 cases sash operating devices, for Mechanical Division; 13 cases woodwork, for Division of Municipal Engineering; 30 cases woodwork, 100 barrels cement, for permanent buildings; 22 cases brass tubes, 13 cases paper, 31 cases varnish, 1,889 pieces wrought pipe, 378 cast iron pipe, 500 kegs white lead, 11,000 bags cement, for stock; and a miscellaneous cargo, the whole consisting of 14,682 packages, weighing approximately 850 tons.

Tenadores, June 27, from New York, with 55 reels cable, for Division of Fortifications; 154 boxes window glass, for stock.

Rainfall, June 1 to June 30, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	1.70	18	7.28
Balboa	1.97	18	7.25
*Miraflores	1.65	16	5.64
Pedro Miguel	3.03	23	11.35
Rio Grande	1.87	23	9.92
Central Section—			
Culebra	1.82	23	8.06
*Camacho	1.80	18	10.46
Empire	2.09	23	8.87
Gamboa	5.18	18	17.78
*Juan Mina	2.67	18	12.51
Alhajuela	3.45	9	12.55
*El Vigia	3.94	15	17.34
Frijoles	3.63	18	13.05
Trinidad	1.80	18	9.61
*Monte Lirio	2.40	18	14.55
Atlantic Section—			
Gatun	1.64	10	12.64
*Brazos Brook	2.82	18	15.84
Colon	1.82	18	16.30
Porto Bello	2.87	24	15.08

June Rainfall for Three Years.

STATIONS.	1912	1913	1914	Station Av.	Years of record	Rai'y days, '14
Pacific Section–						
Ancon	5.80	8.15	7.28	8.10	17	21
Balboa	5.88	7.15	7.25	7.86	18	20
Miraflores	7.51	9.49	5.64	9.74	6	16
Pedro Miguel	9.69	9.00	11.35	10.27	7	21
Rio Grande	6.63	8.05	9.92	9.27	10	24
Central Section–						
Culebra	7.57	9.10	8.06	8.83	23	23
Camacho	7.77	9.65	10.46	10.10	8	23
Empire	8.50	11 48	8.87	8.61	11	23
Gamboa	11.64	8.02	17.78	9.89	33	25
Juan Mina	12.65	9.67	12.51	10.99	4	27
Alhajuela	12.17	11.51	12.55	12.75	15	21
El Vigia	14.51	10.80	17.34	13.95	6	26
Frijoles	13.25	8.72	13.05	11.67	3	26
Trinidad	11.80	11.20	9.61	10.89	7	23
Monte Lirio	13.51	10.71	14.55	13.33	7	25
Atlantic Section–						
Gatun	14 80	10.70	12.64	13.31	9	26
Brazos Brook	19.12	12.17	15.84	15.42	8	27
Colon	15.90	11.81	16.30	13.38	44	25
Porto Bello	19.77	9.00	15.08	15.98	7	25

WEATHER CONDITIONS, CANAL ZONE, JUNE, 1914.

Rainy season weather continued throughout the month. The rainfall during June was above the station averages at 11 stations, and deficient at eight stations. The monthly totals ranged from 5.64 inches at Miraflores to 17.78 inches at Gamboa. The maximum precipitation recorded in one day was 5.18 inches at Gamboa on the 18th. Heavy general rains occurred on the 9th, 18th, and 23d.

Average air temperatures at the various stations were approximately one degree Fahrenheit above normal. The wind movement was the highest of record for the month of June at each of the first-class stations.

There was a general deficiency in atmospheric pressure during the month, while the daytime cloudiness was above normal at all stations, except Ancon.

Night fogs were of frequent occurrence at the interior stations. No fogs were observed at either coast. Of the fogs observed, 45 per cent were dissipated by 6.30 a. m., 90 per cent by 7.30 a. m., and 100 per cent by 8.30 a. m.

The following table summarizes the weather conditions for the month:

STATION.	Press're (reduc'd to mean of 24 hours).	Temperature.					Mean relative humidity	Precipitation.			Wind.				
		Mean.	Maximum.	Date.	Minimum.	Date.		Total inches.	Station average.	Days of .01 inch or more	Total movement (miles)	Prevailing direction.	Max. velocity (in miles).	Direction.	Date.
Colon	29.835	80.5	83	J'ne 17	74	J'ne 18	87	16.30	13.38	25	5,892	W.	33	W.	June 8
Culebra	29.828	80.0	90	J'ne 27	70	J'ne 6	94	8.06	8.83	23	4,270	N.W.	28	E.	June 18
Ancon	29.808	81.0	94	J'ne 22	70	J'ne 6	89	7.28	8.10	21	4,649	N.W.	24	N.	June 8

Elevations of Gatun Lake, (feet above mean sea level)—Mean for the month 84.85 feet; maximum, 85.14 feet on the 18th; minimum, 84.68 feet on the 21st. Evaporation from lake surface 4.558 inches.

COMMISSARY DEPARTMENT.

Instruction to Chief Stewards When Drawing Supplies.

THE PANAMA CANAL,
SUPPLY DEPARTMENT,
CRISTOBAL, C. Z., July 6, 1914.

CIRCULAR No. 505:

Chief stewards—Your attention is called to Chief Quartermaster's Circular No. 143, dated June 8, 1914, and my circular No. 577, dated June 29, 1914, on invoices to be made when drawing supplies from local commissaries, or in case lots from the depot commissary.

Particular attention must be given to this matter, and, whenever possible, the invoices should be typewritten, and, when a typewriter cannot be used, carefully and distinctly written in long hand on Form 244 (combined requisition and invoice), with sizes and description of articles given in each instance.

In ordering goods from local commissaries, chief stewards should acquaint themselves with the stock carried by the respective line commissaries before making their requisitions, so as to prevent as much as possible the necessity of the line commissaries scratching out items not on hand, from the requisition as submitted.

F. O. WHITLOCK,
Assistant Chief Quartermaster.

Commissary Hours.

The commissary stores are open during the following hours: From 8 a. m., to 12.30 p. m., and 3 to 6.30 p. m.

The gold departments of the Cristobal store will open at 2 p. m., on Saturdays and sailing days of Panama railroad vessels.

In rush periods, all stores will remain open until 7 p. m.

Cold Storage Prices.

Retail prices of cold storage provisions for the week beginning July 9, 1914:

FRESH MEATS.

	Price.
Mutton—Stewing, per pound	8
Shoulder, trimmed, per pound	12
Leg (8 to 10 pounds), per pound	19
Cutlets, per pound	20
Short cut chops, per pound	23
Shoulder, chops, per pound	14
Lamb—Stewing, per pound	10
Shoulder trimmed, per pound	15
Leg (5 to 8 pounds), per pound	24
Chops, per pound	29
Shoulder, chops, per pound	18
Cutlets, per pound	29
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	18
Chops, per pound	27
Loin, for roasting, per pound	27
Cutlets, per pound	31
Beef—Suet, per pound	3
Soup, per pound	7
Stew, per pound	11
Plate, per pound	12
Corned, No. 1, per pound	19
Corned, No. 2, per pound	16
Chuck roast, 3 lbs., and over, per pound	15
Rib roast, second cut (not under 3½ pounds), per pound	21
Rib roast, first cut (not under 3 pounds), per pound	24
Pot roast, per pound	25
Rump roast, per pound	25
Porterhouse roast, per pound	27
Steak, Chuck, per pound	16
Round, top, per pound	19
Round, bottom, per pound	17
Rib, per pound	24
Sirloin, per pound	25
Sirloin, choice cut, per pound	28
Rump, per pound	25
Porterhouse (not less than 1½ pounds), per pound	30
Porterhouse, short, Delmonico, per pound	25
Tenderloin (Western), per pound	40
Pork—Hams, fresh, per pound	§23
Shoulders, fresh, per pound	§19
Spare ribs, per pound	18
Backbones, per pound	15
Loin, chops or roast, per pound	20
Pigs' feet, each	7
Pigs' heads, whole	83
Pigs' heads, ½-head	42
Sausage, homemade, per pound	23

MISCELLANEOUS.

Livers—Beef, per pound	15
Calf, each	†53
Half, each	†27
Steak, Hamburger, package	17
Hamburger, 20-pound containers, per pound	14
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Pure pork, 1-lb. cartons, per pound	17
Sweetbread, beef, per pound	26
Eggs, fresh, per dozen	28
per ½-dozen	14

	Price.
Bluefish, per pound	9
Halibut, fresh, per pound	5
Salmon, per pound	6
Yeast, per cake	2
Yeast, per pound	31

POULTRY AND GAME.

Chickens—Fancy roasting, milk fed, per pound	30
Fancy roasting, corn fed, per pound	27
Fowls, per pound	25
Fowls, light, per pound	23
Ducks, Western, per pound	25
Capons, per pound	33
Broilers, milk fed, per pound	†28
Broilers, corn fed, per pound	25
Turkeys, per pound	32
Squabs, each	42
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30

CURED AND PICKLED MEATS.

Ham—Real York and Cumberland, per pound	43
Genuine Westphalia, per pound	50
Sugar cured, per pound	21
Sliced, per pound	28
Half, for boiling, per pound	23
Boiled, per pound	30
Hocks, per pound	09
Butt end, about 1½ pounds to butt, per pound	11
Bacon—Breakfast, whole piece, per pound	26
Sliced, per pound	27
Ham, lunch, per pound	40
Port, salt, family, per pound	14
Ox tongues, each	1.35
Pigs' feet, per pound	7
Tongues, per pound	19

DAIRY PRODUCTS.

Butter—Creamery, special, per pound	37
Sheffield Farms, extra fancy, per lb	54
Cheese—Philadelphia cream, cake	9
Roquefort, per pound	35
Young America, per pound	22
Swiss, per pound	27
Edam, each	†72
Edam, tin	29
Parmesan, per pound	38
Gouda, per pound	29
Snappy, per cake	9
Milk (certified), bottle	**24
Fer-mil-lac, bottle	**25
Ice cream, quart	‡25
½-gallon	‡50
Cream, Sheffield Farms, quart	**33

VEGETABLES AND FRUITS.

Beans, string, per pound	8
Beans, wax, per pound	8
Beets, per pound	†6
Celery, per head	10
Cabbage, per pound	†2½
Carrots, per pound	4
Cucumbers, per pound	*5
Horseradish, per pound	17
Kale, per pound	6
Lettuce, per pound	†9
Onions, per pound	*6
Peas, green, per pound	†7
Peppers, per pound	8
Potatoes, white, per pound	2½
sweet, tropical, per pound	2
sweet, American, per pound	3
Yams—Tropical, per pound	3
Parsley, per bunch	*4½
Eggplant, per pound	*7
Rhubarb, per pound	*3
Turnips, per pound	4½
Tomatoes, per pound	8
Spinach, per pound	6
Squash, per pound	*5
Apples, each	2½
Cherries, per pound	30
Grape fruit—American, each	7
Tropical, each	4½
Lemons, per dozen	*23
Limes, per 100	56
Canteloupes, each	†7
Oranges—Jamaican, per dozen	18
American, each	*3
Peaches, per pound	7
Plums per pound	10

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* Indicates advance from preceding list.

† Indicates reduction from preceding list.

**Indicates 5 cents allowed for return of bottle.

‡Sold only from commissaries; no orders taken for delivery.

§Sold only from cold storage and not from commissaries.

Porterhouse roast includes any cut of hind quarter down to rump, and will not be cut if orders for steak will consume the supply.

Tenderloins on porterhouse will not be cut and sold separately.

Not less than ½ ham or ½ shoulders of fresh pork will be sold.

Daily cold storage orders will be filed and kept for at least one month.

◆

LOST—Partly used $15 meal book, No. 3331, on Sunday, June 21, either on train then leaving for Empire at 10.30 a. m., or between Ancon pump station and the Panama railroad station in Panama, or in Empire. Finder is requested to return same to owner, Geo. D. Morton, Ancon, C. Z.

CANAL CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The schedule for motion pictures for the week July 13 to 18 is, as follows: Monday, Gatun; Tuesday, Empire and Balboa; Wednesday, Pedro Miguel; Thursday, Cristobal; Friday, Culebra; Saturday, Corozal.

PEDRO MIGUEL.

A local tenpin tournament is being arranged. All members interested in tenpin bowling are invited to enter.

Eleven games have been played in the local handicap pool tournament. Mr. Eggleston is in the lead, having won all four of the games he has played.

All men interested in handball or indoor baseball are invited to meet in the gymnasium on Monday evening, July 13, for practice.

Seventy-five of the soldiers stationed at Pedro Miguel Lock have joined the local clubhouse.

CULEBRA.

A special moving picture exhibition was given on Thursday night, July 2. Mrs. William Keenan furnished piano music.

S. P. Verner gave a patriotic address on Sunday night, July 5, taking for his subject "The new freedom through the square deal."

A pool match between Mr. Dewey of Gatun and Mr. Barnes of Culebra, has been arranged for Saturday night, July 13. At the match between the two teams at Gatun, recently, Mr. Barnes defeated Mr. Dewey one game.

GATUN.

Over 200 of the soldiers located at Gatun have joined the association.

During the week ending July 4, the gymnasium was used almost entirely for athletic training. The secretary was assisted in this work by Messrs. C. D. Hindle and D. R. Walker. Gatun clubhouse members who took prizes at Cristobal on the Fourth were: Godwin, Stamm, Grunewald, P. Twitchell, Weiss, Butcher, and F. Loulan.

The teams who rolled over 1,000 in the 2-man ragtime tenpin tournament were, as follows: Humphrey and Chandler, 1,070; Chandler and Kiger, 1,043; O'Meara and Hodges, 1,041; Howard and O'Meara, 1,040; Conley and O'Meara, 1,018; Kiger and O'Meara, 1,009; Humphrey and O'Meara 1,007. The high averages were, O'Meara, 178–7, Humphrey, 168–9, Hodges, 163–6; Howard, 158–1; Chandler, 154–1; Kiger 154-4; Easter, 151–1. High single score, Kiger, 206; second high single score, Chandler, 205.

Basketball will be one of the chief activities in the gymnasium from now on. Several practice games will be held each week. Every one who attends practice will be given a chance to play.

CRISTOBAL.

Cristobal took two out of three games from Corozal at tenpins on Friday, July 3, by the following scores: Cristobal—851, 748, 836. Corozal—770, 811, 774.

Owing to Cristobal being in darkness on Wednesday night, July 1, the ragtime bowling tournament was postponed until the following Wednesday night.

High scores in duckpins for the week ending July 4 were, as follows: Steele, 115; Gill, 110; Garrett, 105; Butters, 104.

The "Yankees" defeated the "White Sox" at indoor baseball on Thursday, by the score of 18 to 14.

Following a temporary interruption caused by preparations for the Fourth of July ahtletic meet, all gymnasium classess will be resumed.

◆

Movement of Vessels at the Port of Balboa.

The arrivals and departures of steamships at the port of Balboa for the week ending July 4, were, as follows:

Arrivals—June 27, *Nebraskan*, from San Francisco; June 29, *Newport*, from San Francisco; *Cordelia*, from Port Harford, Cal.; *Mantaro*, from Payta; *Pennsylvania*, from San Francisco; June 30, *Guatemala*, from Guayaquil; July 1, *Huasco*, from Valparaiso; *Oberon*, from San Luis.

Departures—June 27, *Quito*, to Buenaventura; June 28, *Aztec*, to San Francisco; June 29, *Ucayali*, to Callao, *Peru*, to Ecuador; June 30, *Santa Clara*, to Arica, *Ecuador*, to Guayaquil; July 1, *Cordelia*, to Port Harford; July 3, *L. Luckenbach*, to San Francisco, *Oberon*, to Port Harford.

◆

Married.

COE–GILMORE—On Sunday, June 27, at Pittsburgh, Pa., Miss Evelyn Gilmore to Mr. Robert Coe. Residence, Pittsburgh, Pa.

MILLER–McNALTY—In St. Luke's Hospital chapel, Ancon, on Sunday, June 21, by the Rev. H. R. Carson, Hilda McNalty and George R. Miller of Spring Valley, N. Y. Isthmian residence, Panama City.

PANAMA CANAL DIRECTORY.

Executive Department.

Headquarters, Culebra.

COL. GEO. W. GOETHALS, U. S. A., Governor.

Robert E. White, Secretary.

C. A. McIlvaine, Executive Secretary.

W. P. Copeland, Chief Clerk.

John K. Baxter, Chief, Division of Civil Affairs, Ancon, Canal Zone.

Capt. Chas. W. Barber, U. S. A., Chief, Division of Police and Fire, Ancon, Canal Zone.

A. R. Lang, Superintendent, Division of Schools, Ancon, Canal Zone.

Frank Feuille, Special Attorney, Ancon, Canal Zone.

William K. Jackson, District Attorney, Ancon, Canal Zone.

Department of Operation and Maintenance.

Headquarters, Culebra.

COL. H. F. HODGES, U. S. A., Engineer of Maintenance.

C. O. Carlson, Secretary.

A. B. Nichols, Office Engineer.

Edward Schildhauer, Electrical and Mechanical Engineer, Division of Erection.

Capt. W. H. Rose, U. S. A., Electrical Engineer, Electrical Division, Balboa.

Geo. M. Wells, Resident Engineer, Division of Municipal Engineering, Gatun.

H. H. ROUSSEAU, Civil Engineer, U. S. N., Engineer of Terminal Construction, Culebra.

J. J. Campbell, Secretary.

F. H. Cooke, Civil Engineer, U. S. N., Designing Engineer.

T. B. Mönniche, Engineer of Docks, Cristobal.

J. A. Walker, Superintendent, Balboa.

W. G. Thompson, Superintendent, Cristobal.

W. G. COMBER, Resident Engineer, Division of Dredging, Paraiso.

D. C. NUTTING, Jr., Constructor, U. S. N., Superintendent, Mechanical Division, Balboa.

CAPT. HUGH RODMAN, U. S. N., Superintendent of Transportation, Division of Canal Transportation, Ancon.

Com. D. E. Dismukes, U. S. N., Captain of the Port, Cristobal.

Lieut.-Com. H. V. Butler, U. S. N., Captain of the Port, Balboa.

W. F. Beyer, Assistant Engineer, Lighthouse Construction, Ancon.

Board of Local Inspectors—Commander Dismukes, Lieutenant-Commander Butler, J. Macfarlane. Headquarters, Ancon.

FIRST-LIEUT. A. H. ACHER, U. S. A., Assistant Engineer, Division of Fortifications, Culebra.

Supply Department.

CAPT. R. E. WOOD, U. S. A., Chief Quartermaster, Culebra.

Capt. F. O. Whitlock, U. S. A., Assistant Chief Quartermaster, Cristobal.

Maj. W. R. Grove, U. S. A., Inspector, Cristobal.

C. H. Mann, Depot Quartermaster, Cristobal.

Benj. L. Jacobson, Depot Commissary, Cristobal.

Accounting Department.

H. A. A. SMITH, Auditor, Empire.

T. L. Clear, Collector, Empire.

John H. McLean, Paymaster, Empire.

J. H. Helmer, Claim Officer, Empire.

Health Department.

LIEUT.-COL. CHARLES F. MASON, U. S. A., Chief Health Officer, Ancon.

Maj. Percy M. Ashburn, U. S. A., General Inspector, Ancon.

Lieut.-Col. G. D. Deshon, U. S. A., Superintendent, Ancon Hospital.

Dr. M. C. Guthrie, U. S. P. H. S., Chief Quarantine Officer, Ancon.

Dr. M. E. Connor, Health Officer of Panama, Ancon.

Capt. D. W. Harmon, U. S. A., Health Officer of Colon, Cristobal.

Washington Office.

MAJ. F. C. BOGGS, U.S.A., General Purchasing Officer and Chief of Office.

A. L. Flint, Assistant Chief of Office.

Panama Railroad Company.

Office in the United States, 24 State Street, New York City.

C. H. MOTSETT, Superintendent, Cristobal.

F. R. Blunt, Superintendent, Railroad Transportation, Ancon.

Charles R. Williams, Attorney, Ancon.

Courts.

WILLIAM H. JACKSON, District Judge, Ancon.

E. M. Goolsby, Clerk, Ancon.

W. H. May, Marshal, Ancon.

S. E. Blackburn, Magistrate, Balboa.

John W. Thompson, Magistrate, Cristobal.

Joint Land Commission.

FEDERICO BOYD, Panama City.

SAMUEL LEWIS, Panama City.

LEVI M. KAGY, Ancon.

DAVID MARKS, Ancon.

William Taylor, Secretary, Ancon.

Misdirected Letters.

Ancon, C. Z., July 8, 1914,

The following insufficiently addressed letters, originating in the United States and its possessions, have been received in the office of the Division of Civil Affairs, and may be secured upon request of the addressees:

Bennett, Mrs. Walter R.
Clemons, Ward C.
Embree, Clayton
Greene, Chas.
Hinson, F. P.
Hunter, Thos.
Kimberly, Wm. T.
Marquand, Philip
O'Ryan, Sra. Francisca
Robinson, Mrs. Jestina
Thornton, Mrs. H. O.
Westerman, F.

LETTERS UNCALLED FOR JULY 1, 1914.

Burnett, M. T
Brown, Hubert W.
Clemons, Ward C.
Cosgrave, M.
Feeling, George A.
Fretz, Adolph
Garcias, Richard
Gray, Dick
Haley, O. F.
Hillerman, Mrs. Abbie B.
Holt, J. M.
Jauniere, M. E. A.
Jensen, Fred N.
Jones, G. F.
McRoberts, W. W.
Mills, Mrs. J.
Onstolt, A. W.
Pritchek, Gustav
Wick, Mrs, Rosalie

LETTERS UNCALLED FOR JUNE 24.

Bowen, Geo. M.
Clowe, Clarence
Cooke, Lieut. Fred Hosmer
Drum, Joseph
Ganthier, A.
Garrigan, Wm.
Hayes, Thomas
Morrissey, Arthur
Payne, J. M.
Peek, Rev. Arthur S.
Pennock, Mrs. L.
Wilson, Ralph B.

MOVEMENTS OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

		Sails.	*Arrives.*
NEW YORK TO CRISTOBAL.			
*Advance	P. R. R.	July 3	July 10
*Panama	P. R. R.	July 10	July 16
*Allianca	P. R. R.	July 16	July 22
*Colon	P. R. R.	July 22	July 28
*Advance	P. R. R.	July 28	Aug. 4
CRISTOBAL TO NEW YORK.			
†Colon	P. R. R.	July 10	July 16
†Advance	P. R. R.	July 15	July 22
†Panama	P. R. R.	July 22	July 28
†Allianca	P. R. R.	July 28	Aug. 3
†Colon	P. R. R.	Aug. 3	Aug. 9
†Advance	P. R. R.	Aug. 10	Aug. 17
NEW YORK TO COLON.			
*Almirante	U. F. C.	July 1	July 8
*Calamares	U. F. C.	July 4	July 10
Oruba	R. M.	July 4	July 12
Prinz Joachim	H.-A.	July 4	July 13
*Santa Marta	U. F. C.	July 8	July 15
*Pastores	U. F. C.	July 11	July 17
Prinz Eitel Friedrich	H.-A.	July 11	July 21
Metapan	U. F. C.	July 15	July 22
*Tenadores	U. F. C.	July 19	July 24
Trent	R. M.	July 18	July 26
Prinz August Wilhelm	H.-A.	July 18	July 27
Zacapa	U. F. C.	July 22	July 29
*Calamares	U. F. C.	July 25	July 31
Prinz Sigismund	H.-A.	July 25	Aug. 4
Almirante	U. F. C.	July 29	Aug. 5
*Pastores	U. F. C.	Aug. 1	Aug. 7
Orotava	R. M.	Aug. 1	Aug. 9
Prinz Joachim	H.-A.	Aug. 1	Aug. 10
*Santa Marta	U. F. C.	Aug. 5	Aug. 12
*Tenadores	U. F. C.	Aug. 8	Aug. 14
Prinz Eitel Friedrich	H.-A.	Aug. 8	Aug. 18
COLON TO NEW YORK.			
†Tenadores	U. F. C.	July 8	July 14
Zacapa	U. F. C.	July 9	July 16
Prinz Sigismund	H.-A.	July 12	July 21
†Calamares	U. F. C.	July 15	July 21
Almirante	U. F. C.	July 16	July 23
Prinz Joachim	H.-A.	July 21	July 29
Orotava	R. M.	July 21	July 29
Pastores	U. F. C.	July 22	July 28
Santa Marta	U. F. C.	July 23	July 30
Prinz Eitel Friedrich	H.-A.	July 26	Aug. 4
†Tenadores	U. F. C.	July 29	Aug. 4
Metapan	U. F. C.	July 30	Aug. 6
Prinz August Wilhelm	H.-A.	Aug. 4	Aug. 12
Danube	R. M.	Aug. 4	Aug. 12
†Calamares	U. F. C.	Aug. 5	Aug. 11
Zacapa	U. F. C.	Aug. 6	Aug. 13
Prinz Sigismund	H.-A.	Aug. 9	Aug. 18
†Pastores	U. F. C.	Aug. 12	Augl 18
Almirante	U. F. C.	Aug. 13	Aug. 20
Tagus	R. M.	Aug. 18	Aug. 26
Prinz Joachim	H.-A.	Aug. 18	Aug. 26
NEW ORLEANS TO COLON.			
Cartago	U. F. C.	July 1	July 8
*Abangarez	U. F. C.	July 4	July 9
Heredia	U. F. C.	July 8	July 15
*Atenas	U. F. C.	July 11	July 16
Parismina	U. F. C.	July 15	July 22
*Turrialba	U. F. C.	July 18	July 23
COLON TO NEW ORLEANS.			
‡Turrialba	U. F. C.	July 9	July 14
Cartago	U. F. C.	July 9	July 16
‡Abangarez	U. F. C.	July 16	July 21
Heredia	U. F. C.	July 16	July 23
‡Atenas	U. F. C.	July 23	July 28
Parismina	U. F. C.	July 23	July 30

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Piers 8, 9, and 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 10 a. m.

United Fruit Company's ships for New Orleans direct, leave on Thursdays at 3 p.m., for New Orleans, via Bocas del Toro, and Havana, on Thursdays at 4 p.m.; for New York direct, on Wednesdays at 2 p.m.; ships for New York, via Kingston, on Thursdays at 2 p. m.; for Limon and Bocas del Toro on Saturdays at 4 p.m.; and for Limon direct, on Saturdays at 5 p.m.

The Hamburg-American steamers *Prinz Eitel Friedrich* and *Prinz Sigismund* sail for New York, via Kingston and Fortune Island, on Sundays at 1 p. m.; the *Prinz August Wilhelm* and *Prinz Joachim* sail for New York, via Kingston, Santiago de Cuba, and Fortune Island, on Tuesdays at 10 a. m.

LIST OF

PRICE CHANGES

COMMISSARY BRANCH—SUPPLY DEPARTMENT

In Effect July 1, 1914

(Part II of The Canal Record, July 8, 1914.)

COMMISSARY BRANCH—SUPPLY DEPARTMENT.

The following changes in prices of articles in stock at the commissary stores are effective July 1, 1914:

Article.	Price Change.	
	Old.	New.
Stud sets, pipestem, Reuffs, set	$0.28	$0.25
Collar links, gold filled, Reuffs, ea	.28	.25
Clips, tie, rolled gold, Reuffs, ea	.55	.48
Links, cuff, bean end, Reuffs, pair	1.50	1.30
Clips, tie, sterling silver, Reuffs, ea	.55	.48
Buttons, collar, Krementz, ea	.10	.09
Buttons, cuff link, gold, pair	.95	.82
Studs, full dress, ea	.20	.20
Clasps, tie, ea	.25	.19
Clasps, tie, ea	.35	.31
Links, cuff, sterling silver, pair	.70	.61
Links, cuff, sterling silver, pair	.90	.77
Buttons, cuff, Krementz, pair	1.10	.93
Clocks, alarm, "Startle," ea	1.15	.98
Necklaces, ea	2.25	1.90
Pins, safety, gold plated, ea	.08	.07
Pins, bar, solid gold, 10k., No. 624, ea	2.50	2.15
Cream, massage, Pompeian, jar	.40	.32
Cream, cold, "Marvel," Hudnut's, jar	.50	.44
Cream, honey and almond, bottle	.45	.37
Cream, vanishing, Pond's, jar	.20	.19
Cream, milkweed, Ingram's, small, bot	.45	.39
Cream, milkweed, Ingram's, large, bot	.90	.78
Cream, face, Sanitol, jar	.20	.17
Cream, shaving, Colgate's, tube	.20	.16
Cream, cold, Colgate's, jar	.25	.22
Toilet preparation, Mum, jar	.23	.19
Perfumes, Hudnut, No. 2842285, bot.	3.40	3.00
Perfumes, Hudnut, No. 3092267, bot.	3.10	2.75
Perfumes, Gosnell's, bot	.75	.63
Perfumes, Ambrec, Hudnut's, 1¼-oz, bot	1.10	.96
Perfumes, 20th Century, assorted extract, Hudnut's, small, bot	.75	.75
Perfumes, ext., extreme violet, Hudnut's, 1¼-oz, bot	.75	.75
Perfumes, ext. quadruple, Hudnut's, bot	.50	.45
Perfumes, Colgate, 2-oz, bot	.70	.58
Perfumes, Colgate, 1-oz, bot	.45	.39
Perfumes, essence "La Corrida," Pinaud's, bot	3.10	2.70
Perfumes, essence "Marie Louise," Pinaud's, bot	2.10	1.75
Perfumes, assorted, Piver's, bot	.75	.76
Perfumes, triple extract, Piver's, bot.	.20	.19
Lotions, assorted, Piver's, bot	.45	.47
Water, toilet, Piver's, bot	.75	.67
Water, toilet, assorted, 3-oz., Colgate's, bot	.45	.38
Water, toilet, assorted, 5-oz., Colgate's, bot	.55	.49
Eau de Cologne, superessence, Piver's, bot	.25	.23
Eau de Cologne, superessence, Piver's, bot	.15	.14
Powder, talcum, cashmere and violet, Colgate's, tin	.16	.13
Powder, talcum, violet sec., Hudnut's, tin	.25	.22
Powder, face, La Blanche, box	.45	.41
Powder, violet, borated talcum, Mennen's, tin	.15	.13
Powder, shaving, Colgate's, tin	.20	.15
Powder, face, violet sec., in leaves, Hudnut's, book	.25	.21
Powder, face, violet sec., Hudnut's, pk	.50	.43
Powder, bath, Sanitol, tin	01	.01
Powder, talcum, C. P. R., tin	.12	.12
Powder, trefle, incarnat, Piver's, box.	.65	.51
Powder, sachet, Ricksecker's, No. 40, pkg	.45	.40
Soap, Turkish, bath, cake	.04	.04
Soap, Packer's, tar, cake	20	.18
Soap, Pears', transparent, glycerine, cake	.15	.10
Soap, Pears', sulphur, cake	.12	.08
Soap, Pears', attar of rose, cake	.50	.45
Soap, bay rum, cake	.08	.07
Soap, prickly heat, Calvert's, cake	.10	.07
Soap, Cuticura, cake	.25	.23
Soap, Cashmere Bouquet, (small) cake	.12	.10
Soap, Pears', unscented, cake	.10	.09
Soap, "Pumex," Armour's, cake	.06	.05
Soap, certified, complexion, Armour's cake	.20	.16
Soap, "Golf Queen," cake	.20	.18
Sticks, shaving, Colgate's, ea	.15	.16
Soap, shaving, Colgate's, cake	.05	.04
Sticks, shaving, Williams', ea	20	.16
Soap, violet sec, cake	.25	.22
Soap, Cashmere Bouquet (large) cake.	.20	.19
Soap, liquid, green, Hudnut's, bot	.50	.44
Sticks, shaving, Pears', ea	.25	.18
Soap, shampoo, "Supertar," cake	.14	.12
Soap, toilet, "Maxine Elliott", cake.	10	.08
Soap, bouquet, No. 11, cake	.08	.07
Tooth soap, "Arnica," tin	.18	.15
Tooth paste, "Pebeco," tube	21	.21
Tooth wash, "Rubifoam," bot	.25	.19
Tooth powder, "Euthymol," tin	.20	.16
Tooth powder, carbolic, Calvert's, small, tin	.12	.09
Dentifrice, liquid, "Euthymol," bot	.22	.19
Tooth powder, Lyon's, tin	.20	.19
Tooth wash, "Glyco thymoline," bot	.25	.23
Tooth wash, "Sozodont," bot	.20	.17
Tooth powder, carbolic, Calvert's, large, tin	.30	.27
Tooth powder, "Colgate's," tin	.20	.13
Tooth paste, "Zodenta," Ingram's, tube	.17	.15
Tooth paste, "Sanitol," tube	.20	.17
Tooth powder, "Sanitol," tin	.20	.17
Tooth powder C. P. R, tin	.10	.10
Dentifrice, "Odol," bot	.50	.43
Dental cream, "Colgate's," tube	.20	.16
Hair tonic, Newbro's, "Herpicide," bot	.90	.77
Hair tonic, Westphal's "Auxiliator," large, bot	.60	52
Hair tonic, Westphal's, "Auxiliator," small, bot	30	.24
Hair tonic, "Icy Kol," bot	.20	.20
Extract, Pond's, bot	.20	.19
Listerine, 3-oz., bot	.17	.17
Listerine, 7-oz., bot	34	.34
Listerine, 14-oz., bot	.66	.66
Florida water, bot	.35	.30
Bay rum, bot	.25	.25
Toilet water, assorted, Hudnut's 4-oz., bot	.80	.68
Violet, ammonia, bot	.20	18
Brilliantine, bot	.50	.43
Headache, Cologne, Hudnut's, bot.	.75	.64
Hair tonic, Eau de Quinine, Pinaud's, 8-oz., bot	50	.50
Shampoo, liquid, "Sanitol," bot	.45	.34
Antiseptic, liquid, bot	.45	.37
Toilet water, assorted, Pinaud's, bot.	2.10	1.75
Herpicide, Newbro's, small, bot	.45	.37
Toilet water, violet, Williams', 6-oz., bot	.50	.43
Menticol, C. P. R., bot	.25	.25
Liquid, antiseptic, C. P. R., bot	.25	.25
Water, toilet, Ricksecker, No 28, bot	.75	.65
Oil, Omega, small, bot.	.10	.08
Ointment, carbolic, Calvert's, pot	.30	.24
Vaseline, perfumed, white, bot	.25	.19
Vaseline, white, bot	.20	.14
Ointment, Cuticura, jar	.55	.45
Salve, witch hazel, Ingram's, jar	.12	.10
Ointment, "Mentholatum," jar	.20	.17
Salt, smelling, Ricksecker's, bot	.30	.22
Floss, dental, 24-yard spools, spool	.12	.11
Seasick remedy, Mothersill's, box	.85	.74
Antiseptic, Riker's, bot	.24	.22
Vaseline, white, perfumed, tube	.12	.10
Dioxogen, bot	.35	.28
Hangers, women's, suit, "Perfecto," ea.	.25	.22
Hangers, suit, No. 7, ea	.10	.09
Bags, laundry, ea	.55	.47
Bags, laundry, ea	.60	.52
Razorine, pkg	.15	.11
Strops, razor, No. 7, "Army and Navy," Rippenhagen's, ea	1.10	.98
Strops, razor, "Nevahone". ea	1.35	1 15
Combs, hard rubber, ea	.35	30
Combs, white, 7½", ea	.15	.11
Combs, celluloid, No. 307½, 8", ea	.30	.27
Combs, celluloid, No. 3020, ea	.20	.19
Combs, celluloid, Nos. 3033 and 436, 7", ea	.08	.07
Combs, celluloid, ea	.08	.07
Combs, black rubber, ladies', ea	.18	.16
Combs, black rubber, ladies', ea	.20	.18
Combs, black rubber, 8½", ea	.20	.16
Combs, black rubber, 9", ea	.25	.21
Combs, black rubber, barbers', 7", ea	.12	.11
Combs, black rubber, barbers', 7½", ea	.08	.07
Combs, black rubber, fine, ea	.08	.07
Combs, side, shell and amber, ea	.25	.20
Combs, side, shell and amber, ea	.15	.13
Combs, men's, ivory, ea	.20	.19
Combs, ladies', ivory, ea	.20	.18
Combs, ladies', white tuskamoid, ea	.35	.32
Buffer, nail, chamois, and brown kid, ea	50	.40
Boxes, soap, ea	.55	.49
Skins, chamois, 15x20", ea	.40	.35
Files, nail, ea	.06	.05
Boards, emery, Hudnut's, box	.25	.21
Sticks, manicure, ea	.04	.04
Skins, chamois, face, ea	.11	.11
Puffs, powder, No. 8664, ea	.20	.16
Puffs, powder, No. 4326, ea	.25	.23
Syringes, fountain, Twentieth century, ea.	1.65	1.35
Atomizers, ea	.60	.55
Sponges, rubber, feather edge, ea	.45	.39
Bags, sponge, rubber, ea	.20	.20
Syringes, fountain, combination, Kewanee, No. 2 ea	1.80	1.55
Bath mitts, pair	.25	.20
Sponges, J. I. C., ea	.30	.33
Sponges, rubber, No. 6, ea	1.45	1.25
Sponges, rubber, No. 75, ea	.75	.65
Syringes, ear, ea	.12	.10
Bags, hot water, Hodgan's Mohican, ea	.95	.86
Brushes, nail, oval, ea	.10	.08
Brushes, shaving, "Rubberset," ea	1.10	.96
Brushes, tooth, antiseptic, ea	.20	.16
Brushes, hair, "Keep clean," ea	.45	.39
Brushes, shaving, ea	.26	.23
Brushes, shaving, Arrow, ea	.30	.24
Brushes, hair, military, with screwed backs, ea	.70	.59
Brushes, tooth, "Prophylactic," ea	.21	.21
Brushes, shaving, ea	.20	.18
Brushes, clothes, "Keep clean," ea	.75	.65
Brushes, bath, with long handle, ea	.45	.43
Brooms, whisk, No. 47, ea	.18	.15
Brushes, hair, ea	.75	.65
Brushes, nail, ea	.30	.25
Brushes, tooth, in boxes, ea	.12	.12
Brushes, shaving, ea	.75	.62
Brushes, hair, infants', ea	.25	.27
Brushes, hair, G. 216, ea	1.00	.87
Brushes, hair, No. 658, ea	1.25	1 10
Brushes, bath, No. 25S, ea	1.00	.87
Brushes, hair, No. 14, ea	.75	.64
Hair pins, celluloid, doz	.28	.21
Hair pins, wire, cab	.05	.04
Nets, fringe, coiffure, "Tidywear," ea	.13	.12
Barrettes, ea	.25	.23
Barrettes, ea	.50	.40
Barrettes, ea	.55	.47
Pins, "Braid," ea	.10	.08
Hair pins, wire, "Safe lock," pkg	.03	.03
Mirror, stand, No. 88094, ea	1.00	.84
Mirror, stand, No. 88667, ea	.70	.61
Glasses, shaving," Rite lite," ea	3.15	2.75
Glasses, shaving, ea	1.55	1.35
Glasses, shaving, ea	1.30	1.15
Glasses, shaving, ea	2.30	2.00
Glasses, shaving, ea	3.05	2.60
Mirrors, traveling, ea	1.70	1.55
Mirrors in cases, traveling, ea	1.20	1.05
Hammocks, ea	4.70	4.00
Hammocks, ea	5.50	4.85
Hammocks, "Acme," ea	3.50	3.15
Hammocks, Central American, ea	3.00	2.60
Oil cloth, white and fancy, piece	2.60	2.20
Oil cloth, white and fancy, yard	.22	.18
Matting, straw, yard	.25	.22
Oil cloth, fancy, yard	.22	.18
Sheeting, rubber, white, 4/4, yd	.50	.45
Sheeting, rubber, white, 5/4, yd	.70	.58
Sheeting, rubber, white, 6/4, yd	.85	.73
Padding, table, quilted, 54" wide, yd.	1.00	.84
Mosquito bars, double, ea	1.65	1.40
Curtains, draperies, "Reoscrin," yd	.14	.14
Curtains, draperies, "Georgian", yd	.11	.11
Curtains, silkaline, Pacific art, yd	.10	.10
Curtains, cretons, Dresden draperies, yd	.09	.09
Curtains, cotton, ruffled, pair	.95	.85
Curtains, fish net, No. 44, yd	.15	.15
Curtain, etamine, yd	.17	.15
Cloths, table, I. C. C. hotel, ea	1.65	1.65
Cloths, table, embroidered in colors, 52x52, ea	1.65	1.40
Cloths, table, embroidered in colors, 30x30, ea	2.00	1.70
Cloths, table, embroidered in colors, 36x36, ea	1.45	1.20
Cloths, table, embroidered in colors, 36x36, ea	1.30	1.15
Cloths, table, embroidered in colors, 27x27, ea	1.85	1.60
Cloths, table, embroidered in colors, 36x36, ea	6.15	5.30
Cloths, table, embroidered in colors, 52x52, ea	4.30	3.75
Cloths, table, embroidered in colors, 52x52, ea	5.80	5.10
Cloths, table, embroidered in colors, 52x52, ea	4.10	3.50
Cloths, table, embroidered in colors, 52x52, ea	4.35	3.75
Cloths, table, embroidered in colors, 36x36, ea	2.30	2.00
Cloths, table, embroidered in colors, 36x36, ea	2.50	2.10
Cloths, table, embroidered in colors, 36x43, ea	2.80	2.45
Cloths, table, embroidered in colors, 30x30, ea	2.20	1.90
Cloths, carving, embroidered linen, 20x30, ea	1.60	1.30
Cloths, carving, embroidered linen, 20x30, ea	.85	.76
Cloths, carving, embroidered linen, 20x30, ea	2.75	2.40

ARTICLE.	PRICE CHANGE.	
	Old.	New.
Cloths, tray, H. S. fancy, embd. linen, 20x30, ea	1.10	.98
Cloths, tray, H. S. fancy, embd. linen, 20x30, ea	1.40	1.25
Cloths, tray, H. S. fancy, embd. linen, 45x45, ea	3.90	3.50
Cloths, tray, embroid'd linen, 20x30, ea	.70	.60
Cloths, sideboard, 16x48, ea	4.90	4.25
Cloths, sideboard, 16x60, ea	7.60	6.60
Cloths, sideboard, H. S. embd. linen, No. 46, 18x72, ea	2.30	1.95
Cloths, sideboard, linen damask, H. S. 14x54, ea	.50	.56
Cloths, sideboard, linen damask, H. S. 18x72, ea	.80	.71
Cloths, sideboard, H. S. and drawn thread, 20x30, ea	.45	.38
Cloths, tea, embroidered linen, 36x36	8.80	7.70
Cloths, tea, embroidered, No. 43, fancy, 36x36, ea	2.10	1.75
Cloths, tea, H, S. emb., No. 703, 36x36, ea	2.35	1.95
Cloths, tea, afternoon, emb., No. 052, ea	3.70	3.20
Cloths, tea, H. S. emb., No. 923, 36x36, ea	3.40	3.15
Cloths, tea, embroidered linen, 36x36, ea	1.25	1.15
Cloths, tea, embroidered linen, 36x36, ea	2.50	2.15
Cloths, tea, embroidered linen, 36x36, ea	2.70	2.45
Cloths, tea, linen, 36x36, ea	.65	.63
Cloths, linen, H. S., emb., linen, 36x36, ea	1.70	1.60
Cloths, tea, embroidered linen, 36x36, ea	8.30	7.40
Cloths, tea, embroidered lace, 36x36, ea	6.15	5.50
Cloths, tea, linen, embroidered, 36x36, ea	1.10	1.05
Cloths, tea, H. S., embroidered linen, 45x45, ea	2.30	2.20
Cloths, tea, H. S., embroidered linen, No. 703, ea	3.15	2.55
Cloths, tea, linen, embroidered, 45x45, ea	1.50	1.50
Cloths, tea, embroidered linen, 45x45, ea	1.85	1.60
Cloths, tea, linen, embroidered, ea	2.00	2.10
Cloths, tea, linen, ea	1.50	1.35
Cloths, tea, linen, damask, ea	2.40	1.90
Cloths, tea, embroidered, linen, ea	2.45	2.25
Sets, table linen, damask, pattern, S. 2, consisting of 1 cloth 45″ and 6 napkins, 15x15, set	7.00	6.15
Cases, pillow, embroidered, scalloped, pair	2.50	2.35
Cases, pillow, H. S. linen, pair	1.40	1.35
Cases, pillow, Pequot or Utica, ea	.18	.18
Cloths, wash, "San Knitary," ea	.05	.05
Napkins, paper, doz	.04	.03
Napkins, damask, ea	.24	.20
Napkins, damask, ea	.17	.23
Napkins, scalloped, linen, ea	.70	.54
Doilies, round, damask, ea	.05	.03
Doilies, round, damask, ea	.06	.06
Doilies, round, damask, ea	.10	.08
Doilies, H. S. linen, damask, ea	.40	.36
Doilies, H. S. linen, damask, ea	.40	.34
Doilies, H. S. linen, round scalloped, ea	.18	.15
Doilies, embroidered linen, scalloped, ea	.50	.41
Spreads, bed, embroidered linen, ea	5.85	5.05
Bed spreads, dimity and crochet, ea	1.50	1.30
Blankets, single, English, ea	1.40	1.35
Sheets, ea	.90	.90
Sheets, ea	.60	.60
Sheets, ea	.80	.80
Comfortables, ea	1.85	1.45
Bed spreads, crochet, ea	1.00	.86
Bed spreads, colored, ea	1.30	1.10
Blankets, cotton, ea	.95	.94
Sheets, linen, H. S., 90x100, pair	7.90	6.90
Bed spreads, embroidered linen, 80x100, ea	6.20	5.35
Bed spreads, white, hemmed, double, ea	1.50	1.25
Bed spreads, ea	1.60	1.20
Bed spreads, white with fringe, double, ea	1.85	1.50
Bed spreads, white, with fringe, crochet, ea	1.20	1.05
Bed spreads, dimity, ea	1.20	1.05
Bed spreads, white, single, hemmed, ea	1.10	.95
Toweling, huckaback, 22″, yd	.35	.35
Toweling, crash, 18″, yd	.15	.15
Toweling, check, 18″, yd	.15	.15
Toweling, huckaback, 25″, yd	.45	.44
Toweling, huckaback, yd	.30	.27
Towels, barbers', ea	.08	.07
Towels, bleached, Turkish, ea	.26	.23
Towels, H. S., linen, huckaback, ea	1.40	1.20
Towels, Turkish, bath, ea	.35	.28
Towels, linen, huck., embroidered, ea	.50	.41
Towels, linen, huck., embroidered, ea	.15	.13
Towels, linen, huck., ea	.25	.23
Towels, bath, bleached, "San Knitary," ea	.35	.30
Towels, Turkish, bath, white, ea	.50	.40
Towels, H. S., embroidered linen, ea	1.75	1.50
Towels, H. S., embroidered linen, ea	2.60	2.20
Towels, H. S., embroidered linen, ea	3.00	2.60
Towels, huck., linen, H. S., ea	.40	.32
Towels, Turkish, white, ea	.50	.49
Towels, Turkish, bath, ea	.17	.17
Towels, Turkish, bath, ea	.80	.85
Towels, Turkish, bath, ea	.38	.33
Towels, glass, ea	.20	.17
Sheeting, linen, yd	.68	.71
Sheeting, linen, yd	1.40	1.25
Sheeting, twill, yd	1.06	.93
Sheeting, twill, yd	1.45	1.25
Sheeting, twill, yd	1.05	.89
Batiste, charrone, No. 614, yd	.18	.18
Batiste, holly, yd	.11	.10
Bunting, green and yellow, yd	.20	.20
Bunting, assorted colors, yd	.06	.05
Cloth, ripplette, yd	.12	.12
Cloth, poplin, yd	.18	.18
Long cloth, white, Burleigh, yd	.14	.14
Cloth, cretine, yd	.25	.21
Cloth, costume, worsted, yd	2.25	2.10
Brocade, tri silk, yd	.85	.82
Crepe, Barnaby, yd	.17	.17
Cloth, tissue, yd	.10	.10
Canvas, No. 4, 54″, yd	.80	.75
Dimity, flaxen check, yd	.16	.16
Sateen, No. 90, yd	.16	.16
Cloth, serpentine, crepe, yd	.15	.14
Cloth, crepe, Yeddo, yd	.13	.13
Ratine, silk, Nos. 1 and 4, yd	.60	.53
Ratine, broidered, No. 0510, yd	.68	.59
Duck, linen, yd	.95	.95
Duck, white, linen, yd	.80	.70
Duck, white, linen, yd	.65	.55
Duck, white, linen, yd	.55	.50
Swiss, dotted, white, yd	.14	.11
Swiss, curtain, yd	.10	.10
Swiss, dotted, yd	.12	.12
Swiss, dotted, Torquay, yd	.20	.20
Swiss, figured, yd	.25	.23
Drill, white, union, yd	.27	.27
Drill, striped, linen, yd	.19	.19
Drill, khaki, Stockport, yd	.22	.22
Drilling, unbleached, yd	.10	.10
Drill, bleached, linen, yd	.43	.43
Drill, khaki, cotton, Saddler, No. 3500, yd	.17	.17
Drill, cotton, drab, yd	.25	.25
Drill, brown, linen, yd	.25	.22
Drill, white, linen, yd	.65	.53
Diaper, Purity, ea	.07	.07
Diaper, cotton, Red Star, piece	.90	.90
Diaper, cloth, Red Star, piece	.95	.95
Flannel, Canton, yd	.14	.14
Flannel, cream, 36″, yd	.50	.45
Flannel, Saxony, Welsh, yd	.30	.25
Flannel, fleecedown, 28″, yd	.10	.10
Gingham, apron, yd	.08	.08
Gingham, Chambray, imperial, yd	.13	.12
Gauze, hospital, yd	.05	.05
Gingham, Barnaby, zephyr, yd	.11	.10
Calico, colored, yd	.03	.03
Lawn, black, yd	.16	.16
Lawn, white, yd	.14	.14
Lawn, white, yd	.17	.17
Lawn, checked, 27″, yd	.14	.12
Linon, India, yd	.12	.12
Linon, India, yd	.14	.14
Linen, cambric, 36″, yd	1.02	.98
Linen, white, costume, 36″, yd	.40	.34
Linen, "Holanda cruda," No. 530, 31″, yd	.25	.20
Linen, 36″	.65	.56
Linen, sheer, yd	.62	.52
Linen, light, 36″, yd	.55	.50
Linen, costume, bleached, 36″, yd	.24	.22
Linen, white, cambric, 36″, yd	.44	.38
Linen, colored, costume, 36″, yd	.28	.24
Linen, cambric, 36″, yd	.36	.31
Linen, pillow, 45″, yd	.70	.57
Linen, colored, union, 28″, yd	.25	.20
Pique, white, No. 738, yd	.16	.16
Pique, printed, No. 558, yd	.16	.16
Vesting, pique, yd	2.10	1.96
Pique, white, 27″, yd	.26	.22
Nainsook, plain, yd	.11	.11
Nainsook, check, yd	.10	.10
Nainsook, white cotton, yd	.18	.16
Nainsook, white cotton, yd	.24	.20
Suiting, mercerized union, 27″, yd	.30	.29
Suiting, silk, yd	1.85	1.65
Suiting, silk, yd	2.00	1.75
Suiting, union, No. 506, yd	.25	.20
Muslin, "Fruit of loom," yd	.11	.10
Muslin, unbleached, yd	.10	.10
Cambric, "Diamond hill", yd	.09	.09
Cambric, bleached, "Lonsdale," yd	.12	.12
Muslin, 36″, "Indian head," yd	.14	.14
Muslin, 27″, white, yd	.05	.04
Mousseline, rivale, Lot 787, assorted, 27″, yd	.16	.16
Linen, 72″, No. 219-M, yd	.80	.72
Voile, 40″, striped, yd	.18	.15
Percale, plain and figured, yd	.10	.09
Percales, "Marcelle," assorted, yd	.10	.11
Alpaca, black, yd	1.08	.91
Flannel, suiting, fancy, yd	2.10	1.75
Suiting, tweed, yd	3.10	2.40
Suiting, tweed, yd	2.40	2.20
Suiting, tweed, yd	3.10	2.65
Suiting, tweed, yd	3.90	3.40
Suiting, tweed, yd	2.45	2.10
Suiting, tweed, fancy, yd	2.90	2.35
Suiting, tweed, fancy, yd	3.25	2.55
Suiting, tweed, fancy, yd	3.40	2.70
Suiting, tweed, fancy, yd	2.85	2.40
Serge, indigo blue, No. 3320	1.85	1.85
Serge, indigo blue, yd	2.20	1.95
Serge, indigo blue, yd	1.85	1.60
Serge, indigo blue, yd	2.80	2.40
Serge, cream, yd	2.50	1.95
Serge, black, No. 5011, yd	2.40	2.40
Serge, black, No. 3320, yd	2.10	1.80
Serge, striped, yd	2.00	1.75
Serge, indigo blue, yd	3.75	3.25
Serge, blue, yd	2.50	2.50
Serge, khaki, 55″x56″, yd	1.15	1.15
Serge, gray, yd	3.15	2.75
Serge, blue, No. 1502 and 1503, yd	2.75	2.75
Serge, black, No. 1501, yd	2.65	2.65
Aprons, sanitary, nainsook, ea	.50	.41
Aprons, sanitary, silk, ea	.75	.61
Belts, ladies', patent leather, ea	.25	.22
Underwaists, boys' and girls', ea	.30	.23
Blouses, middy, khaki, ea	1.45	1.30
Blouses, boys' "Idea," ea	.55	.46
Blouses, middy, norfolk, "Morris," ea	1.65	1.45
Blouses, middy, short sleeves, ea	1.45	1.25
Blouses, middy, long sleeves, ea	1.45	1.25
Blouses, middy, long sleeves, ea	1.05	.91
Blouses, middy, blue collars, ea	1.15	.95
Blouses, embroidered linen, ea	4.00	3.35
Blouses, embroidered linen, ea	2.50	2.05
Blouses, embroidered linen, ea	2.35	1.95
Blouses, embroidered linen, ea	2.20	1.75
Blouses, linen, ea	2.00	1.65
Blouses, linen, hand embroidered, ea	1.85	1.55
Blouses, linen, embroidered, ea	3.60	3.05
Blouses, ready made, ea	1.15	1.25
Blouses, ready made, ea	2.65	2.25
Blouses, ready made, ea	2.90	2.50
Blouses, linen, embroidered, ea	2.55	2.35
Raincoats, ladies', No. 9063, ea	4.35	4.35
Caps, children's, with hoods, ea	2.95	2.55
Combinations, ladies', No. 352-516, ea	1.90	1.65
Suits, union, ladies', lisle, ea	1.15	.99
Steel, corset, ea	.10	.09
Corsets, W. B., 478 and 484, ea	.89	.89
Corsets, No. 123, ea	1.55	1.55
Corsets, No. 783, ea	3.10	2.50
Corsets, Gossard, Model 211, ea	7.50	7.30
Corsets, Gossard, Model 303, ea	3.75	3.65
Corsets, Gossard, Model 107, ea	4.40	4.25
Corsets, Reduso, W. B., No. 787, ea	2.45	2.45
Corsets, Reduso, W. B., No. 789, ea	2.50	2.50
Corsets, Reduso, newform, No. 100, ea	1.20	1.20
Drawers, muslin, pair	1.00	1.00
Drawers, muslin, pair	1.00	1.20
Drawers, gauze, pair	.70	.53
Knickers, children's, sanitary, pair	1.00	1.10
Supporters, hose, "May Pell," pair	.50	.45
Supporters, hose, children's, "Buster Brown," pair	.20	.16
Supporters, hose, ladies', "Princess," pair	.50	.48
Supporters, hose, ladies', bathing, pair	.25	.22
Gowns, night, ea	.95	.82
Gowns, night, ea	1.15	.98
Gowns, night, ea	1.30	1.15
Gowns, night, ea	1.50	1.30
Hose, children's, black cotton, pair	.25	.23
Hose, infants', pair	.12	.11
Hose, ladies', "Phoenix," pair	.75	.69
Socks, silk, children's, "Onyx," pair	.25	.23
Hose, cotton, misses,' "Onyx," pair	.25	.23
Hose, ladies', lisle, black, pair	.25	.25
Hose, silk, black and white, pair	.50	.42
Hose, silk, extra heavy, "Phoenix," pr	.90	.90
Hose, children's, lisle, black, pair	.20	.20
Hose, children's, pair	18	.18
Hose, ladies', lisle, black and white, p	.25	.25
Hose, ladies', cotton, pair	.25	.22
Hose, ladies, lisle, white, pair	.25	.25
Hose, ladies', lisle, tan, pair	.25	.25
Hose, children's, white, pair	.20	.17
Hose, children's, tan, pair	.20	.20
Kimonos, ea	1.50	1.50
Kimonos, silk, No. 1063/00, ea	5.65	4.90
Kimonos, silk, No. 1004, ea	6.00	5.20
Kimonos, crepe, assorted patterns, ea	1.25	1.10
Vests, gauze, ladies', ea	.28	.28
Vests, gauze, ea	.14	.14
Suits, bathing, ladies' and misses', ea	1.90	1.70
Suits, bathing, ladies' and misses', ea	2.25	2.00
Suits, bathing, ladies', No. 452, ea	3.85	3.30
Suits, bathing, ladies', No. 637. ea	5.30	4.60
Suits, bathing, ladies', No. 805, ea	6.85	5.90
Suits, bathing, ladies', No. 408, ea	3.10	2.65
Suits, bathing, ladies', No. 553, ea	4.60	3.95
Suits, bathing, ladies', ea	3.50	3.95
Robes, muslin, Swiss, ea	3.35	3.35
Robes, embroidered linen, with blouse to match, set	5.70	5.20
Robes, embroidered linen, with blouse to match, set	6.30	5.60
Dresses, children's, ea	1.15	.99
Rompers, children's, ea	.50	.45
Skirts, under, muslin, ea	1.05	.86
Handkerchiefs, black border, ladies', ea	.25	.20
Handkerchiefs, H. S. linen, ea	.10	.10
Handkerchiefs, ladies', linen, ea	.40	.30
Handkerchiefs, ladies', sheer linen, 12″x12″, ea	.15	.14
Caps, bathing, ladies', silk, ea	2.50	2.20
Caps, bathing, ea	.20	.17
Collar supports, ea	.02	.01
Collar supports, "Keitel's," ea	.08	.06
Cotton, darning, B. T. and W., spool	.02	.02
Thread, silk, Richardson's, spool	.05	.04
Thread, Clarke's, cotton, spool	.05	.05
Thread, Clarke's, "Anchor," spool	.07	.07
Thread, khaki, spool	.07	.07
Thread, sansilk, spool	.05	.03

Article.	Price Change.	
	Old.	New.
Thread, silk, buttonhole, spool	.02	.02
Thread, linen, white, spool	.12	.11
Thread, linen, white, spool	.10	.09
Tape, English, twilled, piece	.08	.06
Tape, English, twilled, piece	.06	.05
Tape measure, ea	.08	.04
Elastic, webbing, cotton, 1″, yd	.09	.06
Elastic, silk, yd	.35	.30
Tape, English, twill, 1″, piece	.10	.09
Elastic, white and black, yd	.03	.02
Elastic, black and white, ⅜″, yd	.03	.03
Elastic, black and white, 1″, yd	.06	.05
Elastic, cotton, ¼″, No. 6, yd	.02	.01
Buttons, universal, No. 22, doz	.02	.01
Buttons, universal, No. 23, doz	.03	.02
Buttons, pearl, doz	.09	.08
Buttons, black bone, No. 22, doz	.02	.02
Buttons, black bone, No. 27, doz	.03	.02
Buttons, black bone, No. 30, doz	.04	.02
Buttons, pearl, No. 16, doz	.08	.08
Buttons, pearl, No. 24, doz	.12	.12
Buttons, pearl, with bolts, ea	.04	.03
Buttons, pearl, No. 26, doz	.15	.14
Buttons, pearl, No. 28, doz	.18	.17
Buttons, pearl, No. 30, doz	.20	.19
Buttons, pearl, No. 32, doz	.30	.29
Buttons, pearl, No. 16, doz	.05	.04
Buttons, pearl, No. 18, doz	.06	.05
Buttons, pearl, No. 20, doz	.07	.06
Buttons, pearl, No. 22, doz	.08	.06
Buttons, pearl, No. 24, doz	.09	.07
Buttons, pearl, No. 26, doz	.10	.09
Buttons, pearl, No. 28, doz	.11	.10
Button, moulds, Nos. 40 and 45, doz.	.02	.02
Buttons, bllack, jet, doz	.12	.11
Buttons, black, jet, doz	.30	.27
Buttons, black, jet, doz	.45	.42
Hooks and eyes, doz	.03	.02
Pins, Miller, book	.10	.07
Pins, books, "Princess," book	.05	.04
Pins, safety, "Duplex," doz	.05	.04
Pins, safety, "Duplex," doz	.06	.04
Fasteners, dress, doz	.07	.05
Pins, safety, No. 1, bright, card	.02	.01½
Pins, safety, No. 2, bright, card	.02	.02
Pads, No. 31, ea	.50	.43
Forms, pneumatic, ea	15.00	14.45
Ribbon, taffeta, No. 60, yd	.21	.18
Ribbon, taffeta, No. 40, yd	.18	.16
Ribbon, taffeta, No. 22, yd	.16	.14
Ribbon, taffeta, No. 12, yd	.11	.10
Ribbon, taffeta, No. 9, yd	.09	.08
Ribbon, taffeta, No. 5, yd	.05	.05
Ribbon, taffeta, No. 3, yd	.04	.04
Ribbon, meteor, Nos. 1½ and 2, yd	.03	.03
Ribbon, satin, silk, Moir, yd	.22	.20
Ribbon, satin, No. 3, fancy, yd	.06	.03
Ribbon, satin, No. 5, fancy, yd	.08	.07
Ribbon, satin, No. 4, and fancy, No. 2, yd	.05	.05
Ribbon, silk, fancy, No. 80, yd	.36	.31
Ribbon, taffeta yd	.03½	.03
Ribbon, black velvet, No. 3, yd	.04	.03
Ribbon, black velvet, No. 5, yd	.06	.05
Ribbon, black velvet, No. 7, yd	.07	.07
Ribbon, black velvet, No. 9, yd	.09	.08
Ribbon, black vevet, No. 12, yd	.10	.10
Ribbon, black velvet, No. 16, yd	.12	.12
Ribbon, black velvet, No. 20, yd	.15	.12
Ribbon, black velvet, No. 22, yd	.18	.15
Ribbon, black velvet, No. 30, yd	.22	.19
Ribbon, tulip, white, No. 22, yd	.25	.24
Ribbon, almo, No. 1, satin, red, piece	.07	.06
Ribbon, almo, No. 1½, satin, red, piece	.13	.11
Ribbons, satin, No. 1 and No. 2, piece	.20	.13
Ribbons, satin, Nos. 1½ and No. 3, pc.	.30	.24
Ribbons, satin, Nos. 2 and 4½, piece	.40	.31
Ribbons, silk, No. 100, yd	.37	.33
Ribbons, silk, fancy, No. 4542, yd	.21	.18
Ribbons, rucking, yd	.04	.02
Ribbons, satin, "Seal," No. 2, yd	.06	.04
Ribbons, satin, "Seal," No. 3, yd	.08	.06
Ribbons, satin, "Jupiter," No. 5, yd	.09	.07
Ribbons, satin, "Jupiter," No. 7, yd	.10	.09
Ribbons, satin, "Jupiter," No. 9, yd	.12	.10
Ribbons, satin, "Exposition," No. 22. yd	.15	.13
Ribbons, satin, "Exposition," No. 40, yd	.17	.17
Ribbons, satin, "Exposition," No. 60, yd	.20	.17
Ribbons, satin, "Exposition," No. 80. yd	.23	.21
Ribbons, taffeta, No. 16, yd	.13	.12
Ribbons, taffeta, No. 16, yd	.15	.12
Ribbons, taffeta, No. 22, yd	.16	.15
Ribbons, taffeta, No. 40, yd	.20	.17
Ribbons, taffeta, No. 60, yd	.25	.23
Ribbons, taffeta, No. 80, yd	.30	.28
Ribbons, taffeta, No. 5, yd	.06	.05
Ribbons, taffeta, No. 7, yd	.07	.06
Ribbons, taffeta, No. 9, yd	.09	.08
Ribbons, taffeta, No. 12, yd	.11	.11
Ribbons, "Seal," No. 1½, yd	.04	.03
Laces, corset, 2½-yd, ea	.01	.01
Laces, corset, yd	.04	.03
Laces, corset, ea	.27	.23
Laces, corset, 5-yard, pair	.05	.04
Laces, middy blouse, No. 3155, ea	.06	.05
Letters, doz	.01	.01
Letters, doz	.12	.12
Letters, doz	.36	.32
Letters, doz	.14	.11
Initials, ea	.75	.64
Initials, book	1.60	1.40
Initials, doz	.10	.09
Initials, doz	.18	.16
Laces, Valenciennes, yd	.06½	.05
Laces, Valenciennes, yd	.06	.05
Laces, Valenciennes, yd	.03½	.03
Valenciennes, insertion, yd	.04	.03
Valenciennes, insertion, yd	.04	.04
Valenciennes, insertion, yd	.01½	.01
Valenciennes, insertion, yd	.03	.02
Valenciennes, insertion, yd	.02	.02
Valenciennes, insertion, yd	.01	.01
Valenciennes, insertion, yd	.05½	.04
Valenciennes, insertion, yd	.07½	.06
Lace, Torchon, yd	.11	.08
Lace, Torchon, yd	.16	.14
Lace, Torchon, yd	.02	.01
Lace, Torchon, yd	.02½	.01
Lace, Torchon, yd	.05	.05
Needles, bodkins, 3-inch, doz	.08	.07
Needles, darning, ea	.04	.02
Needles, mitrailleuse case, ea	.09	.08
Thimbles, extra heavy, ea	.10	.07
Thimbles, No. 351, ea	.02	.02
Balls, camphor, box	.07	.06
Buttons, bachelor, doz	.10	.07
Carbona, bot	.25	.19
Cotton, absorbent, 4-oz., pkg	.15	.14
Umbrellas, 28-inch, ea	1.00	.94
Umbrellas, 28-inch, ea	.85	.85
Umbrellas, 26-inch, ladies', ea	1.75	1.75
Umbrellas, 26-inch, ladies', ea	2.00	2.00
Umbrellas, 30-inch, men's, ea	1.50	1.50
Umbrellas, cotton, No. 2, ea	1.10	1.10
Umbrellas, cotton, No. 3, ea	1.75	1.75
Umbrellas, men's, 26½-inch, ea	1.00	1.00
Umbrellas, children's, Taff, ea	.75	.75
Umbrellas, ladies', 26-inch, ea	1.40	1.40
Umbrellas, men's, G-91, ea	1.20	1.15
Umbrellas, 26-inch, ea	.85	.85
Umbrellas, gent's, silk, ea	2.50	2.50
Flags, French, 4′x6′, ea	2.00	1.65
Flags, English, 5′x8′,ea	5.35	5.25
Flags, French, 5′x8′, ea	3.10	3.05
Flags, Panama, 8′x12′, ea	3.50	2.80
Flags, Panama, 5′x8′, ea	1.90	1.85
Flags, Panama, 6′x10′, ea	2.60	2.55
Flags, American, 6′x10′, ea	7.05	6.05
Pencils, commercial, ink, ea	1.10	.93
Pencils, commercial, ink, ea	.75	.61
Pens, fountain, Parker, No. 1, ea	1.20	1.05
Pens, fountain, Nos. 3, 18, 18½, ea	1.60	1.40
Pens, fountain, Parker, No. 6, ea	2.45	2.05
Pens, fountain, Parker, No. 20 and 20½ ea	2.00	1.70
Pens, fountain, Parker, No. 21, ea	2.85	2.40
Ink, Carter's, 2-ounce bottle, ea	.05	.03
Ink, fountain pen, bot	.20	.17
Paste, library, Carter's, jar	.05	.03
Cards, playing, "Panama," pkg	.50	.38
Cards, playing, "Bicycle," pkg	.13	.11
Cards, playing, pinochle, pkg	.16	.14
Albums, postcard, ea	1.95	1.65
Albums, postcard, No. 1092-C, ea	2.20	2.25
Paper, writing, box	.30	.26
Envelopes, pkg	.09	.08
Paper, writing, box	.12	.11
Paper, writing, linen, pkg	.20	.18
Cards, correspondence, and envelopes, box	.60	.47
Notepaper, Highland linen, box	.40	.32
Envelopes, Highland linen, box	.75	.62
Notepaper, Highland linen, box	.35	.31
Envelopes, Highland linen, box	.60	.51
Papeteries, white, No. 634, box	.30	.25
Papeteries, gray, No. 6340, box	.45	.41
Envelopes, box	.08	.06
Cards, correspondence, box	.08	.07
Papeteries, white, box	.40	.37
Togards, lisle, men's, pair	.08	.07
Togards, lisle, men's, pair	.22	.19
Caps, English, golf, ea	1.15	.97
Caps, pacemaker, ea	1.00	.82
Caps, khaki, No. 431-6, ea	.45	.38
Caps, silk, ea	.70	.61
Caps, engineer's, ea	.20	.17
Caps, assorted sizes, ea	.50	.38
Caps, men's, cloth, ea	.80	.74
Caps, shepherd, check, ea	.55	.48
Hats, cloth, wool, ea	.90	.90
Hats, soft crown, ea	4.50	3.90
Hats, ladies', cross-grain, ea	1.75	1.70
Hats, men's, cloth, ea	.80	.75
Hats, ladies', waterproof, ea	1.10	.93
Hats, men's, straw, ea	1.40	1.20
Hats, men's, straw, No. 22, ea	1.75	1.50
Hats, men's, straw, No. 29, ea	1.95	1.70
Hats, men's, felt, ea	1.25	1.10
Hats, boys', straw, ea	.75	.70
Hats, straw, children's, ea	.30	.25
Hats, straw, men's, ea	2.65	2.30
Hats, felt, Stetson, ea	3.50	3.15
Hats, men's, felt, No. 3181, ea	1.50	1.35
Hats, men's, felt, No. 2717, ea	1.70	1.45
Hats, men's, straw, No. 919, ea	2.70	2.40
Hats, crush, felt, ea	1.25	1.20
Hats, straw, ea	2.50	2.50
Hats, straw, ea	2.20	2.20
Hats, straw, E. P., No. 2079, ea	1.20	1.05
Hats, straw, No. 4, ea	.25	.23
Hats, waterproof, No. 2065, ea	.50	.43
Hats, misses', peanut, ea	.55	.48
Hats, straw, ea	2.70	2.35
Hats, straw, ea	1.90	1.70
Hats, straw, ea	2.25	2.00
Hats, waterproof, ea	.65	.56
Hats, Dakota, ea	4.40	3.80
Hats, broncho, ea	4.75	4.25
Hats, straw, Carroll, ea	1.75	1.50
Hats, U. S. A. pattern, white, ea	.55	.45
Hat bands, assorted, ea	.45	.40
Collars, linen, Arrow, ea	.11	.11
Collars, linen, Cluett, ea	.25	.21
Collars, linen, Corliss and Coon, ea	.13	.11
Collars, soft, Cluett, ea	.21	.21
Ties, four-in-hand, ea	.50	.45
Ties, four-in-hand, ea	.45	.39
Ties, silk, four-in-hand, ea	.50	.43
Ties, silk, bat wing, ea	.50	.43
Ties, silk, four-in-hand, ea	.55	.49
Ties, silk, four-in-hand, ea	.50	.44
Ties, silk, four-in-hand, ea	.50	.43
Ties, club, pointed end, ea	.25	.23
Ties, Teck, ea	.30	.25
Ties, black, ea	.55	.45
Ties, Scotch plaid, ea	.25	.22
Ties, wash, four-in-hand, ea	.20	.20
Ties, wash, four-in-hand, ea	.15	.14
Ties, reversible, four-in-hand, ea	.50	.43
Ties, cotton, four-in-hand, ea	.25	.25
Ties, silk, four-in-hand, ea	.50	.43
Ties, silk, four-in-hand, ea	.45	.39
Ties, bat, ea	.40	.35
Ties, bow, white, dress, ea	.20	.20
Ties, silk, reversible, four-in-hand, ea	.45	.39
Ties, silk, knitted, ea	.50	.49
Ties, silk, four-in-hand, ea	1.00	.86
Belts, leather, ea	.45	.39
Belts, No. 301, ea	.50	.43
Belts, Nos. 270 and 220, ea	1.45	1.25
Belts, No. 320, ea	1.80	1.60
Belts, No. 311, ea	1.00	.81
Belts, Nos. 381 and 343, ea	.85	.75
Belts, leather, ea	.90	.87
Belts, leather, with pearl buckle, ea	.50	.45
Belts, leather, with covered buckles, ea	1.00	.85
Belts, leather, with brass buckles, ea	.55	.50
Belts, leather, ea	.70	.61
Belts, men's, cotton elastic, ea	.45	.31
Belts, men's, "Snug text," ea	.45	.39
Belts, men's, ea	.50	.41
Belts, men's, ea	1.10	.92
Belts, men's, No. 272, ea	.50	.47
Garters, Brighton, silk, pair	.20	.15
Garters, Brighton, double grip, pr	.20	.20
Garters, Paris, pr	.40	.35
Garters, Boston, silk, pr	.40	.35
Garters, Crown, pr	.25	.21
Garters, Boston, pr	.20	.16
Garters, Paris, pr	.20	.17
Bands, arm, Blakely, pr	.08	.06
Bands, arm, No. 338, pr	.18	.16
Supporters, elastic, ea	.50	.39
Suspenders, President, pr	.45	.38
Suspenders, Parmenter, pr	.45	.38
Suspenders, pr	.50	.44
Suspenders, No. 49, pr	.30	.27
Gloves, engineers', pr	1.10	.95
Gauntlets, engineers', pr	2.00	1.80
Gauntlets, engineers', pr	1.10	.77
Handkerchiefs, linen, 18 x 18, ea	.15	.14
Handkerchiefs, linen, 18 x 18, ea	.10	.08
Handkerchiefs, bandana, ea	.05	.04
Handkerchiefs, linen, ea	.25	.22
Handkerchiefs, gent's, ea	.20	.17
Hose, silk, Phoenix, pr	.45	.45
Hose, silk, pr	.45	.43
Hose, men's, silk, pr	.35	.35
Hose, men's, assorted, pr	.20	.20
Hose, men's, silk, pr	.50	.45
Hose and ties, sets, white, pair	.55	.46
Half hose, lisle, white, pr	.15	.15
Half hose, lisle, tan, pr	.15	.15
Half hose, black, white soles, pr	.12	.12
Half hose, silk, pr	.35	.35
Half hose, silk, pr	.45	.41
Half hose, lisle, black, pr	.15	.15
Half hose, silk, heavy, pr	.65	.65
Shirts, Royal Blue, ea	.85	.85
Shirts, Royal Blue, Cones, ea	.45	.45
Shirts, full dress, ea	2.00	1.60
Shirts, Cluett, ea	1.25	1.25
Shirts, white, dress, Cluett, ea	1.50	1.30
Shirts, Windsor, ea	.75	.75
Shirts, blue, working, ea	.45	.45
Shirts, blue, working, ea	.45	.45
Shirts, negligee, "E. & W.", ea	1.00	1.15
Shirts, white, pleated, ea	1.75	1.60
Shirts, Manhattan, ea	1.70	1.70
Shirts, soft, ea	1.00	.82
Shirts, soft, ea	1.50	1.30
Shirts, ea	.70	.68
Shirts, negligee, ea	2.00	1.75
Shirts, khaki, colored, ea	.95	.83
Shirts, taffeta, unshrinkable, ea	2.00	1.80
Shirts, soft, French cuffs, ea	1.50	1.30
Shirts, wool, khaki, ea	2.25	2.25
Shirts, Arab, white, ea	.70	.70
Shirts, negligee, white and colored, ea	1.35	1.35
Shirts, Star, white, ea	1.50	1.40
Shirts, Earl & Wilson, ea	1.00	1.15
Shirts, Miller's, No. 674, ea	2.50	2.15
Shirts, negligee, laundered, ea	1.40	1.40
Shirts, blue, Chambray, ea	.45	.45
Shirts, negligee, No. 93, ea	3.50	3.10
Undershirts, short sleeve, ea	.21	.21
Undershirts, white crepe, ea	.50	.47
Underwear, Porosknit, ea	.36	.36
Underwear, Sea Island, ea	.37	.37
Undershirts, "Keep Kool," ea	.45	.38
Undershirts, gauze, ea	.33	.33
Undershirts. Sea Island, ea	.44	.44
Undershirts, C. P. R., nainsook, ea	.40	.37

ARTICLE.	PRICE CHANGE.	
	Old.	New.
Undershirts, athletic, ea	.50	.41
Undershirts, Morris Make, ea	.37	.37
Suits, union, cotton, ea	.75	68
Undershirts, linen, Morris, ea	1 00	93
Trousers, running, Dayton, pr	.50	44
Drawers, Scriven, elastie, pr	.60	60
Drawers, white, crepe, pr	.50	47
Drawers, jean, elastic seam, pr	.55	51
Drawers, Porosknit, pr	.36	36
Drawers, C. P. R., nainsook, pr	.40	.40
Drawers, Sea Island (Rox), pr	.45	.45
Drawers, running, Spalding, pr	.45	.44
Drawers, Morris Make, pr	.37	.37
Drawers, linen, Morris, pr	1.00	.90
Suits, sleeping, No. A-6468, suit	1.60	1.35
Pajamas, suit	.90	.79
Pajamas, silk, suit	3.80	3.30
Nightshirts, collarless, ea	1.10	.97
Pajamas, Morris, suit	1.15	1.05
Pajamas, cotton, Morris, suit	1.50	1.35
Pajamas, Morris, No. 309, suit	1.50	1.50
Robes, bath, ea	2.50	2.50
Robes, bath, ea	6.00	5.30
Suits, bathing, men's, ea	3.75	2.90
Suits, bathing, men's, ea	2.75	2.40
Suits, bathing, boys', ea	1.50	1.30
Suits, bathing, men's, ea	3.50	3.00
Suits, bathing, men's, ea	3.10	2.65
Suits, bathing, boys', ea	1.60	1.35
Coats, khaki, ea	.50	.50
Coats, drill, W. P., ea	3.35	2.85
Coats, W. P., Newburry, ea	8.00	7.20
Coats, oil, long sleeves, ea	2.60	2.25
Coats, waterproof, ea	10.75	9.40
Coats, rain, newport. ea	8.00	6.85
Capes, rain, men's, ea	8.30	7.35
Capes, rain, men's, ea	8.70	7.60
Trousers, riding, khaki, pr	1.80	1.55
Trousers, riding, khaki, pr	2.70	2.35
Trousers, khaki, pr	1.60	1.47
Trousers, white duck, pr	1.70	1.70
Trousers, riding, khaki, pr	1.70	1.55
Trousers, summer, "Keep Kool," pr	8.30	7.20
Trousers, working, with belt, pr	.85	.85
Trousers, riding, khaki, pr	2.10	2.10
Trousers, flannel, pr	4.40	4.05
Trousers, flannel, pr	4.15	3.60
Trousers, Palm Beach, pr	2.90	2.75
Trousers, blue, working, pr	.85	.85
Trousers, white serge, pr	4.00	4.00
Trousers, striped serge, pr	4.50	4.15
Trousers, Palm Beach, pr	2.70	2.70
Trousers, white duck, pr	3.00	2.60
Trousers, white linen, pr	2.60	2.35
Suit, oil, ea	2.80	2.45
Suit, summer, "Keep Kool", ea	16.60	14.10
Suit, summer, Tulane, ea	8.30	7.20
Suit, washable, boys,' ea	1.50	1.30
Suit, washable, boys', ea	1.85	1.60
Suit, washable, boys', ea	2.25	1.90
Suit, washable, boys', ea	4.50	3.85
Suit, Palm Beach, ea	7.30	6.35
Suit, Palm Beach, ea	6.00	6.00
Suit, Palm Beach, silk, ea	12.00	10.30
Suit, Palm Beach, norfolk, ea	6.75	6.75
Suit, white linen, ea	6.00	5.45
Overalls, plain pin, check, pr	.85	.85
Overalls, apron, colored, pr	.85	.85
Jumpers, jean, ea	.95	.95
Jumpers, Cone, Boss, ea	.85	.85
Labels, luggage, leather, ea	.10	.08
Bag, hand, genuine walrus, 18-inch, ea	9.65	9.65
Bags, kit, hide, ea	16.00	15.75
Bags, kit, leather, ea	7.40	7.50
Bags, hand, smooth, cowhide, brown, 16", No. 124, ea	9.50	9.50
Bags, hand, smooth, cowhide, brown, 18", No. 124, ea	10.40	10.40
Bags, hand, smooth, cowhide, brown, 18", with strap, No. 157, ea	10.65	10.65
Bags, hand, smooth, cowhide, brown, 18", with strap, No. 158, ea	12.00	12.00
Cases, suit, leather, 24x6½x14," ea	10.90	10.90
Cases, suit, ea	5.05	5.05
Cases, suit, nut hide, 24-inch, ea	9.00	10.20
Cases, dressing, leather, ea	8.10	8.10
Cases, cigarette, seal, leather, ea	1.10	1.10
Cases, card, leather, gents', ea	.56	.56
Cases, card, leather, ladies', ea	.64	.64
Cases, suit, fibre, 24", ea	1.20	1.20
Cases, suit, leather, 24", ea	16.00	16.65
Cases, suit, hide, 24", ea	17.55	17.55
Cases, leather, pigskin, No. 209, ea	.33	.33
Cases, leather, Morocco, No. 376, ea	.83	.83
Cases, fitted, brush, ea	1.90	1.65
Trunks, leather, with covers, 36" ea	30.00	30.00
Purses, pigskin, ea	.25	.20
Purses, velvet, calf, ea	.45	.39
Purses, velvet, calf, ea	.55	.46
Purses, leather, gent's, ea	.35	.26
Books, pocket, ea	1.85	1.55
Leggings, motor, leather, pr	4.00	3.95
Puttees, dark olive, drab, pr	1.15	1.00
Dressing for suede shoes, black and tan, bot	.18	.14
Blanco, in tins, tin	.15	.12
Viscol, shoe and leather dressing, tin	.25	.19
Paste, shoe, tan and black, tin	.05	.04
Dressing, shoe, sterling, combination, Griffin's, pkg	.15	.12
Dressing, white canvas, Griffin's, tin	.08	.06
Polish, shoe, black and tan, "2 in 1," tin	.07	.06
Polish, shoe, black, white, and tan, English, pkg	.20	.14
Brushes, and daubers, "Shinola," set	.35	.29
Laces, shoe, tubular, black, "Never break," 5-4, pr	.05	.03
Laces, shoe, white, mercerized, pr	.06	05
Laces, tubular, white, ea	.02	01
Laces, shoe, No. F-10, pr	.06	.06
Laces, shoe, tubular, pr	12	10
Laces, silk, "Nufashund," black, white, and tan, pr	20	17
Laces, shoe, silk, Oxford, pr	.10	.15
Laces, shoe, leather, pr	.07	.06
Laces, shoe, silk, pr	.16	.13
Lifts, shoe, cow horn, ea	.15	.13
Heels, shoe, rubber, pr	.30	.25
Trees, shoe, men's, women's, pr	1.00	.86
Hooks, button, 6", ea	.10	.09
Taps, hemlock, pr	.40	.40
Oxfords, tan, russ., blucher, Plants', pr	2.00	2.00
Oxfords, G. M., russ., blucher, Plants' pr	2.00	2.00
Oxfords, vici kid, blucher, Wickers & Gardiner, pr	3.45	3.45
Oxfords, vici, blu., Selby Shoe Co., pr.	2.75	2.75
Oxfords, tan, russ., Selby Shoe Co., pr	3.15	3.15
Oxfords, G. M., blu., Selby Shoe Co. pr	3.15	3.15
Shoes, G. M., blu., flex. welt, Wickers & Gardiner, pr	3.45	3.45
Shoes, tan, russ., C. B., blu., Wickers & Gardiner, pr	3.45	3.45
Shoes, women's, canvas, Oxford, pr	2.40	2.35
Oxfords, tan, russ., blu., rubber sole, W. & G., pr	3.75	3.75
Oxfords, Douglas, blu., low heel welt, W. & G., pr	3.75	3.75
Oxfords, white, nu., blu., rubber soles, W. & G., pr	4.00	4.00
Oxfords, Dongola, blu., leather heel, welt, W. & G., pr	4.00	4.00
Oxfords, white canvas, blu., rubber sole, W. & G., pr	3.45	3.45
Oxfords, white canvas, tennis, Clark & Hutchinson, pr	1.10	1.10
Pumps, G. M., ankle straps, Plants, pr	2.00	2.00
Pumps, white canvas, Bliss & Perry, pr	2.40	2.35
Pumps, white canvas, Bliss & Perry, pr	1.70	1.70
Pumps, G. M., pat., Selby Shoe Co., pr	3.15	3.15
Pumps, tan, russ., Wickers & Gardiner, pr	3.50	3.45
Pumps, dull col., welt, Wickers & Gardiner, pr	3.50	3.45
Pumps, dull, calf, Wickers & Gardiner, pr	3.45	3.45
Pumps, opera, white, Nubuck, seamless, B. & P., pr	3.10	3.10
Pumps, opera, satin, seamless, assorted colors, Bliss & Perry, pr	2.60	2.60
Pumps, pat., colt. W. & G., pr	3.45	3.40
Pumps, G. M., col., welt, W. &. G., pr.	3.75	3.75
Pumps, pat., colt., col., welt sole, W. & G., pr	3.75	3.75
Shoes, women's, satin, pr	3.00	2.90
Shoes, women's, patent, pr	2.90	2.80
Sandals, blk., russ., ankle strap, Dugan & Hudson, pr	2.00	2.00
Shoes, white canvas, pr	2.10	2.00
Shoes, white canvas, Gibson tie, pr	2.40	2.35
Slippers, black, Hammel's, pr	1.25	1.25
Shoes, pat., ankle straps, Dugan & Hudson, pr	2.85	2.85
Shoes, black, russ., blu., Dugan & Hudson, pr	3.20	3.15
Shoes, kid, G. W., blucher, Plants', pr	2.00	2.00
Shoes, white duck, button, W. & G., pr	3.75	3.55
Shoes, tan, russ., calf, W. & G., pr	2.50	2.50
Shoes, vici, blu., Selby Shoe Co., pr	3.00	3.05
Shoes, tan, russ., blu., Selby Shoe Co., pr	3.30	3.35
Shoes, vici, blu., Wickers & Gardiner, pr	3.25	3.10
Shoes, women's, patent, pump, pr	3.15	3.15
Oxfords, black, russ., A. S., Dugan & Hudson, size 11½ to 2, pr	2.50	2.50
Oxfords, patent, turn, A. T., Dugan & Hudson, size 11½ to 2, pr	2.25	2.20
Oxfords, black, russ., size 11½ to 2, pr	2.50	2.50
Sandals, "Barefoot," size 12 to 2, pr.	1.45	1.45
Oxfords, black, russ., blucher, Dugan & Hudson, size 8½ to 11, pr	2.25	2.20
Oxfords, infants', black, russ., Dugan & Hudson, size 5½ to 8, pr	1.90	1.90
Shoes, child's, black, russ., A. S., Dugan & Hudson,, size 8½ to 11, pr	1.00	1.00
Shoes, child's, pat., russ., A. S., Dugan & Hudson, size 8½ to 11, pr	1.90	1.90
Shoes, infants', black, russ., Dugan & Hudson, size 5 to 8, pr	1.00	1.00
Shoes, infants', patent, A. S., Dugan & Hudson, size 2 to 5, pr	1.10	1.10
Shoes, Dong., kid, infant's, Goodwin's, pr	.75	.75
Shoes, Dong., blu., Dugan & Hudson, pr	1.90	1.90
Shoes, Dong., blu., Dugan & Hudson, pr	2.20	2.20
Alpargatas, size 0 to 12, pr	.10	.08
Sandals, size 5 to 8, pr	1.10	1.10
Shoes, gl., cf., blu., Alden's, pr	3.10	3.10
Oxfords, boys' gl., cf., blu., Alden's, pr	3.10	3.10
Oxfords, white canvas, blucher, lot No. 3645, pr	2.25	2.30
Oxfords, G. M., calf, blucher, "West Point," Boyden's, pr	5.00	5.00
Oxfords, russ., calf, blucher, "Rialto," Boyden's, pr	4.00	4.00
Oxfords, G. M., blucher, "Tremont," Boyden's, pr	5.25	5.20
Oxfords, white duck canvas, rubber soles, pr	1.20	1.25
Oxfords, white canvas, blu., "Perfectoe," Boyden's, pr	4.40	4.40
Oxfords, Maceo, blucher, "Excello," gun metal, pr	3.65	4.00
Oxfords, russ., blucher, "Apex," Florsheim's, pr	4.40	4.40
Oxfords, pat., colt, "Perfecto," Boyden's, pr	5.35	5.25
Oxfords, glazed kid., G. W., eng., Hanan & Sons, pr	5.00	5.05
Oxfords, G. M., blu., Stetson's, pr	4.70	4.95
Oxfords, tan, russ., C. Y., blu., Stetson's, pr	5.00	5.00
Oxfords, G. M., "Hyto," Snow's, pr	3.55	3.55
Oxfords, black, vici, blu., "Bronx," Snow's, pr	3.85	3.85
Oxfords, tan., russ., calf, blu., "York," Snow's, pr	3.00	3.00
Oxfords, pat., blu., "Hyto," Snow's, pr	3.40	3.40
Oxfords, tan., russ., calf, blu., "Hyto," Snow's, pr	3.70	3.70
Oxfords, blu., G. M., Stetson's, pr	5.00	4.95
Oxfords, blu., tan, vici, Hanan & Sons, pr	5.00	5.25
Oxfords, G. M., blu., S. S. last, pr	3.75	3.70
Oxfords, white duck, blu., "Rialto," pr	4.50	4.50
Oxfords, tan, russ., rubber sole, pr	3.85	3.80
Oxfords, blu., tan Oxford, pr	5.00	4.95
Oxfords, blu., white, buckskin, pr	5.00	4.95
Oxfords, blu., Royal Upham, pr	3.80	3.75
Oxfords, blu., Russia Upham, pr	4.00	3.95
Colt, low, patent, Upham, pr	3.90	3.90
Oxfords, G. M., blueher, pr	5.00	4.95
Oxfords, tan blucher, pr	5.00	4.95
Oxfords, tan blucher, pr	5.50	5.80
Oxfords, blu., white, buckskin, pr	5.00	4.95
Pumps, G. M., pr	4.40	4.40
Pumps, dancing, pr	4.25	4.25
Pumps, G. M., pr	4.70	4.35
Pumps, white canvas, pr	3.50	3.45
Slippers, alpargatas, pr	.20	.20
Slippers, alpargatas, pr	.20	.16
Slippers, kid, pr	2.50	2.50
Slippers, tan, vici, pr	1.65	1.65
Slippers, tan, pr	1.40	1.40
Shoes, high, tan, blucher, Western, pr.	4.40	4.50
Shoes, tan, calf, blu., New Army, pr.	3.75	3.80
Shoes, tan, blu., "Hicut," lot No. 10418, pr	4.00	4.00
Shoes, white canvas, blu., lot No. 3646, pr	2.30	2.35
Shoes, black kid, French, pr	3.50	4.00
Shoes, russ., calf, tan, blu., Florsheim, pr	3.75	3.75
Shoes, vici, blucher, "Dover," pr	4.00	4.00
Shoes, willow calf, Herman's, pr	4.10	4.10
Shoes, tan, willow calf, "Nabob," Boyden's, pr	4.55	4.55
Shoes, vici, box kid, blu., "Nabob," Boyden's, pr	4.00	4.00
Shoes, tan, calf, chrome, blucher, pr	5.00	5.00
Shoes, box calf, blu., oak soled, Herman's, pr	3.65	3.60
Shoes, russet, blu., Herman's, pr	4.40	4.40
Shoes, tan, ventilated, Doherty, pr	3.15	3.15
Shoes, tan, blu., Commodore last, pr.	4.95	4.95
Shoes, white canvas, tennis, bal, pr	1.40	1.40
Shoes, glazed kid, blucher, Corndodger, pr	5.00	5.05
Shoes, tan, blu., No. 7, ideal last, pr	4.20	4.20
Shoes, G. M., blucher, Burt & Pickard's, pr	4.00	4.15
Shoes, vici, blu., Snow's, pr	4.00	4.00
Shoes, G. M., blu., Snow's, pr	4.00	4.00
Shoes, tan, blu., double sole, Stetson's, pr	6.00	5.85
Shoes, choc., W. C. blu., Herman's, pr	4.60	4.60
Shoes, tan, calf, blu., Army, Herman's pr	3.80	3.80
Shoes, men's, G. M., blu., Campus, pr	5.25	5.25
Shoes, tan, molder's, pr	2.35	2.30
Powder, baking, "Supreme," tin	.25	.24
Powder, baking, "Royal," tin	.24	.23
Powder, baking, "Royal," tin	.45	.44
Powder, baking, "Sea foam," tin	.20	.20
Powder, baking, "Sea foam," tin	.36	.32
Soda, bi-carb., pkg	.02	.02
Powder, baking, "The Pure," tin	.13	.13
Powder, baking, "The Pure," tin	.23	.22
Powder, baking, "Cream of Tartar," tin	.12	.11
Powder, baking, "Cream of Tartar," tin	1.05	.99
Powder, baking, "Cream of Tartar," tin	.23	.22
Biscuits, Afternoon Tea, J. & Co., tin	.40	.38
Biscuits, Butter Puff, J. & Co., tin	.34	.37
Biscuits, Cafe Noir, J. & Co., tin	.30	.30
Biscuits, Cream Crackers, J. & Co., tin	.33	.32
Biscuits, Devonshire Cream, J. & Co., tin	.31	.30
Biscuits, Kiel Fingers, J. & Co., tin	.34	.36
Biscuits, Matinee, mixed, J. & Co., tin	.36	.35
Biscuits, selected, J. & Co., tin	.35	.36
Biscuits, West End, J. & Co., tin	.34	.33
Biscuits, Creamy Chocolate, J. & Co., tin	.34	.34
Biscuits, Graham Wafers, N. B. Co., tin	.29	.27
Biscuits, Nabisco, N. B. Co., tin	.29	.27
Biscuits, Saltines, N. B. Co., tin	.29	.27

Article.	Price Change.	
	Old.	New.
Bread, pilot, N. B. Co., lb	.10	.09
Soda crackers, N. B. Co., tin	.62	.59
Pretzelets, N. B. Co., tin	.12	.11
Biscuits, Royal Lunch, N. B. Co., tin	.35	.32
Biscuits, Bents, N. B. Co., tin	.32	.30
Butter, Blue Nose, tin	.39	.42
Oleomargarine, tin	.52	.50
Butter, Heyman, tin	.42	.45
Almonds, sugared, Valencia, lb	.24	.23
Candy, "Tit-bits," assorted, Auerbach's, jar	.10	.10
Chocolate, unsweetened, Baker's, cake	.09	.08
Chocolate, tropical, assorted, Cadbury's, tin	.25	.22
Chu chu, pkg	.04	.04
Chocolates, Jacob's, tin	.38	.37
Lemon drops, Powell's, tin	.12	.12
Chocolate, milk, Lowney's, bar	.04	.03
Chocolate, crest, nugatine, Lowney's, tin	.32	30
Chocolate marshmallows, Cadbury's, box	.12	.11
Dates, plain, jar	.21	.21
Dates, stuffed, jar	.25	.24
Figs, plain, jar	.30	.24
Figs, stuffed, jar	.30	.30
Figs and dates, stuffed, jar	.36	.32
Figs in Maraschino, bot	.54	.53
Marrons, glacé, Cresco, tin	.30	.31
Gum, Sen Sen, pkg	.03	.03
Gum, Spearmint, Wrigley's, pkg	.03	.03
Gum, Zeno, Wrigley's, pkg	.03	.03
Nuts, peanuts, toasted, jar	.10	.10
Nuts, filberts, salted, Cresca, bot	.35	.37
Walnuts, Cresca, small, jar	.25	.23
Peppermint, stick, Morton's, lb	.25	.23
Sweets, Pascalls', jar	.26	.24
Toffee, McIntosh, tin	.10	.11
Toffee, McIntosh, tin	.15	.14
Toffee, small, Devon, tin	.06	.06
Toffee, large, Corona, tin	.10	.13
Barley, patent, Robinson's, tin	.20	.18
Corn flakes, Quaker, carton	.10	.10
Corn, pop, lb	.07	.06
Corn starch, tin	.08	.08
Corn meal, yellow, bulk, lb	.03	.03
Barley, pearl, tin	.14	.14
Corn meal, white, tin	.21	.22
Corn meal, yellow, tin	.21	.21
Four, lb	.03	.03
Flour, tin	1.15	1 10
Grapenuts, tin	.18	.17
Hominy, hulled corn, Van Camp's, tin	.09	.08
Hominy, tin	.14	.14
Oatmeal, Quaker, tin	.15	.14
Oatmeal, Royal Seal, tin	.15	.14
Postum cereal, tin	.13	.13
Postum, cereal, tin	.22	.21
Rice, puffed, Quaker, carton	.10	.10
Triscuit, tin	.25	.18
Wheat, shredded, whole, tin	.18	.17
Wheat, cream of, tin	.21	.20
Wheat, puffed, Quaker, carton	.05	.05
Sago, tin	.17	.15
Tapioca, tin	.17	.15
Oatmeal, coarse, tin	.15	.14
Turkey, boned, tin	.35	.33
Turkey, boned, tin	.39	.39
Tamales, chicken, tin	.10	.09
Tamales, chicken, tin	.18	.16
Cocoa, Lowney's, tin	.20	.18
Cocoa, Van Houten's, tin	.38	.40
Cocoa, Van Houten's, tin	.68	.76
Cocoa, Omphale, tin	.23	.21
Cocoa, all other brands, tin	.13	.12
Cocoa, all other brands, tin	.24	.23
Cocoa, all other brands, tin	.75	.71
Cocoa, all other brands 50 lb. drums, lb	.14	.14
Tea, black, English breakfast, tin	.15	.15
Tea, black, English breakfast, tin	.56	.54
Tea, black, Omphale, pkg	.10	.09
Tea, black, Omphale, pkg	.18	.18
Tea, black, Omphale, pkg	.36	36
Tea, Ceylon, pkg	.36	.36
Tea, green, Young Hyson, tin	.17	.16
Tea, green, Young Hyson, tin	.60	.62
Tea, orange, Pekoe, tin	.40	.38
Tea, I. C. T., tin	.21	.21
Extract, almond, bot	.22	.21
Extract, almond, bot	.43	.43
Extract, lemon, bot	.22	.19
Extract, lemon, bot	.43	.27
Extract, orange, bot	.22	.21
Extract, orange, bot	.43	.43
Extract, rose, bot	.22	.20
Extract, rose, bot	.43	.43
Extract, strawberry, bot	.22	.19
Extract, strawberry, bot	.43	.43
Extract, vanilla, bot	.22	.20
Extract, vanilla, bot	.43	.33
Extract, beef, Rex, jar	.36	.35
Extract, beef, Rex, jar	.68	.66
Extract, beef, Armour, jar	1.50	1.50
Anchovies in oil, bot	.42	.40
Bloaters, Yarmouth, tin	.12	.12
Caviare, Stuhr's, jar	.85	1.00
Clams, tin	.17	.16
Clams, tin	.27	.25
Clams, Casco Bay, jar	.25	.24
Clams, Casco Bay, jar	.50	.49
Codfish, whole, salted, lb	.08	.09
Codfish, shredded, tin	.22	.20
Cod roes, English, tin	.15	.13
Anchovies in oil, Cresca, bot	.40	.39
Haddock, Findon, tin	.19	.19
Herring, kippered, tin	.13	.12
Herring, fresh, tin	.10	.10
Herring, *a la* sardine, tin	.14	.14
Herring, in tomato sauce, tin	.12	.12
Herring, boneless, Beardsley's, tblrs	.09	.08
Lobsters, tin	.38	.35
Lobsters, tin	.63	.62
Mackerel, pickled, fancy, Norway, lb	.14	.13
Mackerel, shore, lb	.09	.08
Mackerel, soused, English, tin	.11	.10
Oysters, tin	.09	.09
Oysters, Creole, cooked, tin	.11	.10
Salmon, fresh, Talls, tin	.12	.13
Salmon, steak, flats, tin	.12	.13
Salmon steak, flats, Royal Scarlet, tin	.28	.28
Sardines, Norwegian, Queen Maud, tin	.07	.07
Sardines in oil, Bijou, tin	.12	.11
Sardines in oil, tin	.34	.38
Shrimp, tin	.14	.12
Shrimp, tin	.28	.21
Sardines in tomato, ¾-club, Cresca, tin	.12	.11
Salmon, pink, Talls, tin	.07½	.07
Apricots, tin	.16	.15
Apples, tin	.11	.11
Apples, tin	.41	.39
Apricots in brandy, bot	.50	.47
Blackberries, tin	.16	.15
Blueberries, tin	.18	.17
Gooseberries, tin	.14	.11
Cherries, tin	.21	.20
Cherries on stems, in brandy, Cresca, jar	1.15	1.10
Cherries, Maraschino, bot	.19	.19
Cherries, Maraschino, bot	.32	.32
Cherries, Maraschino, bot	.58	.55
Grapes, tin	.14	.12
Cherries in cream de menthe, Cresca, bot	.83	.80
Cherries in brandy, bot	.50	.47
Peaches in brandy, bot	.50	.47
Peaches, tin	.17	.17
Peaches, tin	.53	.53
Peaches, "Melba," Cresca, jar	.85	.87
Pears, tin	.20	.18
Pears, tin	.58	.58
Pears, "Melba," Cresca, jar	.80	.78
Pears in brandy, bot	.50	.47
Pineapples, sliced, tin	.15	.14
Plums, egg, tin	.24	.15
Plums, greengage, tin	.23	.23
Plums, "Satsuma," Cresca, bot	.68	.66
Plums in brandy, bot	.50	.47
Prunes in brandy, bot	.50	.47
Strawberries, tin	.25	.24
Strawberries in brandy, bot	.45	.44
Strawberries, Heinz, jar	.45	.44
Strawberries, Heinz, jar	.34	.32
Strawberries, German, "Nigger boy," jar	.44	.34
Strawberries in brandy, bot	.50	.47
Apples, evaporated, tin	.85	.82
Currants, cleaned, pkg	.11	.10
Peel, citron, lb	.15	.19
Peel, lemon, lb	.18	.15
Peel, orange, lb	.16	.15
Prunes, stewing, lb	.11	.11
Peaches, evaporated, tin	.90	.59
Raisins, seedless, carton	.09	.09
Raisins, table, cluster, lb	.15	.13
Apricots, evaporated, tin	1.25	1.00
Apples, dehydrated, tin	.86	.82
Butter, apple, Heinz, tin	.24	.23
Butter, peach, tin	.18	.19
Butter, peanut, jar	.14	.14
Butter, peanut, jar	.25	.23
Butter, peanut, jar	.10	.09
Jelly, red currant, "Bar le Duc," jar	.18	.14
Jelly, Royal Scarlet, jar	.15	.14
Jelly, Royal Scarlet, jar	.25	.23
Jellies, "Sunlit," jar	.15	.14
Jelly, assorted, Heinz, jar	.19	.18
Jams, assorted, Curtice's, jar	.15	.14
Jams, assorted, Morton's, tin	.12	.12
Jams, assorted, Morton's, jar	.30	.29
Jams, assorted, Morton's, tin	.60	.58
Jam, strawberry, C. & B., tin	.12	.12
Marmalade, grapefruit, Heinz, "Empress," jar	.20	.20
Jam, blackberry, tin	.24	.23
Preserves, Del Monte, jar	.18	.18
Lard, compound, lb	.11	.11
Lard, choice, tin	.18	.17
Lard, choice, tin	.33	.32
Lard, choice, tin	.50	.49
Lard, choice, tin	.80	.78
Crisco, tin	.23	.22
Macaroni, pkg	.07	.07
Spaghetti, pkg	.07	.07
Vermicelli, pkg	.07	.07
Spaghetti, Heinz, tin	.14	.13
Crabs, deviled, tin	.24	.21
Crabs, deviled, tin	.34	.32
Ham, deviled, Underwood's, tin	.15	.14
Ham, deviled, Underwood's, tin	.25	.23
Loaf, chicken, tin	.17	.13
Loaf, ham, tin	.17	.16
Loaf, ham, tin	.23	.17
Loaf, veal, tin	.12	.13
Loaf, veal, tin	.18	.17
Meat, deviled ham flavor, Armour's, tin	.05	.05
Paste, anchovy, C. & B., jar	.12	.12
Tongue, deviled, tin	.05	.05
Tongue, deviled, tin	.10	.12
Hors de Oeuvres, Cresca, bot	40	.39
Pate de foie gras, jar	.50	.50
Pate de foie gras, Cresca, No. 10, jar	60	60
Pate de foie gras, Cresca, No. 14, jar	50	50
Truffles, Brosses', Cresca, tin	22	.21
Chicken, deviled, tin	19	.19
Bacon, sliced, tin	30	.27
Bacon, sliced, jar	.30	.27
Beef, corned, tin	.23	.22
Beef, corned, tin	.31	.30
Beef, chipped, dried, tin	.29	.27
Beef, roast, tin	.22	.20
Beef, roast, tin	.20	.20
Beef steak and onions, tin	.11	.10
Beef steak and onions, tin	.25	.24
Feet, pigs, boneless, tin	.14	.17
Hash, corned beef, tin	.21	.20
Hash, corned beef, tin	.28	.28
Liver and bacon, tin	.21	.21
Mutton roast, tin	.14	.20
Sausage, Vienna, tin	.09	.09
Sausage, Vienna, tin	.17	.16
Stew, kidney, tin	.16	.16
Steak, hamburger, tin	.10	.09
Steak, hamburger, tin	.19	.17
Tongues, lunch, tin	.33	.32
Tongues, ox, tin	.75	.75
Tongues, ox, tin	.75	.75
Tongues, lambs', tin	.34	.33
Food, Mellin's, jar	.54	.51
Milk, evaporated, Libby's, tin	.09	.09
Milk, evaporated, Peerless, tin	.09	.10
Milk, evaporated, St. Charles, tin	.09	.09
Milk, condensed, Nestle's, tin	.10	.10
Milk, malted, Borden's, bot	.33	.30
Milk, malted, Borden's, bot	.54	.50
Milk, malted, Borden's, bot	2.37	2.25
Milk, malted, Horlick's, bot	.42	.40
Milk, malted, Horlick's, bot	.83	.80
Milk, malted, Horlick's, bot	3.25	3.10
Milk, evaporated, Van Camp, tin	.09	.09
Milk, condensed, Red Butterfly, tin	.10	.10
Bread, brown, tin	.08	.08
Bread, brown, tin	.14	.13
Mince meat, Atmore's, tin	.21	.20
Pudding, plum, American, tin	.22	21
Pudding, plum, American, tin	.39	.37
Pudding, plum, English, tin	.25	.25
Pudding, plum, English, tin	.48	.46
Pudding, plum, Heinz, tin	.30	.27
Pudding, plum, Heinz, tin	.58	.57
Pudding, plum, Heinz, tin	.14	.13
Ammonia, household, bot	.14	.13
Candles, set	.10	.10
Disinfectant, formaldehyde, bot	.42	.42
Food, roach, Peterman's, tin	.10	.08
Food, ant, Peterman's, pkg	.10	.08
Gelatine, French crystal, C. & B., pkg	.13	.13
Matches, pkg	.05	.03
Paper, toilet, pkg	.05	.05
Paper, fly, "Tanglefoot," sheet	.01½	.01
Paste, electric, rat and roach, Stearn's, tin	.18	.17
Paste, electric, rat and roach, Stearn's, tin	.70	.68
Insecticide, lightning, with sprayer, tin	.18	.18
Alcohol, denatured, bot	.25	.25
Powder, insect, Buhach, tin	.85	.47
Powder, egg, pkg	.04	.04
Powder, ice cream, Jello, pkg	.09	.08
Powder, Jellycon, pkg	.08	.08
Seed, bird, pkg	.11	.10
Salt, fruit, Eno's, bot	.56	.55
Bedbug exterminator, Peterman's, tin	.16	.17
Bedbug exterminator, Peterman's, tin	.10	.12
Sal hepatica, bot	.45	.44
Honey, cuttings, tin	.48	.41
Molasses, Duffy's, tin	.18	.18
Syrup, "Karo" corn, tin	.11	.11
Syrup, "Karo" corn, tin	.50	.49
Syrup, mapleline, C. P. R., bot	.20	.20
Syrup, cane, C. P. R., bot	.15	.15
Oil, cottonseed, tin	4.20	4.10
Oil, olive, Rodel's, bot	.90	.90
Oil, olive, Spanish, No. 35	.90	.90
Oil, olive, Spanish, No. 31, tin	1.70	1.50
Oil, olive, Italian, tin	6.80	6.55
Oil, olive, finest Lucca, bot	.55	.48
Oil, olive, Duret's, "Superfine," bot	.42	.40
Oil, cottonseed, tin	.52	.55
Oil, cottonseed, tin	1.23	1.00
Oil, salad, C. P. R., bot	.20	.20
Oil, olive, virgin, extra, C. P. R., bot	.42	.42
Oil, olive, superior, C. P. R., bot	.42	.42
Oil, kerosene, tin	.85	.82
Vinegar, malt, C. & B., bot	.15	.16
Vinegar, cider, gal	.21	.17
Vinegar, malt, Heinz, bot	.25	.24
Vinegar, French wine, bot	.42	.42
Vinegar, Taragon, Heinz, bot	.24	.23
Vinegar, spiced salad, Heinz, bot	.25	.24
Vinegar, French wine, C. P. R., bot	.25	.25
Vinegar, French wine, Estragon, Cresca, bot	.30	.30
Capers, French, Morton's, bot	.15	.15
Chow chow, Heinz, bot	.29	.27
Chow chow, Morton's, bot	.14	.16
Chow chow, C. & B., bot	.22	.23
Gherkins, sweet, Heinz, bot	.34	.32
Gherkins, sour, Heinz, bot	.30	.24
Gherkins, spiced, keg	2 75	3.00
Onions, pickled, bot	.34	.32
Onions, pickled, Heinz, keg	5.75	5.84
Capers, nonpareil, Cresca, bot	.16	.16
Chow chow, keg	2.55	2.70

ARTICLE..	PRICE CHANGE.	
	Old.	New.
Olives, Manzanillo, bot	.20	.18
Olives, Manzanillo, bot	.31	.28
Olives, Manzanillo, bot	.55	.48
Olives, Spanish, Queen, keg	2.55	2.45
Olives, Spanish Queen, (keg), gal	1.25	1.20
Olives, stuffed, Royal Scarlet, bot	.20	.17
Olives, Morton's, Queen, bot	.21	.17
Olives, Morton's, Queen, bot	.37	.33
Olives, Morton's, Queen, bot	.64	.61
Olives, Queen, R. S., bot	.50	.49
Olives, Queen, R. S., bot	.32	.31
Olives, Premier Queen, bot	.30	.29
Olives, Queen, R. S., bot	.20	.19
Olives, Queen, R. S., bot	.11	.10
Olives, Queen, Cresca, bot	.56	.54
Olives, Queen, Cresca, bot	.43	.41
Olives, Queen, Cresca, bot	.25	.24
Pickles, mixed, Morton's, bot	.16	.18
Pickles, sour mixed, Heinz, bot	.29	.28
Pickles, sweet mixed, Heinz, bot	.34	.32
Pickles, euchred, Heinz, bot	.20	.20
Pickles, dill, Heinz, bot	.38	.33
Pickles, mixed, spiced, keg	2.65	2.50
Pickles, dill, Heinz, tin	.18	.17
Pickles, sweet, C. & B., bot	.22	.23
Pickles, sliced, dill, keg	2.00	2.10
Beans, dried, lima, lb	.08	.09
Beans, pea, navy, or white, lb	.05	.05
Beans, red kidney, lb	.05	.05
Garbanzos, lb	.04½	.04½
Peas, split, lb	.04½	.04
Peas, dried green, lb	.05	.03
Rice. Rangoon, lb	.03	.03
Rice, Carolina, lb	.08	.07
Chutney, C. & B., bot	.28	.27
Chutney, Heinz, tomato, bot	.29	.28
Dressing, salad, Durkie's, bot	.24	.23
Dressing, salad, Durkie's, bot	.40	.38
Horseradish, bot	.25	.23
Ketchup, Griffin, bot	.28	.26
Ketchup, Heinz, bot	.25	.72
Ketchup, Snider's, bot	.20	.19
Ketchup, tomato, Blue Label, bot	.20	.19
Ketchup, tomato, Blue Label, bot	.32	.30
Mustard, prepared, Rodel's, bot	.16	.15
Relish, India, bot	.25	.24
Mustard, prepared, Cresca, bot	.13	.12
Dressing, mustard, Heinz, bot	.15	.13
Ketchup, mustard, Heinz, bot	.24	.22
Relish, tomato, Heinz, jar	.25	.22
Mustard, polygon, Heinz, bot	.10	.09
Catsup, tomato, Cresca, bot	.22	.22
Catsup, tomato, Cresca, bot	.13	.13
Sauce, cranberry, tin	.17	.16
Sauce, Worcestershire, bot	.25	.25
Sauce, Worcestershire, bot	.45	.44
Sauce, chili, bot	.29	.28
Sauce, raspberry, "Melba," Cresca, bot	.50	.49
Salad, celery, Dunkley's, bot	.24	.23
Sauce, oyster, cocktail, Cresca, bot	.26	.26
Salt, fine table, sack	.02	.01½
Salt, walnut or freezing, lb	.01	.01
Salt, celery, shaker	.07	.07
Salt, table, C. & B., jar	.12	.12
Salt, table, Cerebos, tin	.13	.13
Blue, laundry, ball, box	.10	.09
Blue, laundry, Keen's, Oxford, pkg	.15	.15
Bon ami, cake	.08	.08
Borax, lump, lb	.11½	.11
Borax, powdered, pkg	.06	.06
Bricks, bath, cake	.04	.04
Cleanser, Babbit's, tin	.05	.04
Cleanser, "Lighthouse," Armour's, tin	.05	.04
Cleanser, Old Dutch, pkg	.08	.08
Cleanser, Swift's, "Pride," tin	.07	.07
Gold dust, pkg	.05	.04
Gold dust, pkg	.20	.20
Lye or potash, tin	.06	.05
Pearline, pkg	.10	.11
Polish, stove, "Rising Sun," cake	.07	.06
Sapolio, hand, cake	.07	.07
Sapolio, scrub, cake	.07	.07
Soda, washing, lb	.01	.01
Soap, brown, laundry, cake	.06	.05
Soap, Castile, lb	.10	.10
Soap, Fairy, cake	.05	.04
Soap, Fels Naptha, cake	.05	.05
Soap, Grandpa's Wonder, cake	.05	.04
Soap, special, hotel, P. R. R., cake	.03	.02
Soap, Ivory, cake	.05	.05
Soap, lava, cake	.05	.04
Soap, Lenox, cake	.04	.03
Soap, Lifebuoy, in double bars, cake	.08	.08
Soap, Skat, tin	.07	.07
Starch, laundry, lb	.03	.03
Starch, Tiger, pkg	.06	.05
Chowder, clam, Burnham's, tin	.09	.08
Chowder, clam, Burnham's, tin	.19	.18
Clam juice, tin	.13	.13
Clam juice, Casco Bay, jar	.20	.16
Clam juice, Casco Bay, jar	.30	.25
Soup, tomato, Heinz, tin	.10	.09
Soup, tomato, Heinz, tin	.14	.13
Soup, tomato, Heinz, tin	.25	.23
Soup, assorted, Franco-American, tin	.16	.16
Soup, assorted, Franco-American, tin	.30	.27
Soup, assorted, Campbell's, tin	.10	.09
Soup, assorted, Van Camp's, tin	.10	.09
Soup, cream of celery, Heinz, tin	.18	.17
Cinnamon, stick, extra fine, lb	.52	.51
Cinnamon, ground or powdered, tin	.06	.05
Cloves, whole, tin	.06	.05
Cloves, ground or powdered, tin	.06	.05
Garlic, lb	.10	.07
Ginger, tin	.05	.04

ARTICLE.	PRICE CHANGE.	
	Old.	New.
Leaves, bay, tin	.14	.10
Mustard, Colman's, tin	.12	.11
Nutmeg, lb	.22	.21
Pepper, black, whole, tin	.08	.07
Powder, curry, C. & B., bot	.30	.27
Sage, powdered, tin	.04	.03
Spice, pudding, tin	.05	.04
Thyme, powdered, tin	.05	.04
Paprika, C. & B., bot	.15	.14
Pepper, black, ground, tin	.05	.05
Pepper, cayenne, Lazenby's, bot	.09	.08
Mace, ground, tin	.14	.12
Pepper, white, ground, tin	.07	.06
Mint, powdered, tin	.05	.05
Powder, curry, Lazenby's, bot	.17	.16
Powder, curry, Vencatachellum, tin	.14	.13
Sugar, domino, carton	.18	.18
Sugar, granulated, sack	.21	.19
Sugar, powdered, tin	.16	.15
Sugar, yellow, No. 13, bulk, lb	.03	.03
Asparagus tips, tin	.20	.20
Asparagus, tin	.18	.16
Beans, baked, and tomato sauce, tin	.06	.05
Beans, baked, and tomato sauce, tin	.10	.09
Beans, baked, and tomato sauce, tin	.14	.14
Beans, baked, and tomato sauce, tin	.20	.19
Beans, lima, tin	.10	.09
Beans, pork and, tin	.09	.08
Beans, pork and, tin	.14	.13
Beans, pork and, tin	.17	.17
Beans, red kidney, tin	.10	.09
Beans, sliced, German, tin	.13	.13
Beans, stringless, tin	.11	.11
Beets, tin	.08	.08
Beets, tin	.14	.13
Artichokes, Cresca, tin	.30	.35
Artichokes, whole, Cresca, tin	.15	.15
Carrots, tin	.12	.11
Corn, sugar, tin	.11	.11
Chile con carne, tin	.10	.08
Flageolets (French beans), Rodel's, tin	.11	.10
Kraut, sauer, tin	.09	.09
Kraut and pork, tin	.15	.13
Macedoine of vegetable, tin	.19	.10
Mushrooms, "Gallipedes," Dalidet's, tin	.15	.15
Mushrooms, Rodel's, tin	.18	.18
Mushrooms, Rodel's, tin	.32	.29
Okra, tin	.13	.13
Mushrooms, stuffed, Cresca, tin	.48	.46
Mushrooms, buttered, Brandywine, tin	.18	.18
Mushrooms, Seas brand, tin	.24	.23
Mushrooms, Monbadon pcs., and stems, Cresca, tin	.14	.13
Parsnips, tin	.12	.11
Peas, sifted, tin	.09	.08
Peas, petit pois, Moyan, tin	.12	.11
Peas, petit pois, sur extra fins, tin	.20	.14
Pimentoe, Morrones, tin	.06	.06
Pimentoe, superior, tin	1.15	1.15
Pomidora, conserva de, tin	.40	.40
Pumpkin, tin	.10	.10
Purée de Tomato, tin	.13	.11
Spinach, tin	.12	.12
Squash, tin	.12	.11
Succotash, tin	.10	.09
Tomatoes, tin	.07	.07
Tomatoes, tin	.10	.10
Tomatoes, whole, Dalidet's, tin	.15	.14
Tomatoes, tin	.30	.30
Turnips, tin	.10	.10
Pimentoe, Morrones, Cresca, tin	.09	.09
Purée de foie gras, Cresca, tin	.19	.19
Peas, Robin Hood, Tom Thumb, tin	.14	.13
Juice, grape, Welch, bot	.22	.21
Juice, grape, Royal Scarlet, bot	.19	.18
Juice, apple, Duffy's, bot	.06	.05
Juice, apple, Duffy's, bot	.17	.16
Juice, grape, Duffy's, bot	.18	.19
Lime juice, bot	.17	.17
Grape juice, Red Wing, bot	.20	.18
Cordial, lime juice, bot	.30	.29
Apenta, bot	.22	.22
Apollinaris, bot	.08	.08
Apollinaris, bot	.11	.11
Coca cola, bot	.06	.06
Genoveva, bot	.06	.06
Ginger ale, Clicquot club, bot	.11	.10
Ginger ale, Paraiso, bot	.09	.08
Hunyadi, bot	.20	.19
Kola champagne, Paraiso, bot	.09	.08
Perrier, bot	.03	.03
Perrier, bot	.15	.14
Poland, mineral, bot	.30	.34
Red raven splits, bot	.12	.09
Sarsaparilla, Paraiso, bot	.09	.08
Soda, cream, Paraiso, bot	.09	.08
Soda, lemon, Paraiso, bot	.09	.08
Soda, plain, Paraiso, bot	.09	.08
Vichy, bot	.19	.18
White rock, bot	.10	.10
Root beer, Hires, bot	.07	.06
Lithia, bot	.09	.09
Mineral, Baden, bot	.03	.03
Mineral, Baden, bot	.02	.02
Mineral water, Bel Val, bot	.05	.05
After supper, ea	.02	.02
Bouquet, ea	.06	.05
Brevas de Calidad, ea	.08	.09
Brevas Regalia, ea	.08	.09
Brevas No. 2, Havana, ea	.07	.07
Conchas Especiales, ea	.04	.04
Cabinet extra, ea	.10	.11
"Cheroots," Golofina, ea	.02	.02
Diputados, ea	.08	.10

ARTICLE.	PRICE CHANGE.	
	Old.	New.
Deleites, Villar's, Havana, ea	.08	.10
Flors de Machado, ea	.10	.09
Gentlemen, ea	.10	.11
"Hermanos," La Carolina, Havana, ea	.08	.10
Ideales, ea	.08	.08
Londres, Tropical, ea	.07	.05
Londres, Golofina, ea	.06	.05
Panatelas, ea	.03	.03
"Puritanos Finos," Golofina, ea	.05	.05
Panatelas, Bock's, Havana, ea	.08	.09
"Puritanos ex Finos," Bock's, Havana, ea	.08	.10
"Perfectos," La Carolina, Havana, box	3.50	3.95
"Palmas Tropicales," Clay's, Havana, box	5.25	6.20
Reina Victorias, ea	.07½	.07
Regalia Sport, Havana, ea	.08	.08
Corona de la Corona, Havana, ea	.25	.30
Cigars, Flor de Colbeck, ea	.10	.09
"Nineteen Ten," Golofina, ea	.06	.05
Pectoral, Havana, pkg	.05	.05
Arroz, Herba, Havana, pkg	.05	.05
Bouton Rouge, Egyptian, tin	1.00	1.20
Cambridge, Philip Morris, pkg	.20	.21
Home Run, pkg	.04	.04
King Bee, pkg	.05	.05
Malachrino, No. 4, cork and plain tips, pkg	.20	.27
Needle Point, pkg	.05	.03
Excelsiores, Havana, Pectoral and Arroz, pkg	.05	.05
Three Castles, tin	.25	.25
Cotton, pkg	.04	.04
La Rose, Nos. 4 and 5, tin	.75	.81
Cigarettes, Fatima, pkg	.13	.13
Cigarettes, Lily, pkg	.05	.05
Turkish Trophies, plain and cork tip, box	.08	.09
Bull Durham, pkg	.10	.10
Capstan, mild, medium, and full, tin	.25	.23
Cross Cut, pkg	.08	.07
Lucky Strike, tin	.25	.25
Mail Pouch, pkg	.06	.06
Old English Curve Cut, tin	.25	.26
Tobacco, Wayback, plug	.03	.03
Prince Albert, tin	.10	.10
Phoenix, French, pkg	.08	.08
Dill's Best, tin	.25	.28
Red Brand, pkg	.05	.06
Tobacco, Velvet, tin	.10	.10
Tobacco, Star, lb	.54	.54
Trunks, ea	15.60	15.60
Trunks, ea	13.10	13.10
Trunks, ea	9.25	7.70
Trunks, ea	5.50	4.35
Trunks, ea	7.65	6.20
Trunks, ea	6.40	5.55
Trunks, ea	8.00	6.50
Trunks, ea	5.15	5.15
Trunks, ea	7.30	6.05
Trunks, ea	6.85	5.70
Trunks, ea	6.40	6.40
Trunks, ea	8.10	8.10
Trunks, ea	8.10	8.10
Trunks, ea	9.40	9.40
Trunks, ea	17.50	17.50
Rugs, grass, Crex, ea	1.30	1.30
Rugs, grass, Crex, ea	.81	.81
Rugs, grass, Crex, ea	.68	.68
Rugs, grass, plain, ea	8.10	6.60
Rugs, grass, plain, ea	4.15	3.40
Blades, razor, Gillette, set	.78	.78
Blades, safety razor, Keen Cutter, pkg	.23	.23
Blades, safety razor, Ever Ready, set	.47	.47
Blades, Auto Strop, razor, set	.74	.74
Knives, pocket, ea	.20	.17
Knives, ivory handle, ea	.45	.34
Knives, pearl, ea	1.00	.91
Knives, stag handle, ea	.90	.80
Penknives, pearl handle, ea	.30	.24
Penknives, pearl handle, ea	.90	.80
Penknives, ea	1.20	1.11
Penknives, ea	.50	.44
Penknives, ea	.55	.50
Penknives, ea	.70	.63
Penknives, ea	1.05	.98
Penknives, ea	.12	.09
Penknives, ea	.65	.63
Penknives, ea	.90	.80
Penknives, ea	.95	.73
Razors, "Primus," ea	.75	.70
Razors, black and white handle, ea	.50	.50
Razors, safety, Gillette, ea	3.70	3.70
Razors, Auto Strop, safety, ea	3.70	3.70
Razors, ivory, Swedish, ea	1.80	1.80
Razors, safety, Keen Cutter, ea	2.50	2.45
Razors, diamondine, ea	1.00	.96
Razors, Krop, ea	1.00	1.00
Razors, safety, "Zepp," ea	.50	.50
Razors, safety, Ever Ready, ea	.67	.67
Scissors, Luria, 7″, pr	.56	.50
Scissors, Berkshire, 4½″, pr	.26	.26
Scissors, Berkshire, 6″, pr	.39	.39
Scissors, Berkshire, 7″ and 8″, pr	.48	.48
Cleavers, butchers', ea	1.45	1.25
Knives, mincing, ea	.05	.04
Knives and forks, aluminum, set	2.80	2.35
Knives and forks, white bone handle, set	2.35	2.00
Knives, bread, ea	.36	.36
Knives, butchers', ea	.90	.77
Knives, butchers', ea	.25	.21
Knives, table, ea	.16	.14
Knives, dessert, ea	.12	.11

Article.	Price Change.	
	Old.	New.
Carvers, pr	1.60	1.30
Knives, butcher, ea	2.25	1.90
Knives, French, cook, ea	.90	.73
Knives, French, cook, ea	.65	.57
Knives, butcher, ea	.90	.75
Knives, butcher, ea	.35	.29
Knives, butcher, ea	.35	.30
Knives, peeling, ea	.10	.09
Knives, peeling, ea	.12	.11
Knives, peeling, ea	.05	.05
Knives, carving, ea	1.70	1.45
Knives and forks, carving, set	2.75	2.35
Steels, butchers', ea	.19	.19
Steels, butchers', ea	.23	.23
Steels, butchers', ea	.65	.53
Spoons, table, ea	.05	.04
Pipes, cob, ea	.02	.02
Pipes, clay, ea	.00½	.00½
Pipes, meerschaum, ea	4.50	3.90
Pipes, meerschaum, ea	4.20	3.30
Pipes, meerschaum, ea	5.50	4.60
Pipes, gold mounted, ea	6.60	5.50
Pipes, Dribole, ea	.31	.31
Pipes, Dribole, ea	.33	.33
Pipes, calabash, ea	1.16	1.16
Pipes, amber, ea	5.75	4.95
Pipes, calabash, ea	3.00	3.00
Pipes, briar, silver mounted, ea	4.50	4.50
Pipes, briar, silver mounted, ea	3.40	3.40
Pipes, briar, ea	.13	.13
Pipes, briar, ea	.20	.20
Pipes, briar, ea	1.17	1.17
Pipes, briar, ea	1.15	1.15
Pipes, briar, ea	.49	.49
Pipe cleaners, bundle	.01	.01
Pouches, tobacco, seal, ea	.40	.40
Pouches, tobacco, buckskin, ea	.54	.54
Smokers' companions, ea	4.25	3.50
Smokers' companions, ea	5.80	4.70
Smokers' companions, ea	9.00	7.60
Smokers' companions, ea	11.00	9.00
Smokers' companions, ea	8.00	6.50
Pouches, antelope, tobacco, ea	.55	.50
Cigarette papers, La Croix, book	.02	.02
Cigarette papers, Zig Zag, book	.03	.03
Brooms, felt, ea	.40	.40
Brooms, furniture, ea	.65	.64
Brooms, floor, hair, ea	.85	.85
Brooms, No. 6, ea	.30	.30
Brushes, counter duster, ea	.45	.45
Dusters, feather, ea	1.40	1.15
Brushes, varnish, ea	1.60	1.50
Brushes, hand scrub, ea	.10	.08
Brush and crumb tray, ea	.25	.25
Brushes, deck scrub, ea	.35	.23
Dusters, floor, ea	.40	.34
Handles for floor brushes, ea	.14	.11
Mops, No. 1, heads only, ea	.15	.15
Sticks, mop, ea	.23	.19
Mops, wringer and bucket, ea	1.60	1.30
Mops, heads, ea	.05	.05
Mop handles, ea	.25	.17
Mops, handled, hardwood, ea	.55	.43
Mops with handles, ea	1.25	1.20
Mops, dust, Howard, ea	1.40	1.20
Handles for Howard mops, ea	.40	.31
Toasters, bread, ea	.42	.42
Broilers, "Nesco," ea	.10	.10
Toaster, bread, ea	.01	.01
Beaters, egg, Dover, ea	.07	.05
Beaters, egg, ea	.02	.02
Beaters, egg, "Lightning," ea	.06	.05
Beaters, egg, ea	.03	.02
Beater, egg, No. 150, ea	.15	.13
Can openers, "Never slip," ea	.06	.04
Picks, ice, ea	.07	.06
Corkscrews, N. P., ea	.25	.18
Corkscrews, Walker, ea	.20	.15
Openers, can, ea	.07	.05
Skewers, and larding needles, ea	.70	.58
Chains, pot, double, ea	.05	.05
Cutters, slaw, ea	.05	.05
Choppers, meat, ea	.75	.75
Cutters, biscuit, ea	.01	.01
Choppers, food, ea	.05	.05
Choppers, food, Russwin, ea	1.05	.75
Graters, almond, ea	.40	.40
Graters, sheet, ea	.01	.01
Graters, combination, ea	.12	.07
Graters, nutmeg, ea	.05	.05
Mashers, potato, ea	.07	.06
Pounders, steak, ea	.05	.05
Mills, coffee, Enterprise, ea	1.25	1.25
Mills, coffee, 1-lb glass canister, ea	.80	.65
Mills, pepper, ea	.50	.50
Mills, pepper, white, ea	1.85	1.60
Pins, rolling, glass, ea	.10	.10
Pins, rolling, ea	.08	.08
Sifters, flour, ea	.10	.10
Strainers, wire spout, ea	.03	.01
Strainers, tea, black handle, ea	.04	.03
Strainers, extension, ea	.20	.15
Strainers, retinned, ea	.12	.10
Slicers, egg, ea	.38	.38
Turners, cake, ea	.05	.04
Hods, coal, ea	.10	.10
Lifters, stove cover, ea	.06	.05
Bakers, stove, ea	.01	.01
Bakers, stove, ea	.01	.01
Shovels, stove, ea	.02	.02
Irons, sad, ea	1.10	.85
Handles, sad iron, ea	.07	.06
Waxers, flat iron, ea	.05	.04
Ovens for Perfection stoves, ea	3.10	2.35
Ovens for Perfection stoves, ea	2.55	1.85
Legs for New Perfection stoves, ea	.75	.64

Article.	Price Change.	
	Old.	New.
Stoves, lamp, No. 3, ea	1.75	1.60
Stoves, lamp, No. 2, ea	1.25	1.05
Stoves, New Perfection, 1-burner, ea	5.70	4.90
Stoves, New Perfection, 2-burner, ea	8.25	7.35
Stoves, New Perfection," 3-burner, ea	11.00	9.80
Wicks for blue flame stove, ea	.04	.02
Wicks for lamp stoves, ea	.05	.03
Wicks for percolators, ea	.06	.04
Wicks and carriers for New Perfection stoves, ea	.15	.15
Bowls, mixing, 3½-quart, ea	.30	.27
Bowls, seamless, 1-quart, ea	.14	.11
Bowls, seamless, ½-quart, ea	.10	.08
Basins, wash, ea	.25	.22
Biggins, coffee, ea	.60	.48
Biggins, coffee, ea	.45	.39
Biggins, coffee, ea	.42	.36
Biggins, coffee, ea	.60	.47
Boilers, rice, 1-quart, ea	.20	.20
Boilers, rice, 2-quart, ea	.75	.58
Boilers, milk, aluminum, ea	2.10	1.85
Cuspidors, ea	.30	.29
Chambers, ea	.45	.41
Skimmers, agate, ea	.09	.08
Scoops, grocers', ea	.35	.32
Scoops, ea	.09	.09
Scoops, covered, ea	.20	.20
Funnels, 1-pint, ea	.14	.13
Dippers, Windsor, ea	.18	.18
Funnels, enamel, ea	.18	.15
Pails, chamber, ea	.80	.70
Tubs, oval, foot, ea	1.10	.91
Buckets, covered, ea	.30	.22
Buckets, agate, ea	.45	.42
Buckets, covered, ea	.35	.35
Collanders, ea	.05	.05
Kettles, Berlin, 2-quart, ea	.35	.28
Kettles, tea, 4-quart, ea	.60	.52
Kettles, tea, agate, ea	.55	.46
Kettles, Berlin, covered, ea	.40	.33
Kettles, Berlin, with cover, ea	.45	.39
Kettles, Berlin, covered, ea	.55	.50
Kettles. Berlin, covered, ea	.65	.61
Kettles, Berlin, No. 04, ea	.45	.45
Kettles, Berlin No. 06, ea	.55	.55
Kettles, Berlin, No. 08, ea	.65	.65
Kettles, tea, seamless, ea	1.80	1.55
Kettles, water, 7", ea	1.35	1.35
Kettles, water, 8½", ea	1.70	1.70
Measures, ½-pint, ea	.15	.14
Measures, No. 1, ea	.10	.10
Measures, 1-quart, ea	.25	.19
Measures, No. 5, ea	.26	.26
Measures, Bavarian, ea	.35	.28
Measures, No. 6, ea	.38	.38
Moulds, cake, ea	.05	.05
Cups, 1-pint, ea	.15	.12
Cups, custard, ea	.18	.12
Cups, custard, ea	.12	.11
Cups, straight, enamel, ea	.18	.15
Cups, drinking, seamless, ea	.09	.08
Pitchers, water, Bavarian, 3-quart, ea	.50	.50
Pitchers, water, Bavarian, 4-quart, ea	.70	.55
Pots, tea, 1-quart, ea	.32	.32
Pots, tea, 1½-quart, ea	.36	.36
Pots, tea, 2-quart, ea	.41	.41
Pots, coffee, with covers, 2-quart, ea.	.38	.38
Pots, coffee, 1-quart, ea	.31	.31
Pots, coffee, ¾-quart, ea	.27	.27
Pots, coffee, 1½-quart, ea	.34	.34
Pots, tea, 3-quart, ea	.45	.45
Pots, tea, seamless, No. 13, 3-quart, ea	.55	.55
Pans, frying, aluminum, 5½", ea	.35	.35
Pans, frying, aluminum, 6", ea	.40	.40
Pans, frying, aluminum, 7", ea	.47	.47
Pans, frying, aluminum, 8", ea	.52	.52
Pans, sauce, with lip, aluminum, 4", ea	.46	.46
Pans, sauce, with lip, aluminum, 5", ea	.54	.54
Pans, sauce, with lip, aluminum, 5½", ea	.64	.64
Pans, sauce, with lip, aluminum, 7", ea	.88	.88
Pans, sauce, with lip, aluminum, 8", ea	1.00	1.00
Pans, sauce, with lip, aluminum, 8½", ea	1.20	1.20
Pans, sauce, without lip, aluminum, 5½", ea	.64	.64
Pans, sauce, without lip, aluminum, 7", ea	.88	.88
Pans, sauce, without lip, aluminum, 8", ea	1.00	1.00
Pans, sauce, without lip, aluminum, 8½", ea	1.29	1.29
Covers for sauce pans, aluminum, 5", ea	.15	.15
Covers for sauce pans, aluminum, 5½", ea	.19	.19
Covers for sauce pans, aluminum, 7", ea	.23	.23
Pans, pudding, 2-quart, ea	.18	.17
Pans, pudding, 1-quart, ea	.15	.11
Pans, sauce, Berlin, 8-quart, No. 081, ea	.65	.58
Pans, sauce, Berlin, 2-quart, No. 021, ea	.30	.29
Pans, dish, deep, 10-quart, ea	.50	.40
Pans, sauce, 6-quart, No. 061, ea	.55	.49
Pans, fry, Royal French, 9½", No. 9, ea	.20	.20
Pans, fry, deep 14-quart, ea	.55	.47

Article.	Price Change.	
	Old.	New.
Pans, Berlin, sauce, 4-quart, No. 41, ea	.45	.38
Pans, pudding, 3-quart, ea	.20	.15
Pans, sauce, straight, No. 150, 1-quart, ea	.30	.19
Pans, muffin, Royal Granite, 8-cup, ea	.10	.10
Pans, muffin, Royal Granite, 12-cup, ea	.15	.15
Pans, dust, No. 15, ea	.05	.05
Pans, jelly cake, 9½", ea	.15	.13
Pans, jelly cake, 10", ea	.15	.13
Pans, sauce, Berlin, No. 30, 2½-quart, ea	.35	.34
Pans, sauce, Berlin, No. 20, 1¾-quart ea	.30	.30
Poppers, corn, ea	.25	.19
Griddles, soapstone, 8 x 16", ea	.90	.90
Griddles. cake, iron, ea	.35	.35
Irons, waffle, 2-set pans, 11 x 12", ea	1.80	1.50
Griddles, cake, iron, ea	.20	.20
Irons, waffle, ea	.75	.70
Trays, oval, Japan, 28", ea	.50	.41
Trays, oval, 16" x12½", ea	.10	.08
Trays, silver plated, round, ea	2.30	1.90
Trays, silver plated, oval, ea	4.00	3.30
Trays, silver plated, oval, ea	2.30	1.95
Trays, silver plated, oval, ea	8.50	7.30
Trays, silver plated, round, ea	4.35	3.60
Trays, Japan, 16"x12½", ea	.08	.07
Trays. Japan, 20"x14", ea	.15	.14
Pans, fry, steel lipped, 8½", No. 648B, ea	.08	.07
Pans, fry, polished steel, ea	.08	.05
Pans, drip, 8"x10", ea	.06	.05
Pans, drip, 9"x14", ea	.08	.06
Pans, drip, 14"x15", ea	.12	.11
Pans, fry, steel, lipped, 10", No. 648E, ea	.15	.08
Pans, bread, 9¾"x4½"x3", ea	.25	.15
Pans, fry, steel 12", ea	.20	.09
Roasters and bakers, No. 010, ea	.27	.25
Pans, drip, 9"x14", ea	.20	.20
Pans, cleaning, single. No. 1, ea	1.25	1.25
Pans, cleaning, single, No. 3	2.50	2.50
Pans, cleaning, double, No. 4. ea	5.00	5.00
Boilers, wash, No. 209, ea	1.40	1.35
Boilers, wash, No 208, ea	1.25	1.05
Tubs, wash, galvanized, No. 1, ea	.65	.56
Tubs, wash, galvanized, No. 3, ea	.85	.75
Tubs, wash, galvanized, No. 2, ea	.70	.59
Buckets, light, 14-quart, ea	.25	.20
Boxes, spice, Japan, ea	.15	.15
Boxes, flour, round, No. 136, ea	.15	.15
Boxes, sugar, round, No. 134, ea	.15	.15
Bowls, wooden, round, 19", ea	.15	.15
Boards, ironing, plain, without stand, ea	.75	.75
Picks, tooth, box	.04	.02
Pins, clothes, doz	.02	.02
Spoons, mustard, wooden, ea	.02	.01
Wringers, clothes, ea	.50	.50
Wringers, clothes, Crescent, ea	2.90	2.70
Coolers, water, japanned, 2-gallon, ea	1.50	1.25
Filters, Gate City, ea	4.50	4.00
Cooler, water, japanned, 12-gallon, ea	6.60	5.60
Coolers, water, 2-gallon, ea	1.50	1.25
Coolers, water, 10-gallon, ea	4.70	3.90
Coolers, water, 4-gallon, ea	2.10	1.75
Coolers, water, 8-gallon, ea	3.35	2.85
Freezers, ice cream, ea	1.45	1.45
Freezers, ice cream, ea	2.60	2.20
Freezers, ice cream, ea	2.90	2.60
Freezers, ice cream, ea	1.80	1.80
Freezers, ice cream, ea	5.15	4.30
Freezers, ice cream, ea	3.30	3.30
Burners, Venus, ea	.07	.07
Globes, for Deitz lanterns, ea	.05	.05
Chimneys for Juno table lamps, ea	.14	.10
Chimneys for Imperial student lamp, ea	.12	.10
Chimneys for lamp, beaded top, ea	.02	.02
Globes for Deitz lanterns, selected, ea	.10	.08
Chimneys, sun, ea	.14	.14
Lamps, table, Juno, ea	2.10	1.70
Lamps, Imperial, student, ea	2.10	2.10
Lanterns, Deitz, Monarch, ea	.50	.38
Lamps, ea	1.90	1.90
Lamps, hanging, brass, ea	4.50	3.60
Lamps, jap, hand, No. O, ea	1.00	.88
Shades for Juno lamp, yellow, ea	1.00	.84
Shades for electric light, ea	.40	.31
Shades, opal, for Juno lamp, ea	.36	.28
Shades for Berlin student lamp, ea	.30	.13
Shades for Berlin student lamp, ea	.25	.19
Shades, green, ea	.10	.08
Wicks for Rochester lamps, ea	.05	.03
Wicks for Imperial student lamps, ea	.03	.02
Wicks, Fletcher's, ea	.01	.01
Wicks for Berlin student lamps, ea	.02	.02
Wicks for Juno lamps, Miller, ea	.04	.03
Wicks for Deitz lanterns, doz	.04	.03
Wicks, Rochester, ea	.02	.01
Sandstones, kitchen, ea	.10	.07
Oilers, sewing machine, spring bottom, ea	.07	.05
Bells, hand, ea	.20	.18
Ends, pole, ea	.05	.05
Sprinklers, clothes, ea	.11	.11
Rollers, towel, ea	.05	.05
Stands, ink, ea	.12	.10
Faucets, ea	.09	.09
Oil, "Three in One," bot	.10	.07
Shells, shotgun, 25 in box, box	.75	.74
Cookery bags, assorted sizes, pkg	.25	.19
Tops for salt and pepper shakers, ea.	.02	.02
Sharpeners, knife, Pike Carvo, ea	.25	.20

Article.	Price Change.	
	Old.	New.
Sprayers, insect powder, ea	.05	.05
Glasses, field, binocular, ea	25.00	25.00
Locks, Yale, ea	1.00	.82
Locks, Yale, ea	2.25	2.05
Locks, Yale, ea	.75	.58
Locks, Yale, ea	.95	.72
Padlocks, Yale, ea	2.20	2.05
Padlocks, Butler's, ea	.40	.32
Holders, twine, ea	.50	.42
Holders, twine, ea	.24	.23
Tacks, copper, pkg	.08	.08
Hooks, cup, brass, doz	.10	.05
Hooks, cup, brass, doz	.05	.04
Hooks, cup, brass, doz	.15	.11
Hooks, cup, brass, doz	.25	.16
Hooks, cup, brass, doz	.05	.04
Hooks, cup, brass, doz	.06	.05
Hooks, picture, doz	.04	.02
Hooks, hammock, doz	.30	.30
Hooks, coat and hat, doz	.07	.05
Hooks, porcelain, ea	.07	.07
Hooks, gate wire, doz	.09	.08
Tacks, carpet, leather head, pkg	.10	.07
Nails, upholstering, gilt, box	.06	.04
Sulkies, ea	1.70	1.40
Wagons, express, No. 27, ea	1.60	1.25
Carriages, baby, collapsible, ea	7.10	7.10
Carriages, baby, collapsible, ea	7.45	7.45
Carriages, baby, collapsible, ea	7.95	7.95
Carriages, baby, collapsible, ea	8.90	8.90
Pulleys, clothes lines, ea	.06	.06
Bars, clothes, family, ea	.50	.50
Lines, clothes, hank	.55	.51
Wire, picture, braided, bronze, roll	.45	.35
Wire, picture, braided, bronze, roll	.75	.62
Picture wire, bronze, roll	.15	.13
Picture wire, bronze, roll	.25	.19
Picture wire, bronze, roll	.35	.27
Picture wire, bronze, roll	.60	.50
Hammers, claw, ea	.48	.42
Rules, folding, ea	.25	.25
Saws, meat, ea	.65	.65
Saws, meat, 12″ ea	.40	.30
Saws, west, ea	.35	.31
Screwdrivers, ea	1.40	1.15
Plyers, side-cutting, 4″ ea	.35	.35
Plyers, side-cutting, 5″, ea	.45	.41
Hatchets, claw, Atena, ea	.50	.47
Saws, carpenter's, hand, No. 56 ea	1.20	1.05
Hammers, tack, magnetic, ea	.23	.19
Saws, carpenter's, No. 8, ea	.95	.79
Saws, carpenter's, No. 9, ea	1.20	1.00
Spanners, Universal, No. 362-A, ea	.65	.53
Silicon, Electro, box	.10	.07
Metal polish, Radua, tin	.12	.10
Furniture polish, Pickering's, bot	.15	.11
Plate powder, Pickering's, bot	.05	.05
Knife powder, Pickering's, can	.05	.05
Metal polish, Exlo, Pickering's, can	.12	.10
Pomade, putz, can	.10	.08
Scales, family, ea	1.15	1.15
Scales, ea	8.50	7.95
Scales, single beam, ea	5.50	5.50
Cages, bird, japanned, No. 24, ea	.90	.74
Cages, bird, japanned, No. 2, ea	.70	.59
Cruets, electroplated, nickel silver, with 4 bottles and spoon, ea	2.00	2.00
Forks, Tudor, S. P., ea	.28	.28
Forks, dessert, Jacobean, plated, ea	.45	.40
Forks, oyster, Jacobean, plated, ea	.28	.24
Forks, dinner, Jacobean, plated, ea	.52	.45
Knives, dessert, Jacobean, plated, ea.	1.00	.84
Knives, Tudor, ea	.69	.69
Spreaders, butter, ea	.42	.35
Knives, dinner, ea	1.10	.93
Mixers, liquor, ea	.95	.80
Percolators, No. 069-N, ea	6.30	5.30
Percolators, No. 006-N, ea	6.05	6.05
Percolators, No. 069-N, ea	6.75	6.75
Burners for percolators, without wicks, ea	.08	.08
Spoons, tea, Tudor, S. P., ea	.14	.14
Spoons, tea, medium, E. P., ea	.17	.17
Spoons, tea, silverplated, ea	.15	.13
Spoons, tea, Windsor, S. P., ea	.07	.05
Spoons, dessert, Tudor, S. P., ea	.30	.25
Spoons, table, Tudor, S. P., ea	.28	.28
Spoons, table, medium, E. P., ea	.40	.40
Spoons, dessert, medium, E. P., ea	.30	.30
Spoons, table, Windsor, S. P., ea	.14	.10
Spoons, tea, E. P., nickel silver, ea	.15	.12
Spoons, soup, Jacobean, plated, ea	.55	.47
Spoons, table, Jacobean, plated, ea	.52	.45
Spoons, coffee, A. D., Jacobean, plated, ea	.23	.19
Spoons, dessert, Jacobean, plated, ea.	.45	.40
Spoons, tea, Jacobean, plated, ea	.27	.23
Bowls, sugar, ea	.25	.14
Bowls, yellow, 4-quart, ea	.25	.25
Bowls, yellow, 2-quart, ea	.17	.14
Bowls, gravy, 1-quart, ea	.10	.08
Bowls, gravy, 6-quart, ea	.35	.30
Bowls, sugar, Doulton, ea	.35	.33
Bowls, salad, Doulton, 9″, ea	1.70	1.55
Bowls, salad, Doulton, 10″, ea	1.90	1.70
Bowls, salad, round, Doulton, 7″, ea.	.95	.88
Bowls, salad, round, Doulton, 9″, ea.	1.35	1.15
Bowls, salad, Doulton, 8″, ea	1.15	.96
Bowls, salad, Doulton, 7″, ea	1.30	1.20
Bowls, salad, Doulton, 8″, ea	1.50	1.40
Boats, gravy, with tray, Luria, ea	.60	.51
Bowls, sugar, 1-pint, Luria, ea	.25	.21
Bowls, sugar, 1½-pint, Luria, ea	.20	.18
Bowls, sugar, 30s, Minton, ea	2.70	2.45
Bowls, sugar, 30s A-4807, Minton, ea	1.15	1.10
Boats, and stands, sauce, A-4807, Minton, ea	1.80	1.70
Bowls, sugar, 30s, G-8721, Minton, ea	2.50	2.15
Bowls, sugar, 30s, A-300, Minton, ea.	1.25	1.10

Article.	Price Change.	
	Old.	New.
Boats, sauce, with stand, A-300, Minton, ea	2.10	1.85
Boats, sauce, with stand and ladle, No. 7893, Booth's, ea	2.00	1.95
Bowls, sugar, No. 7893, Booth's, ea	.85	.83
Bowls, sugar, No. 6606, Booth's, ea	.55	.53
Boats, sauce, with stands, G-8721, Minton, ea	4.20	3.85
Boats, sauce, with ladles, No. 6663, Booth's, ea	.55	.51
Bowls, sugar, covered, No. 6663, Booth's, ea	.42	.41
Bowls, sugar, No. 7881, Booth's, ea	.90	.86
Boats, sauce, with ladles, No. 7881, Booth's, ea	2.20	2.10
Boats, sauce, with trays, No. 1935, Minton, ea	4.35	3.95
Bowls, salad, 30s, E-4090, Doulton, ea	.40	.39
Bowls, salad, 36s, E-4090, Doulton, ea	.25	.24
Bowls, No. 1441, Doulton, ea	.45	.42
Bowls, punch, on foot, No. 2716, Doulton, ea	2.50	2.40
Bowls, punch, no feet, No. 2716, Doulton, ea	2.20	2.20
Bowls, sugar, No. 2312, Doulton, ea.	.80	.75
Bowls, sugar, covered, Cecil, E., 3213, Doulton, ea	.90	.83
Bowls, slop, Cecil, E., 3213, Doulton, ea	.50	.48
Cafeterie, 6-cup, Pillivuyt	.80	.80
Casseroles, 4″, Pillivuyt, ea	.15	.15
Casseroles, 4½″, Pillivuyt, ea	.20	.20
Casseroles, 5″, Pillivuyt, ea	.22	.22
Casseroles, with handle, 4½″, Pillivuyt, ea	.20	.20
Casseroles, with handle, 5″, Pillivuyt, ea	.30	.30
Casseroles, with handle, 4″, Pillivuyt, ea	.14	.14
Casseroles, 7″, Pillivuyt, ea	.40	.40
Casseroles, with handle, 6″, Pillivuyt, ea	.35	.35
Cocottes, with handle, 4″, Pillivuyt, ea	.10	.10
Cups and saucers, tea, Wedgwood, ea	.40	.31
Cups and saucers, plain white, ea	.07	.06
Cups and saucers, tea, Columbia, ea	1.50	1.50
Cups and saucers, tea, Marie, ea	1.50	1.50
Cups and saucers, tea, Marie, ea	1.25	1.25
Cups and saucers, tea, Marie, ea	1.25	1.25
Cups and saucers, tea, Minton's, ea	1.25	1.20
Cups and saucers, After Dinner, ea	1.05	1.00
Cups and saucers, tea, ea	1.20	1.10
Cups and saucers, tea, ea	.75	.73
Cups and saucers, tea, ea	1.60	1.60
Cups and saucers, After Dinner, ea	1.40	1.35
Cups and saucers, tea, ea	1.50	1.45
Cups and saucers, tea, ea	.95	.91
Cups and saucers, After Dinner, ea	1.65	1.65
Cups and saucers, After Dinner, ea	1.55	1.45
Cups and saucers, tea, ea	1.70	1.60
Cups and saucers, After Dinner, A-4807, ea	.50	.47
Cups and saucers, tea, A-4807, ea	.50	.44
Cups and saucers, After Dinner, ea	.45	.39
Cups and saucers, tea, Doulton, ea	.40	.38
Cups and saucers, tea, Wedgwood, ea	.90	.76
Cups and saucers, Mocha, ea	.85	.67
Cups, egg, Wedgwood, ea	.40	.33
Cups and saucers, porcelain, ea	.15	.12
Cups and saucers, bouillon, M-4807, Minton, ea	.55	.53
Cups and saucers, tea, M-4807, Minton, ea	.45	.41
Cups and saucers, bouillon, H-1935, Minton, ea	1.85	1.85
Cups and saucers, bouillon, Florence, G-8721, Minton, ea	1.80	1.65
Cups and saucers, tea, No. 7893, Booth's, ea	.18	.18
Cups and saucers, tea, No. 6606, Booths', ea	.15	.12
Cups and saucers, tea, No. 6663, Booth's, ea	.10	.10
Cups and saucers, tea, No. 7881, Booth's, ea	.21	.19
Cups and saucers, A. D., Booth's, ea.	.16	.15
Cups and saucers, Melba, E-3321, ea.	.40	.34
Cups and saucers, London, C-4772, ea	.25	.20
Cups and saucers, tea, Doulton, No. 3213, ea	.25	.24
Cups and saucers, tea, Doulton, No. 3798, ea	.55	.48
Cups and saucers, tea, Doulton, No 3413, ea	1.40	1.35
Cups and saucers, tea, Doulton, E. No. 2312, ea	.40	.34
Stands, match, ea	.60	.55
Candlesticks, ea	.25	.25
Candlesticks, flat, with extinguishers, Wedgwood, ea	.60	.60
Trays, pickle, Pillivuyt, ea	.06	.06
Candlesticks, pillar, 8″, Wedgwood, ea	1.30	1.10
Candlesticks, flat with extinguisher, Wedgwood, ea	.85	.85
Vases, Doulton, ea	1.50	1.40
Vases, Doulton, ea	1.05	.94
Vases, Doulton, ea	.70	.56
Trays, small, Doulton, ea	.30	.23
Trays, medium, Doulton. ea	.35	.30
Trays, large, Doulton, ea	.40	.36
Vases, Wedgwood, ea	1.30	1.20
Vases, Doulton, ea	.80	.67
Candlesticks with extinguishers, Wedgwood, ea	1.00	1.00
Tea caddies, Doulton, ea	.80	.69
Dishes, oval, 4″, Baker's, ea	.09	.07
Dishes, meat, 10″, white, ea	.10	.08

Article.	Price Change.	
	Old.	New.
Dishes, pudding, earthen, No. 686-G, ea	.15	.14
Dishes, meat, white china, 12″, ea	.20	.20
Dishes, oval, deep, white, ea	.04	.03
Dishes, meat, ea	2.35	2.35
Dishes, meat, 19″x12″, ea	1.00	.95
Dishes, covered, round, with handle, 4½″, Pillivuyt, ea	.35	.35
Dishes, covered, round, with handle, 6″, Pillivuyt, ea	.45	.45
Dishes, covered, round, with handle, 7¾″, Pillivuyt, ea	.65	.65
Dishes, covered, round, with handle, 8½″, Pillivuyt, ea	.70	.70
Dishes, covered, round, with handle, 9″, Pillivuyt, ea	.80	.80
Dishes, covered vegetable, oval, 7¾″, Pillivuyt, ea	.50	.50
Dishes, covered, vegetable, oval, 8¾″, Pillivuyt, ea	.60	.60
Dishes, covered, vegetable, oval, 10¼″, Pillivuyt, ea	.85	.85
Dishes, oval, deep, 7″, Pillivuyt, ea	.20	.20
Dishes, oval, scolloped edge, 7″, Pillivuyt, ea	.20	.20
Dishes, oval, scolloped edge, 10″, Pillivuyt. ea	.40	.40
Dishes, oval, scolloped edge, 11″, Pillivuyt, ea	.50	.50
Dishes, oval, deep, 10″, Pillivuyt, ea.	.35	.35
Dishes, vegetable, oval, 10″, Pillivuyt, ea	.45	.42
Dishes, vegetable, oval, 9″, Pillivuyt, ea	.16	.15
Dishes, oval, deep, 11″ Pillivuyt. ea.	.40	.36
Dishes, round, vegetable, individual, Pillivuyt, ea	.08	.07
Dishes, oval, with handle, 10″, Pillivuyt, ea	.75	.75
Dishes, oval, with handle, 6″, Pillivuyt, ea	.15	.15
Dishes, oval, with handle, 8″, Pillivuyt, ea	.30	.26
Dishes, oval, with handle, 9″, Pillivuyt, ea	.35	.35
Dishes, oval, scolloped, 12″, Pillivuyt, ea	.60	.60
Dishes, oval, scolloped, 8″, Pillivuyt, ea	.25	.25
Holders, safety match, ea	.10	.10
Dishes, bakers', Luria, ea	.40	.33
Dishes, bakers', 7″, No. 7893, Booth's, ea	.66	.63
Dishes, bakers', 7″, No. 6606, Booth's, ea	.30	.25
Dishes, hors d'oeuvres, No. 6131, Booth's, ea	.32	.30
Dishes, bakers', oval, 8″, G-8721 Minton, ea	2.90	2.65
Dishes, bakers', oval, 8″, A-4807, Minton, ea	1.10	.79
Dishes, bakers', oval, 10″, A-4807, Minton, ea	1.50	1.20
Dishes, bakers', oval, 8″, A-4807, Minton, ea	1.20	1.00
Dishes, bakers', oval, 8″, No. 6663, Booth's, ea	.28	.25
Dishes, butter, No. 6663, Booth's, ea	.40	.40
Dishes, bakers', 9″, No. 7881, Booth's ea	.85	.76
Dishes, butter, No. 7881, Booth's, ea	.90	.82
Dishes, bakers', 7″, No. 7881, Booth's, ea	.65	.65
Dishes, bakers', 8″, No. 1935, Minton, ea	3.00	2.80
Dishes, bakers', 10″, No. 1935, Minton, ea	3.40	3.10
Dishes, fish, French, ea	1.40	1.30
Dishes, oval, 10″, Minton, ea	1.15	1.10
Dishes, oval, 12″, Minton, ea	1.45	1.45
Dishes, round, vegetable, individual, Pillivuyt, ea	.05	.04
Dishes, round, vegetable, individual, Pillivuyt, ea	.06	.04
Dishes, round, vegetable, individual, Pillivuyt, ea	.10	.09
Dishes, round, vegetable, individual, Pillivuyt, ea	.12	.11
Dishes, sauce, Luria, ea	.09	.07
Dishes, 10″, No. 3213, Doulton, ea	.80	.77
Dishes, 14″, C-4772, ea	1.35	1.30
Jugs, cream, Doulton, ea	.45	.34
Jugs, syrup and plates, Rudel China, ea	1.32	1.10
Jugs, stone, ½-gallon, ea	.25	.21
Jugs, stone, ¼-gallon, ea	.18	.18
Jugs, Don, A-1147, small, Doulton, ea	1.50	1.40
Jugs, Scotia, Doulton, ea	.50	.44
Jugs, Scotia, Doulton, ea	.40	.35
Jugs, Scotia, Doulton, ea	.30	.28
Jugs, Simon, Doulton, ea	1.00	.94
Jugs, Simon, Doulton, ea	.85	.79
Jugs, Simon, Doulton, ea	.65	.60
Jugs, Don, A-1147, large, Doulton, ea	2.25	2.10
Jugs, Don, A-1147, medium, Doulton, ea	1.90	1.75
Jugs, Etruscan, Wedgwood, ea	1.15	.89
Jugs, tobacco dome, Wedgwood, ea	1.50	1.45
Jugs, tobacco dome, ea	.50	.50
Jugs, upright, 1-pt., Wedgwood, ea	.60	.39
Jugs, orange, 1-pt., Wedgwood, ea	.95	.81
Jugs, Don, Doulton, large, No. 2391, ea	.65	.63
Jugs, Don, Doulton, medium, No. 2391, ea	.55	.51
Jugs, Don, Doulton, small, No. 2391, ea	.40	.38
Jugs, Concord, Doulton, large, No. 2703, ea	.75	.70

Article.	Price Change.	
	Old.	New.
Jugs, Concord, Doulton, medium, No. 2703, ea	.60	.58
Jugs, Concord, Doulton, small, No. 2703, ea	.50	.50
Jugs, Concord, Doulton,, small, No. 2694, ea	.35	.35
Jugs, Simon, Doulton, large, No. 2326 ea	.75	.70
Jugs, Rocket, Doulton, large, No. 3804, ea	1.10	1.10
Jugs, Rocket, Doulton, small, No. 3804, ea	.60	.56
Jugs, Memories, Doulton, No. 2693, ea	1.00	.98
Jugs, cream, 1-pint, Luria, ea	.10	.09
Jugs, cream, 30s, A-4807, Minton, ea	.65	.60
Jugs, cream, 30s, G-8721, Minton, ea	1.60	1.55
Jugs, cream, 30s, A-300, Minton, ea.	.65	.48
Jugs, cream, 1-pint, No. 6131, Booth's ea	.27	.25
Jugs, cream, 1-pint, No 7881, Booth's ea	.55	.49
Jugs, Rocket, 18s, Doulton, ea	.90	.80
Jugs, Premier, Doulton, No. 2779-24s, ea	.70	.63
Jugs, Premier, Doulton, No. 2779-30, ea	.55	.51
Jugs, milk, Cecil E., Doulton, No. 3213, ea	.55	.49
Jugs, Doulton, Clayton, No. 1441, ea	.55	.51
Jugs, Becket, 24s, No. 2567, Doulton, ea	.60	.60
Jugs, Becket, 12s, No. 2568, Doulton, ea	1.00	.96
Jugs, No. 7053, 24s, Doulton, ea	.80	.70
Jugs, cream, No. 2312, Doulton, ea	.40	.38
Mugs, Doulton, ea	.30	.26
Mugs, Doulton, ea	.60	.52
Plates, shirred egg, 1 post, ea	.08	.08
Plates, plain, white, 9″, ea	.06	.04
Plates, soup, plain white, 9″, ea	.06	.05
Plates, Oxford, white and gold band, Coalport's, 8″, ea	1.50	1.40
Plates, Choly, plain cobalt band, Coalport's, 8″, ea	1.55	1.55
Plates, L. D. S., apple and green band, Coalport's, 8″, ea	1.20	1.20
Plates, L. D. S., apple and green band, Coalport's, 8″, ea	1.00	.94
Plates, shirred egg, 6″, Pillivuyt, ea	.08	.08
Plates. shirred egg, 8″, Pillivuyt, ea	.09	.09
Plates, shirred egg, 10″, Pillivuyt, ea	.14	.14
Plates, deep, 8″, Pillivuyt, ea	.12	.12
Plates, Minton, 8″, ea	1.55	1.45
Plates, Minton, 7″, ea	1.30	1.30
Plates, Minton, 8″, ea	1.20	1.10
Plates, Minton, 8″, ea	1.50	1.40
Plates, Minton, 8″, ea	1.55	1.55
Plates, Minton, 8″, ea	.50	.50
Plates, Wedgwood, 5″, ea	.25	.20
Plates, Wedgwood, 7″, ea	.40	.35
Plates, soup, China, 9½″, H-170, Minton, ea	1.75	1.70
Plates, China, 9½″, H-969, Minton, ea	1.00	.91
Plates, China, 10″, H-721, Minton, ea	1 65	1.60
Plates, China, 6″, No. 8721, Minton, ea	1.00	.97
Plates, soup, China, 9½″, No. 8721, Minton, ea	1.65	1.55
Plates, soup, China, 9½″, H-1935, Minton, ea	1.75	1.75
Plates, China, 10″, H-1935, Minton, ea	1.75	1.75
Plates, China, 6″, H-1935, Minton, ea	1.05	1.05
Plates, China, 7″,A-4807, Minton, ea	.45	.45
Plates China, 6″, A-4807, Minton, ea	.35	.35
Plates, soup, China, 9½″, A-4807, Minton, ea	.60	.60
Plates, dessert, Doulton, ea	.75	.72
Plates, dessert, Doulton, ea	.50	.41
Plates, 8″, Doulton, ea	.35	.29
Plates, 6″, Doulton, ea	.40	.35
Plates, porcelain, 6″, ea	.10	.09
Plates, porcelain, 8″, ea	.14	.11
Plates, dinner, 9½″, Luria, ea	.20	.20
Plates, soup, 9½″, Luria, ea	.20	.18
Platters, meat, oval, 14″, Luria, ea	.90	.80
Platters, meat, oval, 16″, Luria, ea	1.40	1.20
Plates, cake, 10″, Luria, ea	.25	.25
Plates, sauce, 6″, G–8721, Minton, ea.	1.10	.97
Plates, sauce, 6″, A–4807, Minton, ea.	.35	.31
Plates, sauce, 6′ ,H–1935, Minton, ea.	1.15	1.05
Platters, chop, round, 14 , A–4807, Minton, ea	2.50	2.45
Platters, meat, oval, 14″, A–4807, Minton, ea	3.25	3.00
Platters, meat, oval, 14″, A–4807, Minton, ea	2.15	2.00
Plates, sauce, 6 ′, A–4807, Minton, ea.	.40	.34
Platters, chop, round, 16″, A–4807, Minton, ea	3.50	3.30
Plates, 6″, G–8410, Minton, ea	1.30	1.15
Plates, 7″, G–8410, Minton, ea	1.60	1.40
Plates, 8″, G–8410, Minton, ea	1.90	1.85
Platters, chop, round, 14″, G–8410, Minton, ea	7.00	6.70
Platters, meat, oval, 14″, G–8410, Minton, ea	6.40	5.65
Platters, chop, round, 14″, G–8721, Minton, ea	6.10	5.85
Platters, meat, oval, 16″, G–8410, Minton, ea	9.50	8.50
Plates, soup, 8″, No.7893, Booth, ea	.24	.22
Plates, 8″, No. 7893, Booth, ea	.24	.22
Plates, 7″, No. 7893, Booth, ea.	.18	.16
Plates, 5″, No. 7893, Booth, ea	.15	.14
Plates, oval, 9″, No. 7893, Booth, ea.	.54	.49
Plates, oval, 12″, No. 7893, Booth, ea.	.96	.87
Plates, 8″, No. 6606, Booth, ea	.14	.12
Plates, 7″, No. 6606, Booth, ea	.12	.10
Plates, 5″, No. 6606, Booth, ea	.10	.08
Plates, oval, 9″, No. 6606, Booth, ea	.32	.25
Plates, chop, 12″, No. 6131, Booth, ea	.72	.70
Plates, sauce, 5″, No. 6131, Booth, ea	.09	.08
Platters, meat, 14″, H–1935, G–8721, Minton, ea	5.90	5.40
Platters, meat, 16″, H–1935, Minton ea	8.75	8.15
Plates, sauce, No. 6663, Booth, ea	.07	.07
Plates, soup, 8″, No. 6663, Booth, ea	.11	.11
Plates, 8″, No. 6663, Booth, ea	.11	.10
Plates, 7″, No. 6663, Booth, ea	.10	.09
Plates, 5″, No 6663, Both, ea	.07	.07
Plates, oval, 9″, No. 6663, Booth, ea	.24	.24
Plates, oval, 12″, No. 6663, Booth, ea	.48	.47
Plates, sauce, No. 7881, Booth, ea	.16	.14
Plates, bread and butter, No. 7881, Booth, ea	.28	.26
Plates, hors d'oeuvres, No. 7881, Booth, ea	.65	.65
Plates, oval, 9″, No. 7881, Booth, ea	.60	.55
Plates, oval, 12″, No. 7881, Booth, ea.	1.00	.90
Plates, oval, 14″, No. 7881, Booth, ea.	1.50	1.40
Plates, breakfast, 8″, No. 2, French	.08	.08
Platters, meat, oval, 12″, Luria, ea	.80	.56
Platters, meat, plain white, 12″ x 9″ ea	.15	.12
Plates, 7″, Doulton, No. 3213, ea	.30	.28
Plates, 6″, Doulton, No. 3213, ea	.25	.22
Plates, 7″, Doulton, E-4772, ea	.25	.25
Plates, 6″, Doulton, E-4772, ea	.20	.20
Platters, meat, oval, 10″, Luria, ea.	.60	.47
Pots, tea, S. Y. P., China, ½-pint, ea.	1.10	.74
Pots, tea, S. Y. P., China, 1-quart, ea	1.75	1.25
Pots, tea, S. Y. P., China, 1-pint, ea.	1.40	.95
Pots, mustard, China, ea	.25	.20
Pots, tea, small, covered, Pillivuyt, ea	.05	.05
Pots, tea, 1-pint, Doulton, ea	1.50	1.30
Pots, coffee, Doulton, ea	1.25	1.15
Pots, coffee, 30s, No. 7893, Booth, ea.	.85	.78
Pots, coffee, No. 6131, Booth, ea	.55	.53
Pots, coffee, 30s, No. 7881, Booth, ea.	.40	.40
Pots, coffee, 30s, No. 7881, Booth, ea.	.90	.82
Pots, flower, 4″, ea	.03	.02
Pots, tea, 1-quart, H-1935, Minton, ea	4.25	4.05
Lamps, Vestal, Wedgwood, ea	7.90	7.90
Tea sets, assorted patterns, Wedgwood, 8 cups and saucers, 1 tea pot, 1 sugar bowl, and 1 cream jug, set.	5.60	5.35
Dinner sets, Pillivuyt, consisting of 12 plates, 7″, 12 soup plates, 12 plates, 8″, 12 cups and saucers and 6 dishes, set	15.00	14.40
Tea sets, tea pot, sugar bowl, and creamer, Wedgwood, set	2.60	2.45
Tea sets, tea pot, sugar bowl, and creamer, Doulton, set	3.20	2.60
Rests, knife, ea	.12	.11
Tops for percolators, ea	.05	.05
Holders, toothpick, ea	.06	.04
Shakers, salt and pepper, ea	.10	.07
Bowls, white glass, 6″, ea	.15	.13
Bowls, finger, crystal, ea.	.14	.12
Bowls, finger, crystal, ea	.23	.20
Bowls, berry, pressed glass, 8″, ea	.25	.24
Bottles, oil and vinegar, ea	.15	.12
Bottles, clean easy, sterilizing, 10-oz, ea	.05	.04
Sets, table (4 pieces each), set	.60	.55
Sets, cream, ea	2.25	2.00
Sets, water (1 pitcher and 6 glasses,) set	.90	.77
Sets, ice cream (1 tray and 6 dishes,) set	.60	.60
Sets, punch, (1 bowl and 24 cups), set	5.50	4.85
Sets, water, dec., crystal (1 pitcher and tray, 6 glasses), set	6.50	6.10
Glasses, sherry, crystal, ea	.28	.23
Glasses, claret, crystal, ea	.39	.32
Glasses, cordial, crystal, ea	.20	.17
Glasses, cordial, crystal, ea	.34	.29
Glasses, highball, crystal, ea	.26	.22
Glasses, lemonade, crystal, ea	.39	.33
Glasses, champagne, crystal, ea	.28	.23
Goblets, crystal, ea	.33	.27
Glasses, claret, crystal, ca	.26	.22
Glasses, cocktail, crystal, ea	.26	.22
Glasses, cordial, crystal, ea	.23	.20
Glasses, sherry, crystal, ea	.25	.21
Glasses, punch, ea	.08	.06
Glasses, water, No. 402, half crystal, ea	.11	.09
Glasses, water, No. 405, half crystal, ea	.11	.09
Glasses, claret, No. 400, half crystal, ea	.09	.08
Glasses, claret, No. 422, half crystal, ea	.10	.08
Glasses, champagne, No. 411, half crystal, ea	.22	.18
Glasses, cocktail, No. 414, half crystal, ea	.09	.08
Glasses, sherry, No. 416, half crystal, ea	.09	.07
Glasses, sherbet, No. 420, half crystal, ea	.08	.07
Glasses, liquor, No. 426, half crystal, ea	.06	.05
Glasses, Sauterne, crystal, ea	.14	.12
Glasses, highball, crystal, ea	.18	.16
Goblets, crystal, ea	.25	.21
Glasses, sherry, crystal, ea	.12	.10
Goblets, crystal, ea	.25	.21
Glasses, sherry, crystal, ea	.22	.18
Glasses, oyster cocktail, crystal, ea	.22	.18
Glasses, sherry. ea	.16	.14
Glasses, cocktail, ea	.17	.14
Glasses, drinking, 1-pint, ea	.08	.07
Glasses, champagne, ea	.25	.21
Glasses, claret, ea	.16	.15
Glasses, drinking, thin, ½-pint, ea	.05	.04
Glasses, cocktail, decorated, crystal, ea	.50	.45
Glasses, Sauterne, decorated, crystal, ea	1.50	1.35
Tumblers, ½-pint, half crystal, ea	.10	.06
Tumblers, tea, half crystal, ½-pint, ea	.05	.04
Tumblers, plain, half crystal, 1-pint, ea	.08	.06
Tumblers, conical, half crystal, 1-pint, ea	.08	.07
Tumblers, champagne, half crystal, ½-pint, ea	.04	.03
Tumblers, tea, ⅜-pint, ea	.04	.03
Tumblers, conical, ½-pint, ea	.03	.03
Tumblers, water, ½-pint, ea	.03	.03
Jugs, syrup, ea	.40	.33
Jugs, syrup, white, ea	.90	.73
Pitchers, white plain glass, 2-quart ea	.50	.41
Bottles, vinegar, decorated crystal, ea	1.30	1.10
Dishes, olive, ea	1.35	1.10
Dishes, berry, decorated, crystal, ea.	1.85	1.55
Dishes, bon bon, decorated crystal, ea	1.40	1.20
Dishes, bon bon, decorated crystal, ea	1.80	1.55
Dishes, berry, decorated crystal, ea	1.95	1.95
Comportieres, solid bowl, decorated crystal, ea	.55	.50
Glasses, liquor, ea	.25	.20
Glasses, water, ea	.20	.20
Glasses, sherry, decorated crystal, ea.	.50	.44
Glasses, fine champagne, decorated crystal, ea	.45	.34
Glasses, claret, decorated crystal, ea.	.55	.49
Glasses, water, decorated crystal, ea.	.35	.32
Glasses, champagne, decorated crystal, ea	.95	.92
Glasses, claret, decorated crystal, ea.	.45	.45
Glasses, liquor, cut crystalware, ea	.65	.61
Goblets, water, cut crystalware, ea	.80	.74
Jugs, ice water, decorated crystalware, ea	4.00	3.80
Nappies, glass, decorated crystal, ea.	.75	.75
Nappies, 4½″, glass, ea	.08	.05
Stands, toothpick, decorated crystal, ea	.45	.40
Sets, water, set	12.20	10.05
Sets, water, set	14.40	11.45
Sets, water, set	4.80	4.00
Trays decorated crystalware, ea	2.50	2.10
Beds, iron, single, No. 365, ea	2.60	2.35
Beds, iron, double, No. 360, ea	3.80	3.35
Beds, iron, double, No. 295. ea	7.15	6.20
Chair, cane seat, No. 904, ea	1.20	1.20
Chair, golden oak, No. 943, ea	3.95	2.55
Chair, stenographer's, L-24, T. W., ea	6.82	5.70
Chair, wicker, lot 6932, A, ea	9.30	8.35
Chair, golden oak, ea	2.70	2.30
Chair, folding, ea	1.15	1.15
Chair, No. 1067, ea	4.10	4.10
Seats, reed, G-134-7, ea	6.40	6.40
Chairs, arm, 6720-D, ea	15.60	15.80
Chairs, arm, 2270-A, ea	6.40	6.55
Chairs, arm, 6936-C, ea	10.30	10.30
Chairs, arm, 6207-C, ea	10.65	10.55
Chairs, arm, 6183-D, ea	13.00	12.65
Chairs, arm, W-20-A, ca	6.60	6.85
Chiffoniers, golden oak, ea	15.00	12.90
Chiffoniers, No. 2117, ea	19.40	19.30
Cots, Ideal, ea	2.70	2.25
Cribs, white enamel, ea	6.15	5.35
Téte a téte, 6936-F, ea	17.00	16.90
Desks, standing, ea	23.60	19.75
Dressers, oak, with mirrors, No. 130, ea	21.50	17.50
Bureau, No. 2062, ea	15.35	15.50
Mattresses, ea	6.00	5.25
Mattresses, ea	4.75	3.85
Mattresses, crib, ea	4.00	3.70
Mirrors, plain oak, ea	3.00	2.55
Rockers, golden oak, G-410-6, ea	6.35	5.30
Rockers, No. 1117, ea	6.75	6.20
Rockers, No. 1068, ea	4.75	4.75
Rockers, ladies', 6619-B, ea	10.30	10.10
Rockers, ladies', 6832-B, ea	13.50	13.60
Stools, cane seat, golden oak, high, with backs, ea	7.50	6.30
Stools, cane seat, golden oak, without back, ea	3.20	2.15
Sideboards, No. 2023, ea	28.60	28.40
Springs for double bed, ea	3.20	2.40
Springs for single bed, ea	2.95	2.15
Springs for double bed, superior galvanized, ea	5.50	5.50
Springs for single bed, superior galvanized, ea	5.00	4.65
Trays, butter, wooden, ea	2.30	1.65
Tables, extension, square and round, ea	19.00	15.90
Tables, pine, drop leaf, ea	5.75	4.10
Tables, parlor, golden oak, ea	3.50	2.75
Tables, pine, stained, 3′x6′, ea	5.75	4.80
Tables, antique, maple, ea	1.90	1.90
Tables, wicker, shellacked, No. 6839, ea	9.00	7.65
Tables, wicker,s hellacked, No. 6712, ea	10.30	8.60
Tables, wicker, shellacked, No. 6380, ea	5.10	4.25
Tables, side, No. 2177, ea	6.15	6.40
Tables, No. 2191, ea	22.50	21.95
Tables, dressing, No. 2045, ea	13.30	12.80
Tabourets, No. 2052, ea	3.10	3.00
Tables, 6872-G, ea	14.20	14.55
Tables, No. 7561-G, ea	11.15	11.15
Wardrobes, single, G. O., plain front, ea	19.75	16.45
Wardrobes, double, G. O., plain front, ea	23.00	18.95
Washstands, square front, oak, ea	**18.00**	**16.90**

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, JULY 15, 1914. No. 47.

The Canal Record

Official publication of The Panama Canal.

The Canal Record is published weekly free of charge, one copy each, to all employes of The Panama Canal and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Moving into Permanent Administration Building.

The occupation of the permanent Administration Building at Balboa was begun on the morning of Wednesday, July 15, with the moving in of the chief timekeeper's office from Culebra, and the district timekeepers' offices from Balboa and Cristobal. The consolidated force includes about 50 gold employes, of whom 20 are from Culebra, and the remainder from Balboa and Cristobal in about even number; and a complement of silver clerks and messengers. The space assigned them is in one large room on the first floor, southwest portion of the main building, extending from the rotunda to the west end of the building.

All of the heavy construction work on the building has been completed, and the plumbing, plastering, and setting of windows and doors are almost completed. The principal work now in progress is the laying of the wood flooring in the first story of the south wing of the building, the remainder of same being complete; the laying of the red vitrified tile for paving the colonnades and corridors, and the roof of the *porte cochére* at the rear, flooring the rotunda with marble mosaic, general carpenter finishing work, painting, and the pulling of electrical and telephone cable through the conduits.

Building of Quarters by Employes.

The Governor has approved the recommendations of the Special Attorney and the Chief Quartermaster that employes of The Panama Canal or Panama Railroad Company, either on the silver or gold roll, be permitted to build houses for their personal occupancy, under proper restrictions and within certain well defined areas, in the Canal Zone. These licenses or permits are to be issued with the understanding that the intending builders will receive no compensation for their improvements; that the licenses will become inoperative upon their termination of service with the Canal or railroad, and that they do not prejudice the rights of the Canal or railroad company in requiring the owners of the improvements to vacate same at any time.

This arrangement has been decided upon with a view of relieving the congestion of quarters at the Pacific end of the Canal, which now exists, and which will probably continue to prevail for some time to come. There have also been a number of requests of this nature from employes, both white and colored, especially in the Corozal district. The depopulation of the labor camps along the west bank of the Canal will compel the employes formerly residing in that territory, most of whom find employment at Balboa, to go to Panama to live. Quarters there are scarce, and rents are very high. The silver settlement at La Boca was founded for the purpose of relieving these conditions, and has done so to a certain extent. There are now over 400 apartments in that town, but all of these are rented, and there are between 400 and 500 applications from others on file which cannot be acted upon at present.

With regard to the American force, it is estimated that, taking into consideration the new permanent quarters and reerected quarters projected at Balboa, and vacancies caused by reduction of force, there will still be barely enough accommodations at Balboa, Ancon, and Corozal for some time to come to take care of the regularly assigned transfers. There are over 200 waiting applicants on the gold rolls for assignment to quarters in those towns, in addition to 75 employes who have special assignments in Empire and Culebra, and must move when those towns are abandoned. There are also a large number of American employes living in Panama and paying high rents.

A decision will be made shortly as to what areas will be set aside for those employes who care to build their own habitations.

Lock Patrols.

The men of the Tenth Infantry on duty at the Canal locks were changed on Wednesday, July 15. A special train carrying the Second Battalion, comprising Companies E, G, and H, left Las Cascadas at 7 a. m., and was run through to Miraflores Locks station, thence back to Pedro Miguel, and later to Gatun. The patrol system at the locks was first established on April 24, and since that time, two companies have been constantly stationed at Gatun Locks, and one each at Pedro Miguel and Miraflores Locks. The companies are relieved every month, so that in time, if the present arrangement is continued, all of the men of the command will have served on this detail. Most of the men on duty at Gatun are quartered in Panama Canal buildings, and the mess hall is also located in one of the type buildings; at Pedro Miguel and Miraflores, however, where there are no quarters available, the men sleep in tents situated on the east lock walls, and eat in a general mess tent. A small wooden building is used for an office by the officer of the day at each place. The first camp of the men at Miraflores Locks was on the old Miraflores dump. This site was abandoned with the advent of the rainy season, partly on account of the muddy surroundings, and partly on account of its distance from the locks. The sick rate among the men has increased since the beginning of the rainy season; it has been highest at Miraflores, and lowest at Gatun. At Gatun, mosquitoes and sand flies have made the patrol duty, especially at night, more than usually tedious. The Canal clubhouses at Gatun and Pedro Miguel have been of considerable aid in breaking the monotony of the patrol duty at those points.

The Commissary Privilege.

A report appears to have gained currency among the nonemployes on the Isthmus, particularly Americans, that commissary coupon books may be purchased for cash on payment of their face value, plus the Panamanian duty of 15 per cent. This idea is erroneous. The Canal Treaty and subsequent agreements entered into with the Republic of Panama restricts the commissary privilege to employes of The Panama Canal and the Panama Railroad Company, and without the prior consent of the Panama Government, no extension of this privilege to others can be made.

Arrival of Pontoon for Floating Crane "Ajax".

The pontoon of the floating crane *Ajax* arrived in Colon harbor in the afternoon of July 8, and was towed to Dock 14, Cristobal, in the morning of Thursday, July 9. It left the yards of the contractor, the Deutsche Maschinenfabrik Actiengesellschaft, at Emden, Germany, on April 26, and was 74 days on the way. It cleared Falmouth, England, for the Madeira Islands on May 15, and reported its arrival at Madeira on June 4. It was in tow of the tug *Thames* of the International Towing Company of Rotterdam. The original plan was for the tow to sail from Falmouth to Vigo, Spain, where the tug would coal, but on account of heavy seas in the Bay of Biscay, the tow put back to Falmouth, coaled, and went direct to the Madeiras. It was expected that it would have reported by the latter part of June from Barbados, but instead, it sailed direct to Colon.

The pontoon of the second crane, the *Hercules*, left Emden on Saturday, May 30, in tow of the tug *Schelde* also of the International Towing Company. It is due at Colon about the first of August.

In anticipation of the arrival of the pontoons, forces of the contractor are engaged in the erection of the crane jibs at Gatun. They completed the assembly of the structural steel for the jib of the *Ajax* on Monday, June 29, and are now riveting it. As soon as the jib for the *Ajax* was erected, they began the erection of the jib for the *Hercules*. The force consists of 18 white Germans, and about 25 West Indian helpers. A superintendent, together with five erectors and painters, arrived on the *Colon* on July 3.

The jib erection is taking place on the east backfill of the middle level of Gatun Locks. A jib is 140 feet long and contains 165 tons of steel. It is erected with its broad, or pivot, end toward the lock, and will be handled into place on the pontoon from the lock wall. The pontoon will be towed into the lock chamber and brought close to the east wall; the jib will then be moved over on rollers and hinged to the tower of the crane. The water in the chamber will be regulated to bring the pontoon to exactly the right level. After the jib has been affixed to the tower, the cable attachments will be made, and the jib will be swung clear of the wall by the crane's operating machinery, just as it will be swung when in use.

As shipped, the pontoons were complete as to hull and all internal steam and electric plant; the superstructures of towers and bells were in place, with the exception of the counterweight arm, winch house and its machinery, the crosshead, and the spindles. Upon arrival at Colon, each pontoon is to be stationed at Dock 14, Cristobal, alongside which the superstructure will be completed for the attachment of the jib.

PERSONAL.

Mr. Edward Schildhauer resigned as electrical and mechanical engineer, effective July 13, and, accompanied by his family, will sail for New York on the United Fruit Company's steamer *Almirante* on Thursday, July 16. He entered the Canal Service as electrical and mechanical engineer on November 15, 1906, but was stationed in Washington until September of the following year, when he was transferred to the Isthmus, arriving on September 2, 1907. During his period of service, he has been occupied principally with the designing, manufacturing, and installation, under the direction of Col. H. F. Hodges, formerly Assistant Chief Engineer, and since April 1, Engineer of Maintenance, of the machinery and electrical equipment for the operation of the Canal locks, spillways, and power plants, including the new hydroelectric station at Gatun, the substations at Gatun, Cristobal, Miraflores, and Balboa, and with the new transisthmian transmission line. He invented and patented the bull wheel, which operates the lock gates. He also invented and patented the system of electric towing locomotives for handling ships in the locks. Another novel device, manufactured from designs prepared in his office, is the system of remote control, by which every part of the lock operating machinery is manipulated from a central station or control house, and where, with the aid of a reproduction of the lock and its operating features in miniature, every movement is registered before the eyes of the operator. Mr. Schildhauer was born at New Holstein, Wis., entered the University of Wisconsin at the age of 21, and was graduated from the institution in 1897, with the degree of bachelor of science in electrical engineering. The master's degree was conferred in 1911. He was engaged in electric railway construction until 1898, when he entered the employ of the Chicago Edison Company, and was with this company at the time of his appointment to the Canal Service. He is president of the Panama Section of the American Institute of Electrical Engineers, chairman of the Canal Zone Chapter of the American National Red Cross Society, and a member of various societies in the United States, including the American Institute of Electrical Engineers, the American Society of Civil Engineers, the American Society of Mechanical Engineers, the National Electric Light Association, and the American Electro-Chemical Society. He will make his headquarters at the Engineers' Club, New York City. He was given a farewell reception by the Tivoli Club on Saturday evening, July 11, and by the University Club, on Wednesday evening, July 15.

Mr. Fitz J. Lewis, supervisor of the Pacific locks, resigned, effective July 14, and will sail for New York on the United Fruit Company's steamer *Almirante*, on Thursday, July 16. He entered the Canal Service on April 11, 1906, as a machinist in the shops of the Mechanical Division at Empire. On May 1, 1907, he was appointed fuel oil expert, and held that position until December 16 of the same year, when he was made a special machinist. On September 30, 1909, he was transferred to the Central Division, and placed in charge of the steamshovel erecting department at Empire shops, as erecting foreman. He was transferred to the First Division on August 12, 1912, as general foreman, and continued to perform his duties as general foreman until December 24, 1913, when he was appointed supervisor of the Pacific locks to succeed T. H. Jordan. Prior to his coming to the Isthmus, he was a stationary engineer for about 11 years, working for various firms in the South, and from 1903 to 1906, he was in the employ of the Neche Canal Company of Beaumont, Tex., as chief engineer. He is a member of the American Society of Mechanical Engineers, Association of Stationary Engineers, and of a number of fraternal organizations. His former home was Amite City, La.

Mr. A. Raggi, assistant engineer, sails for Bordeaux, France, on Thursday, July 16, on the steamer *Perou* of the Compagnie Générale Transatlantique, on leave of absence of 66 days, which he will spend in Switzerland.

Levelman and Transitman Examination.

Examination for promotion to the positions of levelman and transitman is scheduled to be held in the Administration Building at Culebra (second floor, Room 17), on Sunday, August 9.

The examination will commence promptly at 9.15 a. m., and will be divided into three parts, which will be given in the order indicated, viz: Written and oral examinations, and a statement of education and experience. Competitors will be required to complete the written portion of the examination *before 12.30 p. m.*

Applications for examination should be addressed to the undersigned, *through the head of division*, before the close of business on Thursday, August 6.

Applicants should bring to the examination room, pens, ink, pencils, triangles, and tables of circular functions, but no paper or blotters.

Applicants who fail to appear for examination before 9.15 a.m., or who do not apply for examination through the proper channels before the close of business on Thursday, August 6, will not be admitted to the examination.

No card of admission will be needed.

A. B. Nichols,
Chairman, Examining Board.

Culebra, C. Z., July 13, 1914.

Canal Tolls and Pilotage in June.

The amount of Canal tolls collected by the captain of the port at Balboa during the month of June was $4,910.80, and the amount of pilotage, $450, a total of $5,360.80; at Cristobal, the sum of $3,408.16 in tolls was collected by the captain of the port, and $1,110 in pilotage, a total of $4,518.16. The grand total of Canal tolls collected was $8,318.96, and for pilotage, $1,560. The sending of lighters loaded with freight through the Canal has been suspended, as the former freight congestion at Balboa has been relieved, and the railroad is able to take care of the present traffic.

Changes of Personnel in Supply Department.

Joseph Birnie resigned as chief clerk in the office of the Chief Quartermaster at Culebra, effective July 20, and sailed for New York on the *Advance*, on Wednesday, July 15. He entered the Canal Service on July 15, 1907, as a stenographer in the old Department of Material and Supplies, and was transferred to the Quartermaster's Department, when the former organization was abolished on September 1, 1908. He was made chief clerk on April 1, 1913. M. B. Stevens, formerly United States requisition clerk in the office of the Chief Quartermaster, has been appointed chief clerk to succeed Mr. Birnie, and J. J. Jackson, formerly chief clerk in the office of the Depot Quartermaster at Mount Hope, has been made United States requisition clerk.

Estates Being Settled.

The following estates of deceased employes of The Panama Canal or the Panama Railroad Company are now in process of settlement by this office, and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings or postal money order deposits, or any other moneys due them, should be presented at this office at once, in order that the estate may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once:

Deceased Employes.

Name.	*Check No.*	*Native of*	*Isthmian residence.*	*Employed by*	*Date of death.*
Gaston Adele	211215	Martinique	Balboa	Sixth Division	July 2
Herbert Goulbourne, alias Albert Goldring	205682	Jamaica	Cristobal	Dock 14	July 3
Edward Mattis	86460	Jamaica	Balboa	P. R. R.	July 3
William Waldron	56021	Barbados	Colon	P. R. R.	July 1

SOCIAL LIFE OF THE ZONE.

Isthmian Sunday School Association.

The Isthmian Sunday School Association held its regular quarterly meeting in the Cristobal Union Church on Sunday afternoon, July 12. The president, Mr. J. F. Warner, was in the chair. The song service, with which the meeting was opened, was conducted by Mr. Dohrman of Empire; devotional exercises were conducted by the Rev. Charles H. Ports of the Methodist Church, Panama, and the Cristobal Union Sunday school gave special selections. Other numbers on the program consisted of an address on teacher training by J. H. Weaver, and an instrumental trio by the Prochaska family, accompanied on the piano by Mrs. Nora Hardeman. The round table discussion was led by Mr. J. A. Page. The officers elected for the ensuing term were, as follows: President, James Stokoe of Balboa; vice-president, J. M. Weaver of Cristobal; secretary, L. C. Vannah of Balboa; treasurer, E. M. Foster of Ancon.

The Rev. Mr. Wallace, a missionary from Mexico City, who was on the Isthmus in transit to Colombia, addressed the delegates. The subject of his talk was Mexico, and the revolution as it affects the religious life of the country. In the course of his address, Mr. Wallace gave a description of the life of a missionary in Mexico, and told of the methods of work used by the missionaries.

Statistics of the attendance at the convention, and of the enrollment of the schools are, as follows:

Balboa—Eight present; number of teach- and officers enrolled, six; number of pupils, 41, average attendance, 25.

Panama Methodist Church—Number present, five; number of teachers and officers, eight; number of pupils, 78, average attendance, 58.

Guachapali Methodist Church—Number of pupils enrolled, 70.

Corozal—Number present, five; teachers and officers enrolled, 14; number of pupils, 87, average attendance, 72.

Pedro Miguel—Number present, three; teachers and officers, six; number of pupils enrolled, 59; average attendance, 40.

Paraiso—Number present, four; teachers and officers, four; number of pupils, 36; average attendance, 28.

Culebra—Number present, six; number of pupils enrolled, 50.

Empire—Number present, four; teachers and officers, 15; number of pupils enrolled, 150, average attendance, 85.

Gatun—Number present, nine; teachers and officers, 15, number of pupils enrolled, 85; average attendance, 75.

Cristobal—Number present, 23; teachers and officers, 22; number of pupils, 223; average attendance, 145.

Visit of Bishop Knight.

The visit of the Rt. Rev. Albion W. Knight to the Episcopal Mission in Panama, was extended a few days beyond the original intention. The prelate arrived on the Isthmus on Wednesday, July 1, and will sail for New York, via Havana, on the *Almirante*, on Thursday, July 16. During his visit to the mission, Bishop Knight confirmed 132 persons. The division by churches is, as follows: St. Luke's Hospital chapel, Ancon, two; St. Paul's, Panama, 36; Christ Church, Colon beach, 23; St. Stephen's, New Gatun, 11, and St. Mark's, Culebra, 60; in the latter class were the candidates from St. Augustine's, Paraiso, St. Andrew's, Empire, and confirmants from Las Cascadas. He preached at St. Luke's chapel, Ancon, on Sunday morning, July 5, and on Sunday morning, July 12. Although Bishop Knight enters upon his duties as vice-chancellor of the University of the South at the opening of the university year, he will continue as bishop in charge of the mission at Panama.

Opening of Chorrillo Church.

The opening service of the new Baptist church in Chorrillo will take place on Sunday, July 19, at 10.45 a. m. The formal opening of the doors will begin the service, the act being performed by the Hon. William Jennings Price, the American minister, who laid the cornerstone of the building on April 10. Mr. Price will deliver an address at the dedication service which follows, beginning at 11 o'clock. Further services to be held on the same day in connection with the event are, as follows: At 3 p.m., with the Rev. Stephen Witt of Gatun, as preacher; at 7 p. m., with the Rev. S. Moss Loveridge of Culebra, as preacher. During the week following, there will be a service in the church every evening at 7.30, with preaching by different local ministers. The church has been erected under the direction of the Rev. Mr. Loveridge of Culebra. There is seating capacity for 350 persons. In the rear are convenient vestries and a detached cottage for the caretaker. The cost of the site for the building was donated by the Home Missions Board of the Southern Baptist Convention.

St. Luke's Hospital Chapel Notes.

There will be a special meeting of the Woman's Altar Guild of St. Luke's Hospital chapel, Ancon, at Ancon hall on Friday morning, July 17, at 9 o'clock. The members are urgently asked to be present at this meeting.

The lecture on personal hygiene under the auspices of the junior auxiliary of St. Luke's chapel has been postponed from the original date, July 15, to August 5. The regular business meeting of the auxiliary was held at the home of Mrs. Charles F. Mason on Wednesday afternoon, July 15, from 5 to 6 o'clock. The physical culture and folk dancing class will be held at Ancon hall on Wednesday afternoon, July 22, from 4.45 to 5.45 o'clock.

Denial of Quarantine Rumor.

Referring to a rumor that Alabama and Texas had quarantined against New Orleans, the general agent of the United Fruit Company states he has cable advices to the effect that there is no truth in the rumor, and that the States mentioned have not quarantined against New Orleans.

Branch Post-Office at Balboa Heights.

A branch post-office, to be known as the Balboa Heights post-office, was opened on Wednesday, July 15, in the new Administration Building. The location and fittings are temporary, and will be used only until the permanent quarters are ready, and the new equipment is received. The branch is in charge of an acting postmaster.

Nombre de Dios Assembly, Fourth Degree, K. of C.

Regular meeting, Sunday, July 19, lodge hall over Panama Canal hotel, Ancon, at 2.30 p. m.

JOHN J. LUCKEY,
Faithful Scribe.

NAOS ISLAND, July 15, 1914.

JOINT LAND COMMISSION.

Calendar for Week Ending July 25, 1914.

The following is a calendar of cases set for hearing during the week ending July 25, 1914:

MONDAY, JULY 20.

Docket No.	*Claimant.*	*Docket No.*	*Claimant.*
390	William Robinson	862	Nicomeres Gonzales
391	Thomas Crawford	863	Robert Haley
392	William Coney	1035	John Williams
393	Charles Snill	1091	Josè Orozco
394	Joseph Snill	1099	Elesia Guardia
395	James Gordon	1123	Julio Gonzalez
396	Samuel Clarke	1125	Samuel Hendri
397	Llan Braley	1127	Robert Hause
398	David Harrison	1133	Cecilio Piti
399	Robert Nullon	1134	William Pitt
400	Tomas Julio	1137	Santiago Saint
401	Robert Dennis	1149	Alexander Morgan
402	David Lilly	1152	Pastor Perez
856	Julian Barrio	1172	Nathaniel Williams
858	Joseph Lambre	1422	Ursula Rodriguez
860	Manuel de Jesus Saeno		

WEDNESDAY, JULY 22.

390½	Clementine Mondelle	1242	Sipion Maucay (Moncock).
403½	David Walker		
422	Josè Martin	1434	James Palmer
759	Joseph Amiel	1442	Josè Pinillo
843	Pedro Lopez	1555	Heriberto Villaverde

WILLIAM TAYLOR,
Secretary.

Rule of Dismissal, No. 129.

In the matter of sundry claims—The records of the commission show that in some cases more than one statement of claim has been filed covering the same property.. In the following instances, duplicate claims have been filed with the commission covering property for which settlements have either already been made, or the claims otherwise disposed of, as hereinafter shown:

Devison (Davidson), Joseph, docket No. 231—This claim, covering improvements on property on the Bosque estate, is dismissed for the reason that it is a duplicate of claim docket No. 2090, which was dismissed by the commission of 1913 under the rule of dismissal No. 46, account of previous payment having been made.

Masa, Miguel, docket No. 788—This claim, covering improvements on property at Juan Mina, is dismissed for the reason that it is a duplicate of claim docket No. 544, which was dismissed by the commission under rule of dismissal No. 128, dismissing claims already settled.

Ruiz, Filipe, docket No. 1088—This claim, covering improvements on property located at Culo Seco, is dismissed for the reason that it is a duplicate of docket No. 2328, settled under award No. 8 of the commission of 1913.

Smith, George, docket No. 1094—This claim, covering improvements on property located at Maquenque, is dismissed for the reason that it is a duplicate of docket No. 2345, settled under award No. 8 of the commission of 1913.

Tinco (Quinto), Juan, docket No. 250—This claim; covering improvements on property located at Buena Vista, is dismissed for the reason that it is a duplicate of claim docket No. 2301, which was dismissed by the commission of 1913, under rule of dismissal No. 102, in view of the fact that the evidence submitted to the commission was not of a character to justify the commission in making an award.

In view of the facts referred to in the foregoing, these claims call for no further action on the part of the commission, and are accordingly dismissed.

FEDERICO BOYD, LEVI MONROE KAGY, S. LEWIS, DAVID MARKS, *Commissioners.*

ANCON, C. Z., July 8, 1914.

Odd Fellow Installation.

An installation of officers in Isthmian Canal Lodge, No. 1, Independent Order of Odd Fellows, will be held in Ancon lodge hall on Thursday evening, July 16. The installing officer will be Past Grand Charles W. Beetham, who was designated to that authority by the retiring deputy grand sire, B. F.

Sisson. Refreshments will be served, and all Odd Fellows on the Isthmus will be welcomed.

Obituary.

Word has been received of the death, at Troy N. Y., of Albert V. Markham, who entered the Canal Service on February 25, 1907, and arrived on the Isthmus on March 4 of that year. He was first employed as a rodman in the old Atlantic Division, but on June 10, 1909, was transferred to the Department of Sanitation and appointed sanitary inspector at Paraiso. He resigned from the service on July 13, 1909, but reentered it again later, and for a short time was a foreman in the old Pacific Division. He left the service permanently on August 11, 1911, by reason of his having failed to pass the Medical Examining Board, and returned to his former home at Troy. He was 31 years of age and unmarried. His mother, Mrs. Anna L. Markham, living at Troy, and a brother, Maj. Edward M. Markham, Corps of Engineers, U. S. A., survive him.

The death of John H. Harrell, who resigned from the Canal Service on March 31, 1914, to go to Costa Rica, is reported from San José. He entered the service on May 29, 1913, as a rodman in the Second Division, but was transferred to a position as carpenter in the Mechanical Division on August 6, 1913. He was a native of North Carolina, 50 years of age, and married. He is survived by his wife, father, and mother, who reside at No. 1050 Post street, San Francisco, Cal. While occupying quarters at Balboa, he started a small experimental station for the development of a hybrid cotton plant, and a silk fibre plant. A description of these two plants was given in The Canal Record of April 1, 1914. His visit to Costa Rica was for the purpose of studying the plant life of that country, in addition to continuing his cotton experiments.

Ellwood S. Hand, an American, died at Colon Hospital at 11.35 p. m., on Saturday, July 11. He entered the Canal Service as a rodman in the First Division on March 22, 1913, and continued in that department until June 19 of the same year, when he separated from the service. He was reemployed on August 25, 1913, as a rodman at the Balboa terminals, and worked until November 3 of that year, when he resigned. He was last employed from December 6, 1913 to January 8, 1914, as a clerk in the Mount Hope depot. He was 29 years of age, unmarried, and is survived by his father, A. W. Hand, living at No. 11 Perry street, Cape May, N. J. He was formerly a second lieutenant in the 15th U.S. Cavalry; from 1907 to 1910 at Fort Ethan Allan, Vt., and from 1910 to 1913, at Fort Leavenworth, Kan.

Missing Man.

Any one having information regarding the present whereabouts of Jules Lemoine, a Belgian subject, at one time employed as a laborer on the Canal, is requested to communicate with the Belgian Consulate at Panama.

Tide Table.

Date.	High	Low	High	Low
	A.M.	A.M.	P.M.	P.M.
July 19	12.18	6.32	12.31	7.09
July 20	1.19	7.29	1.28	8.00
July 21	2.10	8 22	2 20	8.47
July 22	2 57	9.09	3.07	9.32
July 23	3.40	9 54	3.52	10.15
July 24	4.22	10.38	4.37	10.58
July 25	5,04	11.21	5.20	11.40

75th meridian time.

HOUSE-TO-HOUSE CANVASS.

Enumeration by Police Shows Decrease of Canal Zone Population.

The house-to-house canvass of the population of the Canal Zone, taken between June 16 and June 30, 1914, by the Police and Fire Division, shows the total population of the Zone to be 37,706. Of this number, 6,704 are white American men, of whom 4,482 are employes of The Panama Canal or the Panama railroad. The American women and children number 1,574 and 1,535, respectively. Of all other nationalities there are 16,694 men, including 14,066 employes, and 5,674 women and 5,525 children. The figures do not include employes living in Colon and Panama.

The primary purpose of the enumeration was to check up the progress of the depopulation of the Canal Zone of others than employes and their families.

The census of the Canal Zone made between February 1 and March 31, 1912, by the old Department of Civil Administration, showed a total population in the Zone proper of 61,279. The decrease since that time has been 23,573. The decrease amounts to about 38 per cent of the population of February-March, 1912, or over 61 per cent of the present population.

The police canvass was made by the three districts known as Ancon, Empire, and Cristobal. Following are the details of the enumeration:

ANCON DISTRICT.

Location.	*Americans.*		*All others.*		*Americans.*		*All others.*		*Total.*
	Men.	*Employes.*	*Men.*	*Employes.*	*Women.*	*Children.*	*Women.*	*Children.*	
ANCON	591	591	43	43	247	244	2	1	1,128
Ancon Hospital									
Doctors	23	23	......	......	......	......	......	......	23
Nurses	4	4	......	......	74	......	......	......	78
Patients	152	130	425	356	29	3	6	5	620
Attendants	......	......	119	119	......	......	25	......	144
Ancon Asylum—									
Doctors	2	2	......	......	......	......	......	......	2
Nurses	5	5	......	......	3	......	......	......	8
Patients	11	5	185	37	......	......	115	1	312
Attendants	......	......	16	16	......	......	12	......	28
Labor camps	......	......	147	147	......	......	......	......	147
San Miguel	......	......	150	132	......	......	54	39	243
Hotel Tivoli	15	5	82	82	5	4	1	......	107
Balboa Junction	1	1	19	17	1	1	17	14	53
NAOS ISLAND	13	13	310	310	......	......	1	......	324
CULEBRA ISLAND	2	2	17	17	1	......	1	......	21
PALO SECO	1	1	46	12	2	......	13	7	69
FARFAN	......	......	20	......	......	......	17	15	52
BALBOA—									
Balboa Harbor	15	13	198	185	......	......	......	......	213
Arico and Perico	......	......	109	......	......	......	2	......	111
La Boca	1	1	388	388	......	......	411	556	1,356
Married quarters and camps	......	......	1,220	1,220	......	......	......	......	1,220
EAST BALBOA	547	547	......	......	39	34	1	......	621
Labor camps	......	......	234	234	......	......	......	......	234
Rural district	......	......	53	52	......	......	8	18	79
West, Canal prism	1	1	140	......	......	......	109	153	403
Petrolia	5	......	4	......	1	2	2	6	20
Chorrillo	......	......	11	11	......	......	7	5	23
Balboa road	......	......	9	1	......	......	6	6	21
LAS SABANAS	3	1	239	5	3	......	170	193	608
COROZAL	826	826	......	......	203	230	......	......	1,259
Labor camps	......	......	722	722	......	......	21	13	756
Rural district	......	......	221	133	......	......	96	83	400
PEDRO MIGUEL	192	191	......	......	106	116	......	......	414
Labor Camps	......	......	264	264	......	......	5	5	274
East side, Canal prism	......	......	100	82			35	62	197
West side, Canal prism	......	......	3	......	......	......	......	......	3
East side of Canal—									
PARAISO	277	276	707	677	65	83	161	256	1,549
Spanish Town	......	......	302	274	......	......	92	47	441
Jamaica Town	......	......	344	326	......	......	138	129	611
Totals	2,687	2,638	6,847	5,862	779	717	1,528	1,614	14,172
NAOS ISLAND, PACIFIC FORTS—Soldiers	151	......	......	......	......	......	......	......	151
Aggregate	2,838	2,638	6,847	5,862	779	717	1,528	1,614	14,323

EMPIRE DISTRICT.

Location.	*Americans.*		*All others.*		*Americans.*		*All others.*		*Total.*
	Men.	*Employes.*	*Men.*	*Employes.*	*Women.*	*Children.*	*Women.*	*Children.*	
West side of Canal—									
CULEBRA	271	270	21	21	128	108	3	......	531
Rio Grande	......	......	291	276	......	......	125	150	566
Enterprise	......	......	54	54	......	......	13	16	83
Cowpens	......	......	180	143	......	......	99	82	361
West Culebra	5	5	162	122	1	......	91	105	364
Golden Green	1	1	633	495	1	2	311	300	1,248
EMPIRE	299	293	1,358	886	210	246	910	751	3,774
Lirio camp	1	1	76	75	1	2	110	119	309
Cerro camp	......	......	126	122	......	......	83	120	329
Camacho	......	......	357	244	......	......	202	161	720
Pueblo Nueva	......	......	6	4	......	......	5	12	23
Cunette	......	......	122	121	......	......	32	58	212
Martinique camp	3	3	76	58	2	1	43	52	177
BAS OBISPO			36	36	......	......	7	9	52
RURAL DISTRICT betewen Empire-Chorrera road and Empire Cristobal line	......	......	5	......	......	......	3	7	15
East side of Canal—									
CUCARACHA	......	......	21	21	......	......	11	6	38
PENITENTIARY	10	8	88	14	......	......	6	4	108
GAMBOA	13	13	85	85	3	3	19	26	149
Juan Mina	......	......	2	2	......	......	......	......	2
Radio Station	2	2	64	64	1	......	......	......	67
FRIJOLES	4	4	100	82	1	4	56	71	236
RURAL DISTRICT between Ancon-Empire line and the Chagres River	1	1	80	57	1	5	39	39	165
FLOATING EQUIPMENT, Chagres River	1	1	27	27	......	......	......	......	28
Culebra Cut	4	4	6	6	......	......	......	......	10
Total	615	606	3,976	3,215	349	371	2,168	2,088	9,567
CAMP E. S. OTIS	1,774	......	......	......	46	39	......	......	1,859
Aggregate	2,389	606	3,976	3,215	395	410	2,168	2,088	11,426

CRISTOBAL DISTRICT.

Location.	Americans.		All others.		Americans.		All others.		Total.
	Men.	Employes.	Men.	Employes.	Women.	Children	Women.	Children.	
MONTE LIRIO	5	5	80	75	3	3	44	40	175
GATUN	346	346	....	....	193	178	....	....	717
Labor camps	....	....	639	639	....	....	41	59	739
Bracho	....	....	22	....	....	....	6	12	40
NEW GATUN	....	....	1,805	1,520	....	....	985	765	3,555
Rural district	....	....	63	17	....	....	24	19	106
MOUNT HOPE	13	9	527	370	7	9	334	268	1,158
Boca Mindi	....	....	46	....	....	....	22	25	93
Guava Ridge	....	....	245	211	....	....	55	48	348
Escondido	....	....	75	2	....	....	19	17	111
Marajal	....	....	84	....	....	....	55	50	189
Rural district	....	....	39	....	....	....	22	18	79
CRISTOBAL	859	859	28	28	181	210	....	....	1,278
Camp Bierd	....	....	1,332	1,332	....	....	48	115	1,495
FOLKS RIVER	11	5	429	376	9	5	279	308	1,041
MARGARITA POINT	....	....	9	9	....	....	....	....	9
TORO POINT	14	14	4	4	2	....	....	....	20
Labor camps	....	....	392	392	....	....	....	....	392
Sweetwater	....	....	32	10	....	....	30	53	115
Nombre de Dios	....	....	19	4	....	....	13	26	58
Rural district	....	....	1	....	....	....	1	....	2
Totals	1,248	1,238	5,871	4,989	395	405	1,978	1,823	11.720
FORT SHERMAN, Toro Point	229	....	....	....	5	3	....	....	237
Aggregate	1.477	1,238	5,871	4,989	400	408	1,978	1,823	11,957

RECAPITULATION.

ANCON DISTRICT	2,687	2,638	6,847	5,862	779	717	1,528	1.614	14,172
EMPIRE DISTRICT	615	606	3.976	3,215	349	371	2,163	2,038	9,567
CRISTOBAL DISTRICT	1,248	1,238	5,871	4,989	395	405	1,978	1,823	11,720
Totals	4,550	4,482	16,694	14,066	1,523	1,493	5,674	5,525	35,459
MILITARY RESERVATIONS—									
Camp E. S. Otis	1,774	....	....	....	46	39	....	....	1,859
ATLANTIC FORTS—									
Fort Sherman, Toro Point	229	....	....	....	5	3	....	....	237
PACIFIC FORTS	151	....	....	....	....	....	....	....	151
Aggregate	6,704	4,482	16,694	14,066	1,574	1,535	5,674	5,525	37,706

A police census made between January 31 and February 10, 1914, did not differentiate between employes and nonemployes. It enumerated American men, women, and children, of which there were, respectively, 6,310, 1,799, and 1,786, a total of 9,895; and all other men, women, and children, 21,332, 7,325, and 6,744, respectively, a total of 35,401. The grand total of inhabitants was 45,296. The total number of Americans on the Zone has decreased 82 since then. The total population of other nationalities has decreased 7,508. The total decrease in the period of less than five months has been 7,590.

The canvass showed the complete depopulation of Culebra Island labor camps, Pedro Miguel rural districts, east and west of the Canal, Cerro Salado, Cartagenita, Japanese Village, Hongkong, Cerro Gordo, Buena Vista, Caballo Viejo, Virgin, rural district between Ancon-Empire line and Empire-Chorrera road, Dump No. 6, rural district between the Chagres River and the Empire-Cristobal line, the rural district around Margarita Point, and the American village at Porto Bello.

Rainfall, July 1 to July 11, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	Ins.		Ins.
Ancon	.21	3	.44
Balboa	.48	3	.81
*Miraflores	.63	5	.85
Pedro Miguel	1.15	6	2.05
Rio Grande	.89	4	1.12
Central Section—			
Culebra	.75	4	.78
*Camacho	.65	4	.95
Empire	.87	4	.87
Gamboa	.62	4	.74
*Juan Mina	.89	4	1.01
Alhajuela	.85	4	.92
*El Vigia	2.35	4	2.44
Frijoles	.39	4	.61
Trinidad	......	......	......
*Monte Lirio	.53	7	.65
Atlantic Section—			
Gatun	.28	4	.39
*Brazos Brook	.34	4	.65
Colon	1.20	1	1.75

*Standard rain gage—readings at 5 p. m., daily Automatic rain gage at unstarred stations—values midnight to midnight.

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Proposals for News Agency Privileges.

THE PANAMA CANAL,
OFFICE OF CHIEF QUARTERMASTER,
CULEBRA, C. Z., July 11, 1914.

Sealed proposals will be received at this office until 3 p. m., Monday, July 20, 1914, and then opened for news agency privileges for a period of five years on Panama railroad trains, and news stands located at passenger stations and wharves, the privilege to be similar to that now in force with the present contractor, and which expires August 1, 1914. Copy of proposed contract can be secured upon application to this office. Bids must be accompanied by cash, certified check, or post-office money order for five per cent of amount bid. Proposals should be marked "Proposal for news agency privilege," and addressed to Capt. R. E. Wood, Chief Quartermaster, Culebra, C. Z.

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Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela	Gamboa.	Gatun Lake.	Miraflores Lake.
Sun., July 5	127.00	93.50	84.77	84.80	53.87
Mon., July 6	125.70	92.25	84.84	84.81	53.68
Tues., July 7	125.50	92.08	84.85	84.82	54.00
Wed., July 8	125.40	92.02	84.82	84.84	54.01
Thurs., July 9	125.40	91.91	84.86	84.85	53.66
Fri., July 10	125.25	91.88	84.86	84.86	53.65
Sat., July 11	125.25	91.86	84.85	84.87	53.55
Height of low water to nearest foot	125.0	91.0			

◆

Married.

ROCK-SARGENT—On Thursday, July 2, at the Union chapel, Cristobal, C. Z., Mary Ethel Sargent of Roxbury, Mass., to Hubert Leonard Rock of Plattsburgh, N. Y., the Rev. S. Witt of Gatun officiating. Isthmian residence, Bocas del Toro, R. P.

BAN ON OPIUM FOR SMOKING.

Recent Legislation Forbids its Transport on Waters of United States or its Possessions.

Sections 5 and 6 of the Act of Congress, approved June 17, 1914, entitled "An Act to amend an Act entitled 'An Act to prohibit the importation and use of opium for other than medicinal purposes,'" approved February 9, 1909, are applicable to the Canal Zone.

Section 5 of the Act declares that no smoking opium, or opium prepared for smoking, shall be admitted into the United States, or into any territory under the control or jurisdiction thereof, for transportation to other countries, nor shall such opium be transferred or transshipped from one vessel to another vessel within any waters of the United States for immediate exportation, or any other purpose.

Section 6 of the Act prohibits any person under the jurisdiction of the United States to export smoking opium, or opium prepared for smoking, from the United States, or from any territory under its control or jurisdiction, or from countries in which the United States exercises an extraterritorial jurisdiction.

The prohibition against smoking opium under the new legislation is absolute. Opium in any other form may be exported from any place under the jurisdiction of the United States only in the manner authorized by the regulations to be promulgated from time to time by the Secretary of State of the United States. The law makes it the duty of the Secretary of State of the United States to conform the regulations to be promulgated by him to those of the respective countries to which opium is to be exported.

The Canal Zone is considered within the meaning of this Act as territory under the control and jurisdiction of the United States, therefore, the introduction of smoking opium for transportation or transshipment beyond the limits of the Canal Zone is prohibited, and the exportation of smoking opium from the Canal Zone is absolutely prohibited. In conformance with the provisions of this Act, the Canal Zone authorities, by direction of the Governor, have been instructed to hereafter prevent the introduction of smoking opium into the Canal Zone. The Act imposes severe penalties and confiscations upon those violating any of its provisions.

The shipping interests engaged in traffic with the ports of the Canal Zone will be advised that smoking opium will not be admitted into these ports, either to remain within the Canal Zone, or for the transportation or transshipment beyond the lines of the Zone, and that failure to observe the provisions of the Act will result in the imposition of fines and penalties upon the offending parties.

The Republic of Panama has already taken measures to prevent the introduction of opium, except for medicinal purposes, into the Republic, by the enactment of law No. 46 of December 20, 1912. This law not only prohibits the importation of opium, except for medicinal purposes, but the smoking of opium in the Republic, as well. Further, the sale of opium in the Republic, except for medicinal purposes, after January 1, 1913, was absolutely prohibited.

◆

Order of Isthmian Conductors.

The next regular meeting of the Order of Isthmian Conductors will be held at the Moose lodge hall, old Normandie building, Panama, on Sunday, July 19, at 2 p. m. Members are requested to note change in time and place.

OFFICIAL CIRCULARS.

Act of Congress.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., June 30, 1914.

CIRCULAR No. 600-4:

REPEAL OF TOLLS EXEMPTION FOR COASTWISE VESSELS.

The Act of Congress quoted below is published for the information of all concerned.

GEO. W. GOETHALS,
Governor.

AN ACT to amend Section 5 of "An Act to provide for the opening, maintenance, protection, and operation of The Panama Canal, and the sanitation and government of the Canal Zone," approved August 24, 1912:

1. *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the second sentence in Section 5 of the Act entitled "An Act to provide for the opening, maintenance, protection, and operation of The Panama Canal, and the sanitation and government of the Canal Zone," approved August 24, 1912, which reads, as follows: "No tolls shall be levied upon vessels engaged in the coastwise trade of the United States," be, and the same is hereby, repealed.

2. Section 2. That the third sentence of the third paragraph of said section of said Act be so amended as to read, as follows: "When based upon net registered tonnage for ships of commerce the tolls shall not exceed $1.25 per net registered ton, nor be less than 75 cents per net registered ton, subject, however, to the provisions of Article 19 of the Convention between the United States and the Republic of Panama, entered into November 18, 1903: "*Provided,* That the passage of this Act shall not be construed or held as a waiver or relinquishment of any right the United States may have under the Treaty with Great Britain, ratified the 21st of February, 1902, or the Treaty with the Republic of Panama, ratified February 26, 1904, or otherwise, to discriminate in favor of its vessels by exempting the vessels of the United States or its citizens from the payment of tolls for passage through said Canal, or as in any way waiving, impairing, or affecting any right of the United States under said treaties, or otherwise, with respect to the sovereignty over or the ownership, control, and management of said Canal and the regulation of the conditions or charges of traffic through the same.

Approved June 15, 1914.

Division of Erection Abolished.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., July 6, 1914.

CIRCULAR No. 660-18:

Effective at the close of business on the 15th instant, the Division of Erection will be discontinued. The duties hitherto assigned to that division will be continued under the supervision of the Engineer of Maintenance, as follows: The completion and operation of the locks; the installation, erection, testing, operation, and care of the operating and protective machinery of the locks and the Miraflores spillway; and the handling of vessels while in the locks; all by the superintendents of the locks, each for his own district; the construction of power plants and transmission line and the operation of the Gatun spillway, by the Electrical Division. The central office designing, drafting, and clerical forces will be under the supervision of the Engineer of Maintenance.

GEO. W. GOETHALS.
Governor.

Retirement of Equipment.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., July 10, 1914.

HEADS OF DEPARTMENTS AND DIVISIONS:

It is desired that a program be arranged in accordance with the requirements of departments and divisions that will enable action to be taken as regards retiring all unserviceable or surplus unloaders, plows, spreaders, and trackshifters. I quote, as follows, from report of the superintendent of railroad transportation on this matter, made at my request, dated July 8, and append hereto copy of a table showing the condition and recommendations relative to the various kinds of equipment:

> "Only two of the plows in the service of this department are in first-class condition, but all of the plows now stored at Gamboa belonging to the Supply Department are good, and I believe it would be advisable to return six of these plows to service. All of the equipment to be retained in the service should be given a general overhauling before being put into regular service.
>
> "As far as I am able to ascertain, the following will be sufficient for the future requirements of the service: Six unloaders, four spreaders, three trackshifters, eight plows."

The above recommendation covers only equipment under the superintendent of railroad transportation.

In order that the program may embrace all departments and divisions, it is desired that you forward to me, not later than the 15th instant, a report stating the minimum number of unloaders, plows, spreaders, and trackshifters, which will be required for your work during the balance of this year, together with any comment that is considered necessary in explanation thereof.

GEO. W. GOETHALS,
Governor.

SPREADERS.

No.	*Location.*	*Condition.*	*Recommendation.*
36	Balboa terminals. (rip track)	Good	Retain
37	Swamp	Good	Retain
39	Balboa terminals	Good	Retain
43	East breakwater, Colon	Good	Retain
23	West side, Miraflores	Bad	Retire
30	East side, Gatun	Bad	Retire
34	Swamp	Bad	Retire
35	Swamp	Bad	Retire
38	Balboa terminals	Bad	Retire
42	Balboa terminals	Bad	Retire
44	Swamp, Dump 6	Bad	Retire
45	West side, Gatun	Bad	Retire
	BELONGING TO OTHER DEPARTMENTS.		
41	New coal station, Colon	Good	
33	Terminal yard	Bad	
	UNLOADERS.		
24	Lirio mill	Good	Retain
26	Swamp	Good	Retain
32	Swamp	Good	Retain
36	Swamp (in Balboa shops)	Good	Retain
30	East side, Gatun	Good	Retain
38	Swamp (in Balboa shops)	Fair	Retain
46	Lirio mill	Fair	Retire
34	Admin. building, (in service)	Fair	Retire when through
21	Swamp	Bad	Retire
25	Swamp	Bad	Retire
	BELONGING TO OTHER DEPARTMENTS.		
27	Porto Bello dock Q. M. D.	Good	
41	Porto Bello dock Q. M. D.	Fair	
45	Toro Point	Fair	
	TRACKSHIFTERS.		
5	Coaling station, Colon	Good	Retain
7	Swamp (service)	Good	Retain
9	Gamboa, Dump 5	Good	Retain
4	West side, Gatun	Fair	Retire
10	West side, Miraflores	Fair	Retire
2	Swamp	Bad	Retire
3	Swamp	Bad	Retire
8	Swamp	Bad	Retire
	PLOWS.		
23 L	Swamp (service)	Good	Retain
34 R	Swamp (in service)	Good	Retain
10 R	Swamp (in service)	Fair	Retire
43 L	Swamp (in service.	Good	Retire
3 L	Swamp	Bad	Retire
11 L	Swamp	Bad	Retire
25 L	Swamp	Bad	Retire
36 R	Swamp	Bad	Retire
40 R	Swamp	Bad	Retire
46 R	Swamp	Bad	Retire
4 R	Gamboa, Dump 5	Bad	Retire
21 L	Lirio Mill	Bad	Retire
	BELONGING TO OTHER DEPARTMENTS.		
17 L	Porto Bello dock Q. M. D	Good	
41 L	Porto Bello dock Q. M. D	Good	
20 R	Gamboa, Dump 5.	Good	Return to service
7 L	Gamboa, Dump 5.	Good	Return to service
2 R	Gamboa, Dump 5.	Good	
8 R	Gamboa, Dump 5.	Good	
27 L	Gamboa, Dump 5.	Good	Return to service
13 L	Gamboa, Dump 5.	Good	Return to service
38 R	Gamboa, Dump 5.	Good	Return to service
28 R	Gamboa, Dump 5.	Good	Return to service

Leave Regulations.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., July 1, 1914.

CIRCULAR No. 602-8:

ANNUAL LEAVE DUE AT TERMINATION.

1. When, after having served less than 10 months of the service year, an employe's service is terminated due to reduction of force, he may be granted a leave of absence with pay not to exceed two days for each full month served during his service year, less the annual leave previously charged to him for that service year, and may be paid for the same without again reporting for duty.

2. If he voluntarily resigns before having served 10 months of his service year, he may not be granted any leave unless he shall have been in the service one year or more, in which case he may be allowed the same leave as though discharged on account of reduction of force.

3. If discharged for misconduct or unsatisfactory service, no annual leave whatever will be granted, but his service will terminate on the day of his discharge.

4. These rules shall be effective July 1, 1914.

GEO. W. GOETHALS,
Governor.

Accountable Officials.

THE PANAMA CANAL,
ACCOUNTING DEPARTMENT,
EMPIRE, C. Z., July 6, 1914.

CIRCULAR No. 66:

Effective at once, Mr. W. R. Holloway, supervisor Division of Erection, is designated an accountable official of The Panama Canal.

H. A. A. SMITH,
Auditor, Panama Canal.

Approved:
GEO. W. GOETHALS,
Governor.

THE PANAMA CANAL,
ACCOUNTING DEPARTMENT,
EMPIRE, C. Z., July 6, 1914.

CIRCULAR No. 67:

Effective at once, Capt. W. F. Endress, superintendent, Atlantic locks, is designated an accountable official of the Panama Canal.

H. A. A. SMITH,
Auditor, Panama Canal.

Approved:
GEO. W. GOETHALS,
Governor.

Transfer of Employes and Their Effects.

THE PANAMA CANAL,
OFFICE OF THE GOVERNOR,
CULEBRA, C. Z., July 13, 1914.

HEADS OF DEPARTMENTS AND DIVISIONS:

When an employe on the silver roll is transferred permanently from one station to another at the instance of his department, the district quartermaster will furnish his family a railroad pass to the point to which he has been transferred, and will arrange to ship his household effects on Panama Canal billing.

In all such cases the employe will be furnished a memorandum to the district quartermaster stating that he is being permanently transferred.

GEO. W. GOETHALS,
Governor.

Mail for Chief Timekeeper to be Handled Through Balboa Heights Post-Office.

TO ALL CONCERNED:

As published in THE CANAL RECORD, under date of July 8, the timekeeping offices were removed to the new Administration Building on July 15, 1914. All mail for the chief timekeeper should be addressed to him at *Balboa Heights,* instead of to *Balboa.*

E. W. PALMER,
Chief Timekeeper.

Approved:
C. A. MCILVAINE,
Executive Secretary.

Acting Local Agent and Acting Steamship Ticket Agent, P. R. R.

PANAMA RAILROAD COMPANY,
OFFICE OF SUPERINTENDENT,
COLON, R. P., July 9, 1914.

CIRCULAR No. 108:

Effective July 10, 1914, Mr. C. J. King will act as local agent at Colon during the absence of Mr. J. C. Warren, and Mr. E. G. Booth will act as steamship ticket agent vice Mr. C. J. King.

J. C. ANGEL,
Freight and Passenger Agent.

Approved:
C. H. MOTSETT, *Superintendent.*

Time of Departure of the "Louise" for Taboga.

CRISTOBAL, C. Z., July 8, 1914.

TO ALL CONCERNED:

On account of train No. 3 arriving in Panama at 8.35 a. m. under the new time table, instead of 9.20 a. m., as formerly, the sailing time of the launch *Louise* from the dredge landing for Taboga on Monday, Thursday, and Saturday, will be changed from 9.50 a. m., to 9.10 a. m., effective with the boat sailing on July 18, 1914.

F. O. WHITLOCK,
Asst. Chief Quartermaster.

FOUND—A canoe. Owner can have same upon proper identification to the police at Empire, C. Z.

COMMISSARY DEPARTMENT.

Sale of Shoes.

A sale of shoes will be held at the commissaries enumerated below on the dates shown:

Ancon, July 20 to 25, inclusive.
Balboa, July 28 to August 1, inclusive.
Pedro Miguel, August 4 to 8, inclusive.
Cristobal, August 11 to 15, inclusive.

Commissary Deliveries.

THE PANAMA CANAL,
SUPPLY DEPARTMENT,
CULEBRA, C. Z., July 2, 1914.

CIRCULAR No. 102-1:

To district quartermasters and commissary storekeepers—We will deliver peaches, plums, pears, apricots, and strawberries at our own risk.

R. E. WOOD,
Chief Quartermaster.

Prices of Beef.

THE PANAMA CANAL
SUPPLY DEPARTMENT,
CRISTOBAL, C.Z., July 15, 1914.

CIRCULAR No. 587:

Commissary storekeepers—Effective July 16, 1914, "Special" and "Choice" grades of beef will be sold at all commissaries at the following prices:

	Special. Pound.	*Choice.* Pound.
Beef, chuck roast, 3 lbs. and over	$.12	$.15
Beef, rib roast, second cut, not under 3½ lbs	.16	.21
Beef, rib roast, first cut, not under 5 lbs	.19	.24
Beef, pot roast	.20	.25
Beef, rump roast	.20	.25
Beef, porterhouse roast	.22	.27
Beef, steak, chuck	.13	.16
Beef, steak, round, bottom	.13	.17
Beef, steak, round, top	.15	.19
Beef, steak, rib	.20	.24
Beef, steak, sirloin	.20	.25
Beef, steak, rump	.20	.25
Beef, steak, sirloin, choice cut	.23	.28
Beef, steak, porterhouse, not less than 1½ lbs	.23	.30
Beef, steak, porterhouse, short, Delmonico	.20	.25
Beef, steak, tenderloin, Western	.35	.40

All suet, stew, soup, and plate beef will be sold at old prices.

"Special" grade beef comes from lighter weight carcasses than "Choice" grade, but is, nevertheless, a good grade of beef.

F. O. WHITLOCK,
Asst. Chief Quartermaster.

Commissary Hours.

The commissary stores are open during the following hours: From 8 a. m., to 12.30 p. m., and 3 to 6.30 p. m.

The gold departments of the Cristobal store will open at 2 p. m., on Saturdays and sailing days of Panama railroad vessels.

In rush periods, all stores will remain open until 7 p. m.

Cold Storage Prices.

Retail prices of cold storage provisions for the week beginning July 16, 1914:

FRESH MEATS

	Price.
Mutton—Stewing, per pound	8
Shoulder, trimmed, per pound	12
Leg (8 to 10 pounds), per pound	19
Cutlets, per pound	20
Short cut chops, per pound,	23
Shoulder, chops, per pound	14
Lamb—Stewing, per pound	10
Shoulder trimmed, per pound	15
Leg (5 to 8 pounds), per pound	24
Chops, per pound	29
Shoulder, chops, per pound	18
Cutlets, per pound	29
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	18
Chops, per pound	27
Loin, for roasting, per pound	27
Cutlets, per pound	31
Beef—Suet, per pound	3
Soup, per pound	7
Stew, per pound	11
Plate, per pound	12
Corned, No. 1, per pound	†18
Corned, No. 2, per pound	†15
Chuck roast, 3 lbs., and over, special, per pound	12
Chuck roast, 3 lbs., and over, choice, per pound	15
Rib roast, second cut (not under 3½ pounds), special, per pound	16
Rib roast, second cut (not under 3½ pounds), choice, per pound	21
Rib roast, first cut (not under 3 pounds), special, per pound	19
Rib roast, first cut (not under 3 pounds), choice, per pound	24
Pot roast, special, per pound	20
choice, per pound	25
Rump roast, special, per pound	20
choice, per pound	25
Porterhouse roast, special, per pound	22
choice, per pound	27
Steak, chuck, special, per pound	13
choice, per pound	16
Round, bottom, special, per pound	13
choice, per pound	17
Round, top, special, per pound	15
choice, per pound	19
Rib, special, per pound	20
choice, per pound	24
Sirloin, special, per pound	20
Sirloin, choice, per pound	25
Sirloin, choice cut, special, per pound	23
Sirloin, choice cut, choice, per pound	28
Rump, special, per pound	20
choice, per pound	25
Porterhouse (not less than 1½ pounds), special, per pound	23
Porterhouse (not less than 1½ pounds) choice, per pound	30
Porterhouse, short, Delmonico, special, per pound	20
Porterhouse, short, Delmonico, choice, per pound	25
Tenderloin, Western, special, per pound	35
Tenderloin, Western, choice, per pound	40
Pork—Hams, fresh, per pound	§23
Shoulders, fresh, per pound	§19
Spare ribs, per pound	18
Loin, chops or roast, per pound	20
Backbones, per pound	15
Pigs' feet, each	7
Pigs' heads, whole	83
Pigs' heads, ½-head	42
Sausage, home made, per pound	23

MISCELLANEOUS.

Livers—Beef, per pound	†13
Calf, each	53
Half, each	27
Steak, Hamburger, package	17
Hamburger, 20-pound containers, per pound	14
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	13
Pure pork, 1-lb. cartons, per pound	17
Sweetbread, beef, per pound	26
Eggs, fresh, per dozen	28
per ½-dozen	14
Bluefish, per pound	9
Halibut, fresh, per pound	5
Salmon, per pound	6
Yeast, per pound	31
Yeast, per cake	2

POULTRY AND GAME.

Chickens—Fancy roasting, milk fed, per pound	30
Fancy roasting, corn fed, per pound.	27
Fowls, per pound	25
Ducks, Western, per pound	25
Capons, per pound	33
Broilers, milk fed, per pound	28
Broilers, corn fed, per pound	25
Turkeys, per pound	32
Squabs, each	42
Fowls, light, per pound	23
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30

CURED AND PICKLED MEATS.

	Price.
Ham—Real York and Cumberland, per pound	43
Genuine Westphalia, per pound	50
Sugar cured, per pound	21
Sliced, per pound	28
Half, for boiling, per pound	23
Boiled, per pound	30
Hocks, per pound	09
Butt end, about 1½ pounds to butt, per pound	11
Bacon—Breakfast, whole piece, per pound	26
Sliced, per pound	27
Ham, lunch, per pound	40
Port, salt, family, per pound	14
Ox tongues, each	1.35
Pigs' feet, per pound	7
Tongues, per pound	19

DAIRY PRODUCTS.

Butter—Creamery, special, per pound	*39
Sheffield Farms, extra fancy, per lb	54
Cheese—Philadelphia cream, cake	9
Roquefort, per pound	35
Young America, per pound	22
Swiss, per pound	27
Edam, each	72
Edam, tin	29
Parmesan, per pound	38
Gouda, per pound	29
Snappy, per cake	9
Milk (certified), bottle	**24
Fer-mil-lac, bottle	**25
Ice cream, quart	‡25
½-gallon	‡50
Cream, Sheffield Farms, quart	**33

VEGETABLES AND FRUITS.

Beans, string, per pound	†7
Beans, wax, per pound	8
Beets, per pound	†4
Cabbage, per pound	2½
Carrots, per pound	4
Celery, per head	10
Cucumbers, per pound	†4½
Eggplant, per pound	†6
Horseradish, per pound	17
Lettuce, per pound	9
Onions, per pound	*7
Parsley, per bunch	4½
Peas, green, per pound	7
Peppers, per pound	8
Potatoes, white, per pound	*3
sweet, tropical, per pound	2
sweet, American, per pound	†2½
Rhubarb, per pound	†2½
Spinach, per pound	6
Squash, per pound	†4
Tomatoes, per pound	†7
Turnips, per pound	†3
Kale, per pound	†5
Yams—Tropical, per pound	3
Apples, each	2½
Canteloupes, each	†6
Cherries, per pound	†22
Grape fruit—American, each	†6
Tropical, each	4½
Lemons, per dozen	†19
Limes, per 100	56
Oranges—American, each	†2½
Jamaican, per dozen	18
Peaches, per pound	7
Plums per pound	†9
Watermelons, each	43

* Indicates advance from preceding list.

† Indicates reduction from preceding list.

**Indicates 5 cents allowed for return of bottle.

‡Sold only from commissaries; no orders taken for delivery.

§Sold only from cold storage and not from commissaries.

Porterhouse roast includes any cut of hind quarter down to rump, and will not be cut if orders for steak will consume the supply.

Tenderloins on porterhouse will not be cut and sold separately.

Not less than ½ ham or ½ shoulders of fresh pork will be sold.

Daily cold storage orders will be filed and kept for at least one month.

Labor Charges in Preparation of Roasts, Etc.

THE PANAMA CANAL,
SUPPLY DEPARTMENT,
CULEBRA, C. Z., July 7, 1914.

CIRCULAR No. 137-2:

To assistant chief quartermaster, the depot commissary, district quartermasters, and commissary storekeepers.—It appears that the present labor charges for the preparation of crown roasts, mutton saddle, French lamb chops, tenderloin roast, larded, and rib roast, boned and rolled, are too high.

The following table shows the actual maximum and minimum labor cost, the present charge (at six cents per pound) based on 6-pound roasts, and the proposed charge, to become effective at once:

CLASS.	*Actual labor cost.*		*Present charges.*	*Proposed charge.*
	Maximum.	*Minimum.*		
Crown roasts	90 cents each	45 cents each	$1 each	60 cents each under 10 lbs.
Mutton saddle	30 cents each	15 cents each	36 cents for 6 lb. roast	15 cents each under 10 lbs.
Tenderloin roast, larded	20 cents each	15 cents each	36 cents for 6 lb. roast	15 cents each under 10 lbs.
Rib roast, boned and rolled	30 cents each	7 cents each	36 cents for 6 lb. roast	15 cents each under 10 lbs.
French lamb chops	7½ cents per lb	4 cents per lb.	6 cents per lb.	5 cents per lb.

In additional to the labor charge, the actual cost of material used will be charged. The rate for French lamb chops is based on original weight. On roasts, weighing in excess of 10 pounds, the actual time should be computed and charged.

R. E. WOOD,
Chief Quartermaster

Married.

BRINKERHOFF-REEVES—On Sunday, July 5, at Christ Church, Colon, by the Rev. E. J. Cooper, France Reeves of Columbus, O., to G. L. Brinkerhoff of Mansfield, O. Canal Zone residence, Empire, C. Z.

LOST—On Friday, July 3, between Dock 11 and Cristobal fire station, a large opal, Reward, if returned to H. C. Adams, ticket agent, Colon passenger station.

CANAL CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The total membership of all the clubhouses on June 30 was 1,743; the following is a summary of the activities during the month of June:

Total number of bowling games	10,898
Total number of pool games	25,170
Number of players in tournaments	154
Number of library members	985
Number of books withdrawn	1,335
Total attendance at entertainments	7,474
Total receipts from all activities	$7,007.04

The motion picture schedule for the week July 20 to 25 is, as follows: Monday, Cristobal; Tuesday, Balboa; Wednesday, Corozal; Thursday, Pedro Miguel; Friday, Gatun; Saturday, Culebra.

BALBOA.

Ten men have entered in the checker tournament to be started Friday night, July 17. After the tournament is decided, a team will be chosen to play the teams from other clubhouses. Following is the list of local entries: Walmack, Watson, Burns, Heller, Hulsebosch, Nicemonger, Clark, Williams, Flexstein, and McEwen. Entries will be open until Friday night.

The new phonograph records for July have arrived. New cues and new cloth for one of the pool tables have been ordered from the United States.

Members are invited to suggest new books to be included in an order now in preparation.

COROZAL.

A duckpin tournament was held between Pedro Miguel and Corozal on Friday, July 10, resulting in three successive victories for the latter.

The high scores on the alleys for the past week were:

Duckpins—Thirsk, 119, 103; Kiley, 117, 102; Harper, 106; Parkis, 104; Seebt, 101; Ruggles, 100.

Tenpins—Thirsk, 236, 233, 224, 221, 214; White, 227, 200; Territtier, 210; Davis, 209; Hall, 207; Ruggles, 205.

Mr. G. N. Thirsk has challenged all comers for the championship of the Zone Y. M. C. As. in tenpins, best four games out of seven, to be played on the Corozal alleys, with return match on any other alleys. All acceptances are to be sent to the secretary of the Corozal clubhouse.

Moving pictures will be given on Saturday, July 18.

PEDRO MIGUEL.

The local pool tournament closed Wednesday evening, July 8, with the following results:

Name.	*Won.*	*Lost.*	*P. C.*
Eggleston	6	1	.833
Wieben	5	2	.714
Ludlum	2	2	.500
Campbell	2	2	.500
Murray	1	3	.250
Abramson	0	4	.000

The tournament resulted in a tie between Eggleston and Weiben, and Eggleston won the final play-off. A gold medal will be given for first place, and a silver medal for second.

The pool and billiard managers are arranging for a local handicap tournament in billiards. All those interested in billiards are invited to join this tournament.

A boys' bowling tournament will be started soon. Teams of three or four boys each will be arranged, and in this way it will be possible to average the players more evenly. All the boys are invited to join the tournament.

High scores made in duckpins for the past week were, as follows: Braw, 113; Piper, 113; Lore, 105; Whiston, 104; Holloway, 102; Taylor, 101. In tenpins the highest scores were made by Farrar, 202, and Taylor, 200. The ladies' high score in rubber band duckpins was made by Mrs. Landers, 100.

A boy scout troop will be started if there are enough that care to join. The first meeting will be held Friday evening at 7.30, to formulate plans. Mr. Ira W. Dye is working on the organization.

On Wednesday evening, July 8, a "Father and son" banquet was held at the local clubhouse for all the boys and their fathers. Over 50 were present. After the dinner, Dr. Darling of Ancon Hospital spoke about his experiences in South Africa, and showed some interesting photographs of the country and people. Sixteen different States were represented at the banquet.

On Wednesday morning, July 13, a boys' athletic meet was held with Corozal at Pedro Miguel. This is the first of a series of meets that will be held between the two towns. The town winning two out of three meets will be awarded an appropriately inscribed shield. The boys are divided into two classes, those over 90 pounds, and those under 90 pounds. All the school boys of both towns are eligible for these meets.

CULEBRA.

On Saturday night, July 11, the Cristobal chess club was entertained by the local association. The Culebra team won 18 points against the visitors' six. Messrs. Brown, L. E. DuBois, Stevens, and Fleury represented Cristobal, while Messrs. Wm. Dubois, Warner, McClure, and Héle played for Culebra. The checker club was to have played, but owing to the nonappearance of the Cristobal checker players, the game was cancelled. The Culebra chess and checker clubs are prepared to meet any other club at home, or elsewhere.

The local handicap bowling tournament will close on Wednesday, July 22. All those who have not completed the tournament are requested to do so before that date, or games remaining unfinished will be forfeited, and the games of those who have rolled a portion of the games scheduled will be cancelled. Those still having games to roll off with others who will not appear against them can roll the game and same will count in their favor as having completed the tournament.

EMPIRE.

The Empire Y. M. C. A. was closed permanently on Tuesday night, July 14, with an entertainment, moving pictures, and "Open house." The clubhouse was first opened on May 28, 1907.

A farewell "Smoker" was given to a large house on Saturday night. The program follows: Motion pictures; baritone solo, F. J. Menery; monologue, L. A. Thompson; guitar and whistling, W. W. DeLaMater; balancing, R. L. DeFeet; baritone solo, F. J. Menery; wrestling, D. G. Westman and Martin Ludecke. The Tenth Infantry band played music throughout the evening.

The "Farewell" combination duck and tenpin tournament, which was started on Monday night, July 6, ended on Monday night, July 13. There were 16 entrants. Results were: High score in tenpins, H. Rodeghiero, 204; high score in duckpins, H. Rodeghiero, 105; high average, H. Rodeghiero; second high average, C. J. Huson.

GATUN.

Two hundred and twenty-three soldiers have enrolled as members at the Gatun clubhouse. At present, there is exactly the same number of civilians on the rolls. The total of 446 gives Gatun the largest clubhouse membership on the Isthmus.

A unique affair was held at the Y. M. C. A. on Saturday evening, July 11, when an old fashioned German social and party was held. The hall was specially decorated for the occasion with German and American flags, potted flowers, etc. The following program was given almost entirely in German: Opening selection, orchestra; address of welcome, Secretary Smith; response, Herr Aufemwasser; soprano solo, Mrs. Weiss; tenor solo, John Klinger; selection, orchestra; comedy, Weiss and Stamm; recitation, Silvia Edwards; quartette, "Demag;" violin imitation, Herr Stamm; "Die Wacht am Rhein," by all present; recitation, Emil Weiss; selection, orchestra; "America," by all present. German refreshments were served, and a Deutsches Sængerfest was held. About 60 German speaking people attended.

A farewell reception was given at the clubhouse on Tuesday evening, July 14, in honor of Companies A and C of the Tenth Infantry, who have since returned to Camp Otis. The Tenth Infantry band gave an outdoor concert at 7.30, which was followed by a basketball game between civilians and solidiers. An entertainment was given on the first floor, in which many of the soldiers participated. Refreshments, consisting of home made cakes and punch, were served.

Rogers and Rothgeb represented Gatun at Cristobal in the interassociation bowling tournament held on Saturday evening, July 11.

CRISTOBAL.

The ragtime bowling tournament held on July 8, consisting of three different games, duckpins, candlepins, and cocked hat, was won by Parker, with a total pinfall of 206. Pinney was second, 205, and Steele was third, 196.

The all-star duckpin tournament held on Saturday, July 11, was won by Cristobal. Corozal won second place by one pin on the roll-off, which was decided by each men rolling three frames. The scores were:

Cristobal	Pinney	105	77	87—269
	Smith	101	95	101—297—566
Corozal	Davis	78	96	95—269
	Simms	72	81	120—273—542
Empire	Lowande	95	89	87—271
	Henry	86	96	89—271—542
Gatun	Rogers	86	92	76—254
	Rothbeg	74	78	86—238—492

High duckpin scores for the week were made by Sims, 120; Gill, 113; and Smith, 101. High tenpin scores for the week were made by Collins, 224; Russell, 212, and Strong, 212. A tenpin ragtime tournament will be started this week.

The "Doves" defeated the "White Sox" on Thursday night, July 9, at indoor baseball, by the score of 9 to 8.

Gymnasium classes will be conducted on Tuesday, Thursday, and Saturday nights of the week beginning July 20. Culebra has been challenged to a volleyball match as a part of the class for Saturday, July 25.

MOVEMENTS OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

		Sails.	*Arrives.*
NEW YORK TO CRISTOBAL.			
*Panama	P. R. R.	July 10	July 16
*Allianca	P. R. R.	July 16	July 22
*Colon	P. R. R.	July 22	July 28
*Advance	P. R. R.	July 28	Aug. 4
CRISTOBAL TO NEW YORK.			
†Ancon	P. R. R.	July 17	July 24
†Panama	P. R. R.	July 22	July 28
†Allianca	P. R. R.	July 28	Aug. 3
†Colon	P. R. R.	Aug. 3	Aug. 9
†Advance	P. R. R.	Aug. 10	Aug. 17
NEW YORK TO COLON.			
*Santa Marta	U. F. C.	July 8	July 15
*Pastores	U. F. C.	July 11	July 17
Prinz Eitel Friedrich	H.-A.	July 11	July 21
Metapan	U. F. C.	July 15	July 22
*Tenadores	U. F. C.	July 19	July 24
Trent	R. M.	July 18	July 26
Prinz August Wilhelm	H.-A.	July 18	July 27
Zacapa	U. F. C.	July 22	July 29
*Calamares	U. F. C.	July 25	July 31
Prinz Sigismund	H.-A.	July 25	Aug. 4
Almirante	U. F. C.	July 29	Aug. 5
*Pastores	U. F. C.	Aug. 1	Aug. 7
Orotava	R. M.	Aug. 1	Aug. 9
Prinz Joachim	H.-A.	Aug. 1	Aug. 10
*Santa Marta	U. F. C.	Aug. 5	Aug. 12
*Tenadores	U. F. C.	Aug. 8	Aug. 14
Prinz Eitel Friedrich	H.-A.	Aug. 8	Aug. 18
*Metapan	U. F. C.	Aug. 12	Aug 19
Calamares	U. F. C.	Aug. 15	Aug 21
Danube	R. M.	Aug. 15	Aug. 23
Pr. August Wilhelm	H.-A.	Aug. 15	Aug. 24
*Zacapa	U. F. C.	Aug. 19	Aug. 26
*Calamares	U. F. C.	Aug. 22	Aug. 28
COLON TO NEW YORK.			
†Calamares	U. F. C.	July 15	July 21
Almirante	U. F. C.	July 16	July 23
Prinz Joachim	H.-A.	July 21	July 29
Orotava	R. M.	July 21	July 29
Pastores	U. F. C.	July 22	July 28
Santa Marta	U. F. C.	July 23	July 30
Prinz Eitel Friedrich	H.-A.	July 26	Aug. 4
†Tenadores	U. F. C.	July 29	Aug. 4
Metapan	U. F. C.	July 30	Aug. 6
Prinz August Wilhelm	H.-A.	Aug. 4	Aug. 12
Danube	R. M.	Aug. 4	Aug. 12
†Calamares	U. F. C.	Aug. 5	Aug. 11
Zacapa	U. F. C.	Aug. 6	Aug. 13
Prinz Sigismund	H.-A.	Aug. 9	Aug. 18
†Pastores	U. F. C.	Aug. 12	Augl 18
Almirante	U. F. C.	Aug. 13	Aug. 20
Tagus	R. M.	Aug. 18	Aug. 26
Prinz Joachim	H.-A.	Aug. 18	Aug. 26
†Tenadores	U. F. C.	Aug. 19	Aug. 25
Santa Marta	U. F. C.	Aug. 20	Aug. 27
Prinz Eitel Friedrich	H.-A.	Aug. 23	Sept. 1
NEW ORLEANS TO COLON.			
Heredia	U. F. C.	July 8	July 15
*Atenas	U. F. C.	July 11	July 16
Parismina	U. F. C.	July 15	July 22
*Turrialba	U. F. C.	July 18	July 23
Cartago	U. F. C.	July 22	July 29
*Abangarez	U. F. C.	July 25	July 30
COLON TO NEW ORLEANS.			
‡Abangarez	U. F. C.	July 16	July 21
Heredia	U. F. C.	July 16	July 23
‡Atenas	U. F. C.	July 23	July 28
Parismina	U. F. C.	July 23	July 30
‡Turrialba	U. F. C.	July 30	Aug. 4
Cartago	U. F. C.	July 30	Aug. 6

Sailing of the "Ancon."

PANAMA RAILROAD COMPANY,
OFFICE OF SUPERINTENDENT,
COLON, R. P., July 11, 1914.

CIRCULAR No. 438:

All concerned—The sailing date of the steamship *Ancon* has been set for Friday, July 17, at 3 p. m., from Pier 9, Cristobal, C. Z.

C. H. MOTSETT,
Superintendent.

Movement of Vessels at Port of Balboa.

The arrivals and departures of steamships at the port of Balboa for the week ending July 11 were, as follows:

Arrivals—July 5, *Orcoma*, from Valparaiso; July 6, *Manavi*, from Guayaquil, *Huallaga*, from Callao, *Quito*, from Guayaquil; July 9, *Damara*, from San Francisco, *San Juan*, from San Francisco; July 10, *Salvador*, from Salina Cruz.

Departures—July 6, *Huasco*, to Valparaiso, *Mantaro*, to Callao; July 8, *Newport*, to Sau Francisco; July 9, *Orcoma*, to Callao, July 11, *Quito*, to Callao.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, JULY 22, 1914. No. 48.

The Canal Record

Official publication of The Panama Canal.

The Canal Record is published weekly free of charge, one copy each, to all employes of The Panama Canal and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Work on Dry Dock No. 2 at Balboa Stopped.

On account of a lack of funds, the building of dry dock No. 2 has been abandoned for the present, and the appropriation will be husbanded for the completion of the rest of the terminal facilities at the Pacific entrance. No. 2 dry dock was to have been 72 feet wide at the entrance by 360 feet long, and to have been used as an auxiliary to the large dry dock, No. 1, which will be 110 feet wide at the entrance by 1,000 feet long. Up to the time work on it was stopped, 93,667 cubic yards of excavation, mostly rock, had been performed on the site, bringing the excavation to 85 per cent of completion. It is anticipated that the smaller dry dock will be completed at some future date, and that the present excavation may be preserved by extending slightly the cofferdam which is now keeping out the sea, to meet the guide wall to be constructed along the north side of the entrance basin of the larger dry dock.

Construction of Berth for Oil Vessels at Pacific End.

In connection with the permanent fuel oil handling plant at the Pacific entrance to the Canal, authority has been granted for the construction of a suitable berth, off the Balboa dump, at which vessels may moor to discharge or take on oil. The seagoing suction dredge *Culebra* has been engaged in the past month in dredging a mooring basin. The basin will be alongside the Canal channel and will have a clear width of 75 feet, a length of 2,000 feet, and a depth of 45 feet at mean tide. The natural bottom at the site is sloping, but the average elevation is approximately plus 30 feet; the necessary excavation will run, accordingly, between 80,000 and 100,000 cubic yards. The inner end of the berth will be opposite Canal station No. 2290, and about 1,100 feet south of the present mooring place for vessels of the Union Oil Company. It will be about 1,200 feet from the edge of the dump.

Work will be begun shortly on the construction of two cribs alongside the basin, and it is expected to build a third later. Each crib will consist of a reinforced concrete platform, 60 by 30 feet, with its top at 13 feet above mean sealevel, supported on nine 6-foot caissons, arranged in a square, three rows each way on 27-foot spacing. The extra width of the support, beyond the width of the platform, is to afford stiffness. The tops of the caissons will be connected by steel girders and suitable bracing. The caissons will be steel cylinders, driven to rock and several feet into rock, a total penetration of about 10 feet, and filled with reinforced concrete. They are to be of the same type as those used in Section e-f of the quay wall at Balboa. The water fronts of the cribs will be protected by pile fenders, and clusters of piles in line with the fronts of the cribs will be spaced at intervals between them.

Progress on Balboa Shops Office Building.

The laying of the roof on the permanent office building at Balboa shops was begun on Saturday, July 18. The roof will be of cement tile, finished on the outside in red, like the roofs of all the other buildings at the shops, except the locomotive roundhouse and pattern storage building, which have flat roofs of reinforced concrete. Material will be taken from the 30,000 pieces left in storage at Paraiso when the contractor finished the manufacture of 123,000 pieces to be used for the shops buildings and extra orders. Approximately 2,000 pieces will be used on the office building roof, covering 12,000 square feet.

The cornice forming the eaves of the roof, projecting four feet six inches beyond the walls and colonnades of the building, was completed, with the exception of the surface finishing, on Thursday, July 16, when the last of the forms, by which the concrete of the cornice was molded, were removed. All of the concrete for the building, except a small quantity for the stairs, which will be mixed by hand, has been placed and the portable mixer was removed during the early part of this week. The various walls, of hollow concrete blocks, have been erected, on an average, about midway between the second and top floors.

Preparations for Completing Transmission Line.

The foundations for the last of the standard track-span bridges of the 44,000-volt transmission line were completed in the first part of last week and the steel was erected on July 16. This bridge is situated adjacent to the Cristobal substation and is the northernmost tower of the system. Its erection has been delayed by the hydraulic filling of the area around the substation.

Contract for the fabrication and delivery at Colon of five special towers, of extra height, has been awarded to the United States Steel Products Company, which was also the contractor for the 827 standard bridges. Two of these high towers will be used for carrying the transmission line across the dry dock at Mount Hope, and three will be used in crossing the tracks of the Panama railroad into the Balboa substation. These towers are to be 84 feet high, carrying the wires 78 feet above the ground, as compared with a height of 40 feet over all on the regular track-span bridges, which carry the wires 30 feet above the ground. In design, the high towers are somewhat similar to the track-span bridges, with cantilever brackets to support the three power wires. Each of the special bridges is to weigh about 17 tons and will cost approximately $1,500. Delivery is due in the early part of September, 1914.

Pushing Work on Transformer Substations.

The erection of the steel frames for the four substation buildings of the transisthmian electric transmission system was completed on June 27, when forces of the United States Steel Products Company finished the frame of the Balboa station. Excavation for the foundations of this station began on May 1, 1914, following delay in the determination of the site, and the work on it has been pushed, in order that this station may be completed with the rest of the system. The concrete for the base of the roof is now completed, and the erection of the walls of hollow concrete blocks has been begun. The first electrical work at this station was begun about three weeks ago, in the placing of conduits in the concrete floors.

The building at the Gatun station, which was begun on November 28, 1913, is now practically completed; the plastering of the walls inside and out and the inserting of the windows is about 60 per cent complete. The electrical installation is about 70 per cent completed, and is to be finished in the latter part of August.

At the Miraflores station, for which excavation was begun on December 4, 1913, the walls and roof have been completed, and the interior plastering is in progress. The electrical installation is about 40 per cent completed.

At Cristobal, where the foundation work began in March, 1914, the roof is about 80 per cent completed, and the walls about 90 per cent. The installation of the transformer equipment was begun in the first week in July.

Private Hospitals Prohibited.

In order to keep the public health in the cities of Panama and Colon under a central control, with the approval of the Governor, the Chief Health Officer on July 9 issued a circular which has for its aim the suppression of all privately conducted hospitals in those cities. It reads, as follows:

> By virtue of the authority vested in me by Presidential Decree No. 23 of July 19, 1904, I hereby establish the following health regulation for the cities of Panama and Colon:
>
> *Whereas*, the maintenance of private hos-

pitals in the cities of Panama and Colon will seriously interfere with the supervision and control of this department over sanitary matters in said cities.

Therefore, be it ordered that no private hospitals shall be established or maintained in the cities of Panama or Colon, and any such hospital now being conducted in either of said cities shall be discontinued upon the promulgation of this order. Any person who, as a physician, owner, manager, or person in charge of any private hospital in the city of Panama or the city of Colon, shall establish or maintain any such hospital after the promulgation of this order, shall be fined in a sum not exceeding $500 for each and every day such hospital shall be so maintained, such fine to be enforced in the manner provided for the imposition and collection of fines for violations of the *Sanitary Rules and Regulations* for the cities of Panama and Colon.

This order shall take effect from and after its publication in the *Official Gazette*.

A copy of the above circular has been forwarded by the Executive Secretary to the Secretary of Foreign Relations for Panama, with the request for its publication in the *Gaceta Oficial* of the Government of Panama.

◆

Contract for Watch Inspection.

Effective July 1, 1914, the Panama Railroad Company has entered into contract with J. L. Kerr for the inspection of watches of employes of the Panama railroad and The Panama Canal, and the regulation and repair of chronometers and master clocks. An office is to be provided at Balboa, and the inspector or his qualified assistant is to be accessible there daily between 8 a. m. and 8 p. m., except that on the 3d, 4th, 5th, 24th, 25th, and 26th of each month, the hours are to be from 8 a. m. to 9 p. m. In addition, an inspector is to be accessible in the railroad yards at Panama between 8 a. m. and 9 p. m. on the 7th, 8th, and 23d of each month, and in the yards at Colon between the same hours on the 6th, 7th, 24th, and 25th of each month.

The watch inspector pays the Panama railroad $1 per annum, and, as compensation for the service, receives free family quarters, with bachelor quarters for his assistant, and hotel, commissary, and hospital privileges for both. Under the former contract for watch inspection, the compensation included, in addition to the above, a salary of $200 per month for the inspector.

◆

Overhauling Lidgerwood Flat Cars for East Breakwater Service.

The work of repairing and placing in good condition 250 surplus and retired Lidgerwood flat cars, for use in hauling rock to the east breakwater at Colon, was begun on July 7 at Balboa shops. It is expected that a total of about 700 of these cars will be required in the service, but the present order calls for only 250, which will be supplemented with additional equipment, as required. The overhauled cars are being turned out of the shops at the rate of about five per day. They are to be placed in service, transporting rock from the Sosa Hill quarry at Balboa, about August 1.

The repairs to the cars include, in addition to the replacement of the floors with $3\frac{1}{2}$-inch oak, several alterations which experience has shown to be desirable in heavy rock hauling. The 12-inch extension boards, by which the width of the cars has been extended beyond that of the regular commercial flat cars, will be replaced by two 70-pound steel rails, as was done on the Lidgerwood cars used at the Porto Bello quarry. In addition, the outside sill will be stiffened. This will be done by inserting between the regular outside sill (five by 14 inches in section), and the adjacent five by 9-inch timber, an extra five by 14-inch sill and a 1-inch filler, all to be bolted together. The center sill will also be strengthened by placing next to it a five by 9-inch timber, running the length of the car. Where new aprons are to be placed on the cars they will be not less than half an inch in thickness, and the connecting bolts, formerly $\frac{5}{8}$-inch, will be made not less than $\frac{3}{4}$ or $\frac{7}{8}$-inch in diameter, with a corresponding increase in the connecting links. A number of the lighter links and bolts failed on the Toro Point work.

The overhauled cars are being painted black and stencilled on the outer sills with a white lozenge containing the letters "E. B." The estimated cost of placing them in good condition is approximately $250 each.

◆

Protective Measures where Railroad Tracks are Crossed by Street Cars.

On July 8, car No. 23 of the Panama Tramways Company, manned by Philip Stewart, a Jamaican, as conductor, and Rafael Castillo, a Spaniard, as motorman, collided with the tender of a Panama Canal locomotive at the Balboa railroad crossing, fortunately without injuring any of the passengers, and only slightly damaging the car. The tramway company, in view of this and other similar narrow escapes in the past, both at the Balboa and Tivoli railroad crossings, despite rigid instructions to its conductors and motormen, and to the penalties that have been imposed, has decided to install protective devices; those at the Balboa crossing will consist of a trough to be used on the overhead to prevent a car from becoming stalled, and a system of derails, provided with operating levers, which will be placed on each side of the crossing. The operation of the latter mechanism will compel the conductor to leave the car each time it arrives at the crossing and ascertain if the track is clear. Derails will also be placed at the tramway crossing of the railroad which serves the Ancon commissary. With the installation of these protective measures, it is believed, the danger from crossing accidents at the above points will be reduced to a minimum.

In addition to the above, arrangements are being made to draft an Executive Order, which will be presented for the approval of the President of the United States, which Order will render conductors and motormen disregarding the company's rules liable to imprisonment in the Canal Zone, or a heavy fine, or both, in the discretion of the Court.

◆

PERSONAL.

Mr. Ernest E. Lee resigned as superintendent of erection in the Division of Erection of the office of the Engineer of Maintenance on Wednesday, July 15, and sailed for New York on the steamer *Almirante*, on Thursday, July 16. He was appointed to the Canal Service as assistant engineer in the old Department of Lock and Dam Construction on December 2, 1907, and was placed in charge, under the Electrical and Mechanical Engineer, of the drafting force for the preparation of the designs for the operating machinery of the locks, and plans for the Atlantic and Pacific generating stations. When the Department of Lock and Dam Construction was abolished, he was transferred to the electrical and mechanical subdivision of the First Division of the Chief Engineer's Office, and on December 1, 1909, he was promoted to the position of assistant electrical and mechanical engineer. On September 1, 1911, he was appointed superintendent of erection and placed in local charge of the installation of all of the operating machinery, and elecrical equipment for locks, spillways, Gatun hydroelectric station, substations, and transmission line. Prior to his coming to the Isthmus, he was with the Commonwealth Edison Company of Chicago at two different periods, first, in 1902 and 1903, as draftsman, and again in 1904 and 1905, engaged in designing and inspection. During a part of 1903, he was employed by the American Blower Company of Detroit, as selling and ventilating engineer, and in 1906 and 1907, he was superintendent of mechanical, electrical, and building construction at Evansville, Ind., for John A. Radford of Chicago. His future address will be Stratford Apartment N., Evansville, Ind.

◆

Metal Trades Council of Panama.

The next regular meeting of the Metal Trades Council of Panama will be held on Sunday afternoon, July 26, at 1.30 o'clock, in the Balboa clubhouse.

H. A. S. Levering, *Secretary*.

Balboa, C. Z., July 20, 1914.

◆

Fourth of July Programs.

A few copies of the official Fourth of July program may be obtained by those who were unable to attend the celebration upon application by letter to the Mount Hope Printing Plant, Cristobal, C. Z.

Estates Being Settled.

The following estates of deceased employes of The Panama Canal or the Panama Railroad Company are now in process of settlement by the office of the Administrator of Estates, Ancon, C. Z., and any claims against these estates, or any information which might lead to the location of heirs, or to the recovery of property, bank deposits, postal savings or postal money order deposits, or any other moneys due them should be presented at that office at once, in order that the estate may be settled as soon as possible. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once.

Deceased Employes.

Name.	*Check No.*	*Native of*	*Isthmian residence.*	*Employed by*	*Date of death.*
Samuel Clarke	112216	Jamaica	Gatun	Health Dept.	July 10.
Reginald Codrington	48515	Barbados	Corozal	Second Division.	July 9
Charles Jeremiah Hinds	219155	Barbados	Panama	Supply Dept.	July 5.
David Marks	1504	U. S. A.	Ancon	Joint Land Com.	July 17.
James Bogle, alias James Thomas	25888	Jamaica	Panama	Mechanical Div.	July 11.
Wilfred Samms	218090	Jamaica	Colon	Permanent Bldgs	July 6
Gilbert Wint	41506	Barbados	Mindi	Supply Dept.	July 5.

EXECUTIVE ORDER

Relating to Certain Duties of the Clerk of the District Court and His Assistant.

By virtue of the authority vested in me, I hereby establish the following Executive Order for the Canal Zone:

Section I. The Clerk of the District Court is *ex-officio* Registrar of Property of the Canal Zone, and, as such, is required to perform the duties heretofore exercised by, and imposed on the Registrar of Property, under preexisting laws of the Canal Zone; and the Assistant Clerk of the District Court shall have and exercise like powers in the name of his principal. The acts heretofore performed as Registrar of Property by the Clerk of the District Court, or by his Assistant, are hereby declared to be valid and binding.

Section II. The Clerk of the District Court and his Assistant, are authorized to perform the duties heretofore imposed on the Clerks of the Circuit Courts of the Canal Zone, in respect to the issuing and recording of marriage licenses, and other matters relating thereto. All marriage licenses heretofore issued by the Clerk of the District Court, or by his Assistant, are hereby declared valid and binding.

Section III. This Order shall take effect from and after this date.

WOODROW WILSON.

THE WHITE HOUSE,
July 3, 1914.
[No. 1975.]

Premature Explosion at Base of Cucaracha Slide.

Three white Americans and one Jamaican, employes on the drill barge *Teredo*, were killed, one American and one Barbadian are missing, and one American and 13 West Indians were injured as the result of a premature explosion of dynamite which occurred at the base of Cucaracha slide, about 12.55 p. m., on Monday, July 20. The *Teredo* sank in about 30 feet of water.

The dead are: David Kett, master, of Amherstburg, Ontario, Canada; James F. Smith, blacksmith, of Philadelphia; Joseph W. Jones, engineer, of Amherstburg, Ontario, Canada, a brother-in-law of Kett; and James Springer, seaman, a brown Jamaican. Charles Sackett, drillrunner, of Parkersburg, West Virginia, and Evans Boyce, a black Barbadian, are missing, and it is believed that they are dead.

The dead, injured, and missing men were all employed on the *Teredo* and the casualties all resulted from the wrecking and sinking of the boat and not directly from concussion. The explosion occurred while the last of a group of eight holes which the *Teredo* had driven into a submerged rock was being charged with dynamite. The first indication was a gushing of water from the casing of the eighth hole, followed by an emission of dense yellow smoke. The explosion occurred about a minute and a half afterward, and in the meantime, two Americans, H. Shelton and Claude M. Brown, drillrunners, had run to the side of the *Teredo*, unlashed, and shoved away the barge on which the supply of dynamite was stored. This had floated about 30 or 40 feet away by the time the explosion occurred, and the dynamite was not detonated. The charges in the other seven holes than the one from which smoke was emitted were detonated, causing an upheaval which tilted the *Teredo* to one side and sank it. Within the roofed-over superstructure of the *Teredo* was the plant for developing steam for the drills, and the general equipment of a small repair shop. The tumbling about of this equipment was responsible for most of the casualties. Of the 29 men employed on the vessel, only eight escaped injury.

The injured were rushed to Ancon Hospital as soon as possible on a special train. J. W. Jones died in the hospital about 7.30 p. m. of the same day. Another special relief train was run out from Panama. A diver was despatched to the scene by the Dredging Division to search for missing bodies and assist in the work of raising the *Teredo*. A derrick barge, moored alongside the wharf at Paraiso, was towed to the scene, and the craneboat *La Valley*, then at Toro Point, was summoned by telephone; it reached Gatun Locks at 2.30 p. m., and arrived at Cucaracha slide late in the evening. It is thought that the *Teredo* is considerably damaged, but that it can be removed from the channel without special difficulty.

The injured now in the hospital are Michael Koenig, white American, drillrunner, and the following West Indians: Adolphus Barber, oiler, and Louis Harper, David Liscott, Stanford Wilson, Newton Young, Simeon Labaric, James Wilson, Nathaniel Corbin, Arnold Green, Nathaniel Straker, Thomas Brown, Allen Glenn, and Samuel Cain, seamen.

Pilots' Licenses.

The following pilots' licenses were issued by the Board of Local Inspectors in June: John Wieshofer, unlimited-Atlantic; John Constantine, Frank W. Corning, A. W. Haynes, Niels Langvardt, Ralph Osborn, Charles Svensson, John Wieshofer, unlimited-all waters; John Wilkins, unlimited-Pacific; A. Pfisterer, 1,000 tons-Gatun Lake.

DAVID MARKS.

David Marks, one of the two American members of the Joint Land Commission, died at Ancon Hospital on Friday, July 17, at 5.15 p. m., of apoplexy. He was appointed a member of the commission by the President on May 9, 1914, and arrived on the Isthmus in company with Hon. Levi Monroe Kagy, the other American member, on May 15. The commission first met on May 25. Mr. Marks was a retired woolen manufacturer, 64 years of age, and was born at Rochester, N. Y. In 1869, he removed to Marion, Ind., and six years later, to Wabash, Ind., where his home had been ever since. He is survived by his wife and son living at Wabash, a married daughter, living at East Orange, N. J., and by a brother, Louis S. Marks, residing at Marion. He was a Royal Arch Mason, and a member of a number of other fraternal and benevolent societies, including the Odd Fellows, the Red Men, and the Elks. The body was shipped for interment at his former home on the *Panama*, on Wednesday, July 22.

The following resolution was adopted at the meeting of the Joint Land Commission held on July 18:

Whereas, the Supreme Being has seen fit to remove from our midst our beloved colleague, David Marks, at quarter past five o'clock on the evening of July seventeenth, in the year of our Lord, nineteen hundred and fourteen.

Be it resolved, that the Joint Land Commission, appointed by the President of the United States and the President of the Republic of Panama, greatly lament the sudden death of Commissioner David Marks, whose efficient services and pleasant associations during the short period he was permitted to serve with us have endeared him to us, as a fellow commissioner and friend whom we shall always remember with the most profound respect.

The Joint Land Commission hereby conveys to the widow, and to the son, daughter, and family of Commissioner Marks, expressions of its most sincere condolence in their bereavement and sorrow at their loss of a husband and father.

Be it further resolved, that these resolutions be spread upon the minutes of the commission, and a copy thereof forwarded to the family of the deceased.

FEDERICO BOYD, LEVI MONROE KAGY, S. LEWIS,
Commissioners.

Business of the Joint Land Commission.

While there will be no public hearings by the Joint Land Commission until further advice, the office of the secretary will be open as usual during the hours from 8 a. m., to 12 noon, and 2 p. m. to 5 p. m., daily, for the transaction of business and the receiving of any and all claims.

WILLIAM TAYLOR,
Secretary.

ANCON, C. Z., July 18, 1914.

Obituary.

Hugh G. Smith, a naturalized American and a former employe of The Panama Canal, died at Santo Tomas Hospital in Panama on Tuesday, July 14. He entered the Canal Service as an employe of the commissary at Empire on January 9, 1913, was promoted to the position of assistant storekeeper at Las Cascadas on April 1, 1913, and on June 6 of the same year was transferred to the mechanical and electrical subdivision of the First Division, where he was employed as a foreman. He was separated from the service on account of reduction in force on May 18, 1914. He served 12 years in the United States Army, and received an honorable discharge from the Tenth Infantry on January 7, 1913. He was 36 years of age, unmarried, and was born at Paisley, Scotland.

A cable message has been received stating that John J. Murphy, a passenger on the steamer *Advance*, which sailed from Colon on Wednesday, July 15, jumped overboard when the vessel was about 100 miles out from that port, and was drowned. His body was recovered. He was a former employe of The Panama Canal, and first entered the Service on February 26, 1907, as a foreman in the old Colon construction division. He separated from the Service on April 15, 1907, but was reemployed on July 29, 1908, continuing at work until July 2 of this year, when his employment as foreman in the Division of Terminal Construction was ended on account of reduction in force. He was born at Columbus, O., in 1868, and was unmarried. A sister, Mrs. Mary Doyle, resides at No. 101 Spruce street, Columbus, O.

William R. Johnson, an American nonemploye, died at Santo Tomas Hospital on Wednesday, July 15. He was 30 years of age, and is survived by his wife, living in Panama. Interment took place in the Panama cemetery.

Admeasurement of Vessels.

The launches *Coco Solo* and *Aloha*, the latter belonging to a West Indian colony on the Rio Gatun, have been measured for Canal tonnage, but no certificates have yet been issued. Measurements for the following oceangoing vessels are being taken and the tonnage computed: *Santa Clara* of W. R. Grace and Company; *Salvador* of the Salvadorean Railway Company; *Limari* of the Compañia Sud-Americana de Vapores.

NEW WATER MAIN TO GAMBOA.

Award Made for Pipe—Bids to be Opened August 10 for Excavation of Trench by Contract.

The United States Cast Iron Pipe and Foundry Company has been awarded the contract for all of the cast iron pipe, and some of the fittings, required for the new water main to be laid from the south end of the Panama railroad bridge at Gamboa to the aeration basin of the new water purification plant on the hill immediately above the Miraflores spillway. This main will consist of 24-inch, 30-inch, and 36-inch diameter cast iron bell and spigot pipe to be laid in a trench paralleling the main line of the Panama railroad. The contract price of the pipe and fittings bid on was $250,000, delivery to be made at Colon at the rate of from 2,000 to 2, 500 tons a month, shipments to begin within five weeks of date of award. This will complete deliveries in about 150 days. The pipe to be furnished under this contract is, as follows: Two thousand one hundred lineal feet of 24-inch, Class C; 4,980 lineal feet of 30-inch pipe, Class A; 20,250 lineal feet of 30-inch pipe, Class B; 14,120 lineal feet of 30-inch pipe, Class C; 13,126 lineal feet of 36-inch pipe, Class A, and 5,880 lineal feet of 36-inch pipe, Class B. The Class A pipe is designed for an operating pressure at 100-foot head; Class B pipe for an operating pressure at 200-foot head, and Class C pipe for an operating pressure at 300-foot head. In connection with the above work, a contract has also been entered into with the Leadite Company of Philadelphia for 80,000 pounds of leadite at 11 cents a pound, amounting in all to $8,800. Leadite is a proprietary article used as a substitute for lead, and comes cheaper than the latter.

Bids are being advertised for, and specifications have been prepared, for the digging of the pipeline trench by contract. Bids will be received on one basis only, viz., a flat rate per cubic yard of rock, and a flat rate per cubic yard of earth. Payments will be made monthly on the basis of the total number of cubic yards of rock or earth, or both, moved each month, measured in place.

The approximate lengths of trench for the 24-inch, 30-inch, and 36-inch pipe will be, as follows:

Size of Pipe.	Trench.		
	Length. Feet.	Width. Inches.	Width. Feet.
24-inch	2,000	37	3.08
30-inch	39,020	43	3.58
36-inch	18,770	49	4.08

The widths given above are the minimum widths measured at top and bottom of each size of trench that will be allowed or accepted, and will be used as a constant dimension in estimating quantities of excavation for which payment is to be made.

In general, the trench will pass through hard Bas Obispo rock, soft clayey rock, soft and stiff red clay, loose hard trap rock car fill, and loose soft rock car fill. There will be 10,000 feet of trench, more or less, in hard or soft rock. Where the trench is located on uncleared ground, the contractor will be required to clear a right-of-way on each side of it for a space of 10 feet, which work will be considered part of the excavation proper. It is estimated that about 2,000 feet will have to be cleared. The right is reserved by The Panama Canal to locate the trench beyond the limits of the cuts or fills of the railroad through sections where, in the opinion of the engineer in charge, it may be desired to do so. Such divergences, however, from the main line of the railroad, or from the spurs leading off from it, will probably not exceed 500 feet.

It is expected that most of the pipe will reach the Isthmus between September 1 and January 1, thus requiring the digging of the trench and the laying of the pipe during a part of what is generally the wettest time of the year. Some slides in the trench banks may, therefore, occur, and for this reason, the contractor will be required to carry on the excavation immediately in advance of the laying of the pipe, except as modified in reference to rock sections. This requirement is to be rigidly enforced, especially where the trench is to lie inside of the transmission tower foundations close to the roadbed.

The contractor will be given 30 days' notice to begin work, and he will be required to pursue operations simultaneously at each end. A minimum rate of 500 lineal feet of finished trench per day must be completed at each end of the line, or a total of 1,000 lineal feet for each day's work. Trench completed for a distance of more than 300 feet ahead of the pipe laying gang will be at the risk of the contractor, and any material sliding into it must be removed at his expense. In general, the right is reserved to require the contractor on one day's notice to increase or decrease the amount of trench completed in nine hours between the limits of 500 and 1,000 lineal feet at each end of the line. The contractor will not be required to dig the bell holes, or make the excavation for the valve boxes. All spoil must be placed on the side of the trench farthest away from the railroad, where practicable. Where dynamite is to be used, the contractor will not be allowed to load the holes, or fire the charges, except in the presence of an inspector of The Panama Canal. Damage to oil and duct lines will be repaired by The Panama Canal at the expense of the contractor.

The contractor must supply his own tools and equipment. Transportation of labor and material will be furnished by The Panama Canal without cost, but these privileges are limited to *bona fide* employes of the contractor, and some means of identification must be provided.

The bids, which will be opened at the office of the Chief Quartermaster at Culebra on August 10, must be accompanied by an acceptable bond, or by certified check, for $12,000, United States currency, and the successful bidder will be required to execute a bond with approved security to be forfeited in case he fails to enter upon the contract within 30 days after the acceptance of his bid.

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Pedro Miguel Y. P. S. C. E.

The young people of Pedro Miguel have organized a Christian Endeavor Society, which meets at the clubhouse every Sunday evening immediately following the song service.

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New Superintendent of Colon Hospital.

Maj. Thomas L. Rhoads, Medical Corps, U. S. A., has been transferred to The Panama Canal Service, and, effective July 17, was appointed superintendent of Colon Hospital. He arrived on the Isthmus on the *Panama*, on Friday, July 17. Major Rhoads received the degree of M. D. at the Jefferson Medical College in Philadelphia, in 1893, and was appointed to the post of assistant surgeon in the United States Army on October 3, 1900. On October 3, 1905, he was promoted to the rank of captain and assigned to duty in the Medical Corps, and on January 1, 1909, he was promoted to the rank of major. He was last stationed at Philadelphia, as attending surgeon.

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The Governor to Investigate McClintic-Marshall Company's Claims.

The Governor of The Panama Canal has been authorized and directed by Act of Congress to investigate the claims of the McClintic-Marshall Construction Company of Pittsburgh, Pa., for reimbursement to the amount of $2,394,480, for extra cost in excess of the contract obligations in connection with the construction of the lock gates of the Canal. The text of the Act is, as follows:

AN ACT to authorize and direct Col. George W. Goethals, Governor of the Canal Zone, and formerly Chairman and Chief Engineer of the Isthmian Canal Commission, to investigate certain claims of the McClintic-Marshall Construction Company.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That Col. George W. Goethals, Governor of the Canal Zone, and formerly Chairman and Chief Engineer of the Isthmian Canal Commission, is hereby authorized and directed to investigate the claims of the McClintic-Marshall Construction Company, a corporation of the State of Pennsylvania, having its principal office in the city of Pittsburgh, in said State, and to ascertain what amount, if any, is in justice, equity, and fairness due and owing to the said McClintic-Marshall Construction Company from the Isthmian Canal Commission for work and labor done and materials furnished in connection with the construction and erection of lock gates and appurtenances for The Panama Canal, and in connection with or incidental to the doing of the work and furnishing of the materials provided for in a certain contract between the Isthmian Canal Commission and said McClintic-Marshall Construction Company, dated June 21, 1910, taking into consideration the claim of the contractors that the work was done under requirements as to character and finish not fairly within the meaning of the specifications.

The said Col. George W. Goethals, Governor of the Canal Zone, is further authorized and empowered, either personally, or through such commission as he may appoint, to investigate such claims and the various items thereof in such manner as to him may seem best, and either personally, or through such commission, is hereby empowered to administer oaths and affirmations to witnesses, and to issue subpœnas and to compel the attendance of witnesses. He shall report in detail to the Congress of the United States his findings.

Approved June 24, 1914.

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Lincoln House Baseball Club to give Shirt Waist Dance.

The Lincoln House Baseball Club will give a shirt waist dance on Saturday evening, July 25, at the Lincoln House on Colon Beach. The following committees have been appointed:

Arrangements—R. T. Martin, chairman; C. H. Motsett, M. T. Guinett.

Refreshments—J. S. McCarthy, chairman; Roy Nelson, H. S. Huff.

Floor—J. W. Coffin, Jr., chairman; Malcolm Jones, B. E. McKeever.

The price of the tickets will be $1.50, admitting gentleman and ladies.

PUBLIC SCHOOL YEAR.

Enrollment in June, 1914, Only Slightly Less Than in 1913—Record of Changes.

The public schools of the Canal Zone were closed for the summer vacation on Tuesday, June 30. At the close of the schools, there were 43 teachers employed in the teaching force of the white schools, and 23 employed in the colored schools. Twelve hundred and seventy pupils were enrolled in the white schools, and 1,492 in the colored schools, making a total of 2,762 in all schools. In June, 1913, the total enrollment was, 2,949, divided, as follows: Schools for white children, 1,369; schools for colored children, 1,580. The enrollment in June this year, therefore, was but 187 less than a year ago.

In the beginning of the year, the following changes were made in the supervisory force of the division of schools: Mr. Frank A. Gause was succeeded as superintendent by Mr. Frank P. Wagg, promoted from supervisor of upper grades and high school. On October 18, Mr. Wagg resigned, and was succeeded by Mr. A. R. Lang, promoted from high school principal. Miss Alice Alexander was succeeded as supervisor of primary grades by Miss Dora Neilson, promoted from line and substitute teacher.

Mr. John E. Talbot was appointed supervisor of upper grades and high school, and reported for duty from the United States on November 24, 1913. The positions of supervisor of upper grades and high school, and supervisor of primary grades, were abolished, effective June 30, when the services of Miss Neilson and Mr. Talbot were terminated. In addition to the regular teaching force in the schools for white children, there were employed two brake attendants and one noon hour attendant for children.

Twenty-three buildings have been in use for school purposes during the year, including a room in the Las Cascadas hotel building for first and second grade children, an apartment in nonhousekeeping quarters at Porto Bello, the native church at Marajal for native children, and two rooms over The Panama Canal hotel in Ancon for the sixth, seventh, and eighth grades of the Ancon school. At Corozal, an upper story was added to the old building for white children, the lower story divided into two rooms, and the new portion of the Gorgona schoolbuilding for white children connected, thus providing a 5-room schoolbuilding at that place. The 1-story schoolbuilding for colored children at Pedro Miguel was reerected at Paraiso for the use of the colored children, and the school transferred from the old building in February. Owing to the overcrowded condition in the grades at Ancon, two rooms were fitted up in The Panama Canal hotel building for the upper grades of the school, and the pupils took up their work there at the opening of school after the Christmas holidays A class for third year high school pupils living in Gatun and Cristobal was opened in Gatun on October 1.

Schools closed permanently, owing to the abandonment of the villages in the course of the completion of work on The Panama Canal, were the schools for white children at Gorgona and Toro Point, and the schools for colored children at Gorgona and Matachin. The school for white children at Bas Obispo, and the schools for colored children at Gorgona, Miraflores, Pedro Miguel, and Cruces, formerly operated, were not reopened during the 1913-14 school year. Other movements of schools were, as follows: The Mandingo school was closed on December 19, 1913; the Marajal school for colored children was closed on February 6; the branch high school at Empire on February 20; the school for white children at Porto Bello on April 24, and the school for colored children at Cucaracha on May 29. The third year high school pupils attending at Gatun were transferred to Ancon on February 24.

Convenient consolidation of the grades, and the transferring of children by brake was made in the schools at Pedro Miguel, Las Cascadas, Empire, Culebra, Paraiso, and Corozal.

No school gardens were operated during the year, the garden site in connection with the school for colored children at Empire having been turned over to the Quartermaster's Department in October, 1913.

Medical inspection of the schools for white children was carried on as usual. The total number of pupils examined for conditions of throat, teeth, eyes, ears, and nose was 894. Of these children, 362 were found to be defective, and 39 were treated. These figures do not include the report of the Cristobal school, as the children there were examined at Colon Hospital, and not by the district physician, as was the case at all of the other stations.

In addition to this medical inspection, special sanitary rules and regulations were issued by the Chief Health Officer, whereby inspection of schoolbuildings by the district physician should be made at least once a month; this inspection covered the conditions of the buildings in regard to cleanliness of closet and lavatories, receptacles for holding drinking water, individual drinking cups, overcrowding, and the condition of playgrounds. Further health regulations required that pupils absent from school on account of sickness should be required to present a certificate from the district physician before they could be readmitted to their classes.

At the beginning of the year, fire drills were begun, and hand extinguishers were installed in all schoolbuildings. Teachers and janitors were instructed in their use by representatives of the Division of Fire Protection.

Amendments requiring four years of college training for high school teachers and limiting the female teaching force to unmarried women were made to the rules governing qualifications of teachers. The three married women now in the service will be allowed to continue. The present requirements for appointments to positions are, as follows:

"No applicant will be considered who is not an American citizen, who is more than 45 years of age, who has not completed a regular four years' high school or academy course, who has not had two years' training in a standard normal school or college, and two years' successful experience, certified to by at least three persons engaged in educational work and having personal knowledge of the applicant and her work as a teacher. High school teachers must have four years' college or university training, in place of the two years' college or normal training required for grade teachers."

All day sessions of seven 40-minute periods were begun in the high schools at Ancon and Empire on November 4, 1913. The Canal Zone high school, as organized at the close of the year, consisted of the main high school at Ancon, and the branch high school for first and second year pupils at Gatun. The fourth annual commencement exercises of the high school were held in the National Theatre, Panama City, on Friday evening, June 26. There were nine graduates.

During the year a public schools athletic league was formed in the schools for white children, with the cooperation of the officials of the Young Men's Christian Association. The first annual meet of the league was held on Friday evening, June 12, in the Government clubhouses at Balboa, Corozal, Empire, Gatun, and Cristobal. The meet was won by the Corozal school. There were 198 participants, 99 boys and 99 girls. Each participant was given a certificate signed by the superintendent of clubhouses, the president and the secretary of the league, and the superintendent of schools. About 100 schoolchildren participated in the patriotic exercises held on the Fourth of July in Cristobal, the schools forming a chorus for the singing of national and patriotic songs.

Net Emigration from Isthmus in Eleven Months Over 15,000.

The report of the quarantine service for June shows a net emigration from the Isthmus during the month of 283 persons, as compared with a net emigration during May of 626 persons. The total net emigration from the Isthmus during the 11 months ending June 30, 1914, was 15,166 persons, the greater part of whom consisted of Canal laborers returning to their native countries.

The total number of steamship passengers embarking at the ports of Colon and Cristobal for foreign ports during June was 3,539, consisting of 1,677 cabin, and 1,862 steerage passengers. The number of persons landing from foreign ports was 3,281, consisting of 1,710 cabin, and 1,571 steerage passengers. The excess of persons who embarked over those who landed at these ports was 258. Europe contributed only 29 immigrants in the steerage class; 1,054 deck passengers arrived from the West India islands, 121 from Colombia, 70 from Cuba, 98 from Guatemala, 101 from Costa Rica, and 22 from the United States. The immigration from Central America has been greater than usual during the past few months, due to returning laborers, who have been working on the banana plantations and on railroad construction in Guatemala and Honduras. The number of persons arriving "In transit" at the Atlantic ports was 1,355, mostly tourists, as compared with 1,544 in May.

The number of persons arriving at the ports of Panama and Balboa from foreign ports during June was 597, consisting of 454 cabin, and 143 steerage passengers. The number of persons embarking for foreign ports was 622, consisting of 450 cabin, and 172 steerage passengers. The excess of those who embarked over those who landed was 25.

The number of vessels arriving at Colon and Cristobal during June was 91; at Balboa, 29.

Red Cross Lectures for Women.

The first aid lecture class for women, under the auspices of the Red Cross, began its course on Friday afternoon, July 17. The class has a registration of 15 members. Dr. Lauren S. Eckels, Captain, Medical Corps, U. S. A., stationed at Fort Grant, Naos Island, has been appointed to deliver the lectures. The class will hold its meetings in Ancon Hall every Friday afternoon at 3 o'clock.

BUILDING 600-FOOT TOWERS.

Erection of Steel at Darien Radio Station Has Been Begun.

The erection of steel in the first of the three 600-foot steel towers for the Darien radio station was begun on Thursday, July 9. The construction forces of the contractor for their erection have been engaged in preliminary work since the early part of June. They have assembled the principal parts of the plant, including a hoisting engine, cables, ropes, derricks, and timber for erection staging and falsework, have handled the first sections of steel to the site of tower No. 1, and have completed at this site a 150-foot timber tower from which to handle the steel to the 200-foot level.

This erection tower has been built in the center of the site of the steel tower, equidistant from the three footings, which are set in an equilateral triangle, 150 feet on the side. It has been surmounted by a stiff-legged derrick, with a 60-foot boom, which can revolve in a complete circle and be used, without further adjustment, for working over the three columns. The steel will be swung into place by derrick and be secured and supported by timber falsework. When it is completed to the 150-foot level it will be selfsupporting by reason of struts and cross-bracing. The three legs batter inward, so that at the 150-foot level they will form the points of an equilateral triangle, 75 feet on the side. The faces of the concrete footings have been inclined from the horizontal sufficiently to be perpendicular to the columns with this batter. The base girders and anchor bolts have been set in the concrete on a line with the batter of the columns.

The derrick set on the 150-foot timber tower will handle the steel to the 200-foot level. When the steel has been carried to the 200-foot level, the timber tower and derrick will be dismantled and transferred to the site of tower No. 2. The contractor has not decided the method of operation above the 200-foot level, but it will probably be an adaptation of the gin pole; a pile or other heavy timber with a sheave on the upper end will be rigged to the highest section of the steel column, and the next section will be hoisted into place, lashed, and bolted. At the 200-foot level the columns will be 15-inch I-beams, and the pole can be fitted into the groove along the back of the beam.

The plan of the tower becomes constantly smaller as it approaches the top, where it will be only 10 feet on the side. The steel, accordingly, becomes lighter and lighter. Above the 400-foot level the material will be so light, relatively, that the men will work from the inside, and the gin pole will be abandoned for a small derrick; toward the top the steel will be handled into place by hand line.

About 800 tons of steel have been delivered on the Isthmus. This is approximately that for the first 200 feet of towers Nos. 1 and 2; none of the steel for tower No. 3 has been delivered. The towers are identical, except that No. 3 has one short leg. A total of slightly over 960 tons of steel will be used.

The contractor for the fabrication and erection is the Penn Bridge Company of Beaver Falls, Pa. This company sublet the fabrication of all the steelwork to the Toledo Bridge and Crane Company of Toledo, Ohio, and the erection to the Central American Construction Company, Limited, of Colon. After the latter corporation was placed in the hands of a receiver, in March, 1914, the Penn Bridge Company made a second contract for the erection with Mr. J. O. Childers of the Childers Construction Company of Columbus, Ohio. Mr. Childers was once a superintendent for the Penn Company, and was field superintendent for the McClintic-Marshall Construction Company in its work on the Canal, principally in the erection of the lock gates. He arrived on the Isthmus to take charge of the work at Darien about the middle of April. His present force consists of 12 white men and 13 West Indian negroes.

Forces of the Supply Department, numbering one gold and about 50 silver employes, are engaged in finishing the grading and filling about the concrete footings for the towers, and in the erection of a concrete operating building, one story in height and 26 by 50 feet in plan. They have completed a one-story concrete power house, quarters for the operators, and a cottage for the chief electrician. The Navy Department has a chief electrician on the grounds, supervising eight silver employes in handling miscellaneous materials and stores.

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Officers of Union Church Sunday School.

At a meeting of the officers and teachers of the Cristobal Union Sunday school, held in the Union Church, Wednesday evening, July 8, the following officers were elected for the annual term ending July 1, 1915: Superintendent, W. H. Kromer; assistant superintendent, J. T. Veen; secretary, Arthur G. Gehrig; assistant secretaries, Ernest C. Cotton, Ida M. Glawson; treasurer, H. H. Alexander; librarian, Mr. Ellsmere; pianist, Mrs. Nora Hardeman; assistant pianist, Miss Sara Harrison; superintendent, beginners' department, Elizabeth Sprau; assistant superintendent, beginners' department, Mrs. Helen Dovell; organist, beginners' department, Mrs. Ferguson; superintendent, primary department, Mrs. Josephine Harrison; assistant superintendent, primary department, Mrs. A. M. Fraser.

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Act of Heroism by Zone Policeman.

Col. W. F. Blauvelt, commanding the Tenth Infantry at Camp Otis, has written the following communication to the Governor in regard to an act of heroism performed by First-class Policeman F. A. Crosscup on July 4:

"It gives me pleasure to bring to your notice the heroic action of First-class Policeman F. A. Crosscup of the Canal force. On July 4, Crosscup, with remarkable presence of mind. and in spite of imminent danger to himself, rescued Sergt. John M. Adams of this command from death under a moving train, by grasping the sergeant's head and shoulder and holding him wedged in between the wheels and station platform until the train was stopped. Sergeant Adams was severely wounded, and would undoubtedly have been killed, had it not been for the remarkable presence of mind of Crosscup, as the sergeant's head was lying directly on the rail when the policeman grasped him. It was brought to my attention by eye witnesses, and is given to enable you, if you so desire, to enter it upon Crosscup's record."

The Governor has written the following communication to Policeman Crosscup:

"Your action as indicated above is highly commendable, and I beg to inform you that Colonel Blauvelt's communication, and a copy of this letter will be placed on your personnel record."

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Adjustment of Claims by Land Office.

A total of 2,237 property claims in the Canal Zone were adjusted by the Land Office of The Panama Canal during the period from January 1, 1913 to June 30, 1914, involving the payment to claimants of the sum of $167,200.50. All of these claims were for improvements, with one exception. The only settlement where the transfer of land was involved was the property of Mr. B. B. Duncan at Las Cascadas, which was bought for $20,000.

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Retirement of Dump Cars from Service.

The recommendation of the surveying officer that as it becomes necessary to reduce the number of dump cars in service, the Oliver type of car should be retained and the Western type of car retired, has been approved by the Governor. This plan is to be followed, except when repairs to an Oliver would be excessive.

CLASSIFIED EXPENDITURES—ISTHMIAN CANAL COMMISSION.

A statement of classified expenditures of the Isthmian Canal Commission to March 31, 1914, follows:

Periods.	Department of Civil Administration.	Department of Law.	Department of Sanitation.	Department of Construction and Engineering	General Items.	Fortifications.	Total.
Total to June 30, 1909	3,427,090.29	....	9,673,539.28	69,622,561.42	78,022,606.10	....	160,745,797.09
Total—Fiscal year, 1910	709,351.37	....	1,803,040.95	26,300,167.05	2,863,088.83	....	31,675,648.20
Total—Fiscal year, 1911	755,079.44	....	1,717,792.62	27,477,776.19	3,097,959.72	....	33,048,607.97
Total—Fiscal year, 1912	820,398.57	24,729.16	1,620,391.12	28,897,738.10	2,819,926.53	1,212,881.66	35,396,065.14
Total—Fiscal year, 1913	681,389.06	20,253.11	1,435,400.96	33,017,852.99	1,063,322.52	1,901,475.86	38,119,694.50
July, 1913	61,472.81	1,597.91	121,487.47	2,138,540.39	237,534.13	131,333.71	2,691,966.42
August, 1913	57,950.95	1,469.10	112,802.29	2,299,554.75	244,860.32	150,364.19	2,867,001.60
September, 1913	63,469.40	1,835.57	106,731.16	2,276,467.78	242,779.94	149,735.89	2,841,019.74
October, 1913	66,063.85	1,502.47	107,280.12	2,154,953.40	413,883.08	147,589.32	2,891,272.24
November, 1913	58,728.48	1,387.60	85,696.96	1,774,974.81	160,575.73	113,307.35	2,194,670.93
December, 1913	63,433.93	1,781.65	91,197.00	1,787,820.21	136,525.07	174,216.04	2,254,973.90
January, 1914	69,525.61	1,835.50	86,263.15	2,188,791.94	155,386.12	168,495.83	2,670,298.15
February, 1914	68,084.57	2,229.37	89,936.86	1,937,064.36	170,676.88	173,784.79	2,441,776.83
March, 1914	70,083.76	1,488.29	54,753.28	2,212,862.73	318,230.02	162,791.71	2,820,209.79
Grand total	6,972,122.09	60,109.73	17,106,313.22	204,087,126.12	89,947,354.99	4,485,976.35	322,659,002.50

Whenever advisable, Westerns may be repaired. but only when necessary repair parts are either obtainable from stock on the Isthmus, or from cars which have been scrapped. The elimination and reduction of one of the types of the 12-yard Olivers has also been approved, and the amount to be expended in the repair of any one car is left to the discretion of the superintendent of the Mechanical Division. A census of the two types of cars is being taken.

Meeting of the Woman's Foreign Missionary Society.

The Woman's Foreign Missionary Society of the Methodist Episcopal Church met in the church parlors on Saturday afternoon, July 11, when the speaker for the afternoon was the Rev. Alfred DeRoos, a missionary who is working in the city of Colon. The program, which consisted of the reading of the fourth chapter in the text book, "The King's Business," was conducted by the president of the society, Mrs. Harry Compton. Mrs. J. Leon Webster, organizer of the society, who has returned to the Isthmus after an absence of more than two years, was present, and took an active part in the meeting.

On Sunday, July 12, the special preacher for the day at the Methodist church on the seawall, Panama, was the Rev. Mr. Baker, a Methodist missionary, who is located in Cuba in connection with the mission there. Mr. Baker preached to the American congregation at the morning service in English, and to the Spanish section of the church, in Spanish, in the evening.

Red Cross Finances.

The financial statement of the Canal Zone Chapter, American National Red Cross, for the month of June is, as follows:

	RECEIPTS.		
June 1, 1914.	Balance on hand		$3,984.94
	DISBURSEMENTS.		
June 3	Relief of sick American at Gatun	$2.20	
June 3	Relief of destitute Jamaican at Camp Otis	15.00	
June 3	Relief of abandoned orphans at Ancon Hospital	10.00	
June 3	Donation for the benefit of the sufferers at the powder magazine explosion, Panama	200.00	
June 10	Postage, treasurer	2.00	
June 23	Relief of American convict	100.00	
	Total disbursements		$329.20
June 30	Balance on hand		$3,655.74

T. L. Clear,
Treasurer.

Approved:
Edw. Schildhauer,
Chairman.

Clubhouse Privileges for Tenth Infantrymen.

Members of the Tenth Infantry stationed at Gatun and Pedro Miguel will hereafter be granted the privileges of the Y. M. C. A. clubhouses at those points under the following arrangement:

Monthly tickets will be sold them for 50 cents each. Free use of the pool and billiard tables, and bowling alleys will be allowed at certain hours when Canal employes are at work. At other hours, regular prices will be charged for pool, billiards, and bowling. The soldiers may pay for membership tickets, refreshments, pool, billiard, and bowling games, cigars and other, merchandise on sale, and barber shop work, in post exchange coupons, if they desire, these coupons to be redeemed in cash at the post exchange at Camp Otis.

OFFICIAL CIRCULARS.

Papers and Metal Checks to be Surrendered, when Leaving Service or Going on Leave.

The Panama Canal,
The Panama Railroad Company,
Executive Office,
Culebra, C. Z., July 20, 1914.

Circular No. 675–1 (Superseding Circular No. 675):

1. All employes of The Panama Canal prior to receiving from the Auditor of The Panama Canal time vouchers issued either at termination of service, or when going on leave, must deliver to the Auditor, or to the branch of his office at Cristobal or Ancon, the following:

(*a*) 24-trip tickets with unused coupons, only on termination of service.

(*b*) Release from quarters. In case an employe does not occupy Panama Canal quarters, the release must so state.

(*c*) Property releases. Circular No. 656–2 provides:

> "10. Property releases. All gold employes leaving the service or entering on leave will be required to secure releases from property and quarters, which must be presented to the Auditor, Panama Canal, before final payment.
>
> "11. Property entrusted to silver employes. Responsible officers will be required to see that property for which they are responsible and which may be in the possession of silver employes, is satisfactorily accounted for before such employes leave the service.
>
> "12. Release of accountable officers. Final payments to accountable officers will be withheld in the Auditor's office until such time as an audit of property accounts is made, or a transfer effected to some other accountable officer, after which a release will be issued by the Auditor.
>
> "13. Release of responsible officers. Releases to responsible officers will be issued by accountable officers, and releases to all other gold employes will be issued by responsible officers."

2. The Paymaster will take up the new Panama Canal metal checks from employes upon payment of time vouchers issued on account of termination of service. Such metal checks will be forwarded to the Auditor the first of each month. Should an employe fail to surrender his metal check, 50 cents shall be deducted.

3. Employes leaving the service will be furnished single trip passes for themselves and dependent members of their families from the place of employment to port of embarkation by the department or division in which they are employed.

Geo. W. Goethals,
Governor, The Panama Canal,
President, The Panama Railroad Company.

Aids to Navigation and Notice to Mariners.

The Panama Canal,
Executive Office,
Culebra, C. Z., April 1, 1914.

Circular No. 643:

1. The Superintendent of Transportation is charged with the supervision and upkeep of the aids to navigation, and all recommendations and reports in relation thereto should be made to him. In general, and particularly where immediate action is considered necessary, information concerning aids to navigation, or other matters affecting the navigation of Canal Zone waters, should be communicated to the captain of the port at Cristobal or Balboa.

2. The position, order, or class, and characteristic of all aids to navigation in Canal Zone waters shall be fixed by the Governor of The Panama Canal, and no changes in them shall be made without his authority, nor shall the number of aids be increased or decreased without his permission.

3. Should it become necessary to mark wrecks or newly discovered dangers or obstructions to navigation, buoys or other objects may be placed at once, but the fact must be immediately reported to the Governor, together with the necessary data showing their position and characteristics; the Governor's permission must also be obtained to remove such aids.

4. When buoys or other aids are placed or established in connection with harbor or channel improvement work, the official causing them to be so placed shall see that they do not conflict in their positions, in their characteristics, or otherwise, with the regularly established aids to navigation in their vicinity, and shall, when necessary and practicable, confer with the Superintendent of Transportation on this subject.

5. In all cases where there is a possibility of confusion arising, the Superintendent of Transportation must be informed at once.

6. The Governor shall cause notices to mariners to be issued in all cases where there is any material change in the aids to navigation, and whenever practicable, such notices shall be issued in ample time in advance to give all those concerned sufficient notification.

7. In all cases where changes are made or contemplated, all divisions concerned shall be immediately notified.

8. Notices to mariners and other information of use to shipping shall be sent to the several divisions concerned, to the captains of the ports, the Panama railroad, the local steamship agencies, and be posted in conspicuous places, where they will catch the attention of those most interested.

9. The necessary data concerning all changes in aids to navigation, hydrography, sailing directions, etc., shall be sent to the Hydrographic Office in Washington as far in advance as practicable, so that it may be published in its regular notices to mariners.

10. From sunset to sunrise, such lights as may be required by the Governor for security of navigation, shall be maintained on bridges or pontoons, which may obstruct navigable waters.

Geo. W. Goethals.
Governor.

Report of Absences.

The Panama Canal,
Executive Office,
Culebra, C. Z., July 13, 1914.

Circular No. 602–9 (Superseding Circular 602–1):

1. Effective August 1, 1914, the use of excuse card (Form P. C. 464) and report of absence (Form P. C. 465) will be discontinued, and all absences from work of whatever nature must be covered by the new report of absence (Form P. C. 484.)

2. The use of Form D. S. 5, certificate of disability, is also discontinued, and physicians will report all absences on account of illness or injury on Form P. C. 484.

3. The form may be used to cover time absent with prior permission for periods of not less than one-half day or more than five days, either with or without pay, but for periods of more than five days approval must be received from the Executive Secretary.

4. Instructions governing the use of the form are printed on the back of the form, and as the leave records of employes are prepared from this form heads of departments and divisions are directed to enforce strict compliance with these instructions. Form P. C. 466, report of return to duty, in use by the chief timekeeper, is superseded by the new form.

5. A supply of the form is sent to the head of each department and division herewith, and additional supply must be requistiioned from Mount Hope.

Geo. W. Goethals,
Governor.

Committee on Rates to Outsiders for Rental of Equipment, Etc.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., July 14, 1914.

Heads of Departments and Divisions:

In order to revise existing circulars prescribing rates to be charged "Individuals and companies," and other branches of the United States Government, for rental and use of equipment, material, water, electric current, and for all other services, I have appointed a committee consisting of the Auditor, the Superintendent of the Mechanical Division, and the Costkeeping Accountant, to confer separately with the head of each department and division interested, who would be *ex-officio*, a member of this committee so far as the rates of his particular department or division are concerned, for the purpose of submitting recommendation thereon.

Heads of departments and divisions will, therefore, prepare and forward to the Auditor of the Panama Canal the rates recommended by them so far as their respective departments and divisions are concerned. The Auditor of The Panama Canal will fix a time and place for meetings to discuss the rates after same have been received by him.

Geo. W. Goethals,
Governor.

New Accounts.

Culebra, C. Z., July 6, 1914.

H. A. A. Smith,
Auditor, The Panama Canal,
Empire, C. Z.,

The following general accounts are authorized:

WORK IN PROGRESS.

In this account will be charged all labor, material, and other expenses in connection with work done for outsiders, exclusive of the Panama railroad, and the Government of the Canal Zone, which is not completed at the close of the month. This account will be credited with the total amount so charged upon completion of the work and rendition of bill.

WORK DONE FOR PANAMA RAILROAD.

This account will be charged with the cost of labor, material, and services rendered for account of the Panama railroad. No prorate will be made to this account for general overhead expenses.

BILLS RENDERED AGAINST THE PANAMA RAILROAD.

This account will be credited with the amount of all bills rendered against the Panama railroad. These bills will not be taken up under "Revenues."

Respectfully,
Geo. W. Goethals,
Governor.

Traveling Expenses.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., May 19, 1914.

Circular No. 60. (Superseding Isthmian Canal Commission circular No. 48):*

1. The following regulations concerning traveling expenses of officers and employes of The Panama Canal are published for the information and guidance of all concerned. They do not refer to travel upon the Isthmus of Panama by officers and employes stationed upon the Isthmus, unless such travel is at the beginning or at the termination of a journey extending beyond the Isthmus.

2. Before any expense is incurred in traveling upon business of The Panama Canal, an order will be issued by competent authority. Travel orders may be either oral or written and shall state, when written, as specifically as circumstances will permit, the travel to be performed. When an officer or employe is at a distance from the official authorized to order travel and the necessity for immediate travel will not permit of the delay necessary to procure authority, or when other conditions render it impracticable to obtain authority without serious injury to the public interests, he may proceed without such order, reporting at once in writing to the head of his department the necessity for the travel without orders. When practicable, all transportation and Pullman accommodations will be procured on official transportation requests.

3. All travel must be by the shortest practicable routes, unless otherwise directed by the travel order, and must be without unnecessary delays. Proper and legitimate travel expenses include such as are usual and essential to the comfort of travelers, such as an employe would incur if paying his own expenses, and may embrace any of the following items:

(*a*) The usual one way, or, where time limits are found to be ample, round trip fares on railroads, steamships, or other public conveyances, and hire of special transportation where there are no regular means of conveyance. The use of commutation tickets or the acceptance of rebates in any form on fares is prohibited. Mileage books may be used when authorized by the Governor. Charges for meals will not be allowed if the transportation charge includes meals. "Excess baggage" charges must be explained, and, to be allowed, must be for official papers or public property carried with the officer or employe. Travel on limited trains requiring excess fares will not be allowed, except when absolutely necessary, and the account shall contain a certificate setting forth this necessity.

(*b*) Street car, omnibus, or transfer coach fare between stations, docks, and hotels, and, when there are no such conveyances available, moderate or necessary hack or cab hire, not exceeding the usual and legal rates, and transfer of baggage. Street car fare while on official business during the time spent in a city will be allowed, but the necessity for employing a more expensive means of conveyance must be explained.

(*c*) Sleeping car fares for one double berth, parlor car seat, and fare for usual stateroom accommodations on vessels; also, fees to porters on sleeping and parlor cars, not exceeding 25 cents in one day, and reasonable fees to porters for handling baggage at stations, etc., when necessary. Where money is expended for parlor car seat or berth, statement should be made as to which accommodation was secured. When Pullman accommodations are procured, report should state whether upper berth, lower berth, or parlor car seat was furnished, and Pullman receipt must be filed with expense report.

(*d*) *Subsistence*—Charges for meals and lodging, whether meals en route or at hotels and restaurants, reasonable fees to waiters, not exceeding 40 cents a day; reasonable charge for laundry, if away from home station more than three days; reasonable charge for bath; and, if travel by ocean steamer, reasonable fees to stewards, not exceeding an average of 75 cents for each 24 hours or fraction thereof. The total of the foregoing items in this paragraph shall not exceed in the aggregate $5 for any 24 hours.

(*e*) Receipted bills for hotel expenses, so itemized as to show the number of days, rate per day, and dates of entertainment, must be furnished; also, receipts for stenographic and typewriting service, and for any expense exceeding $1, except that receipts are not required, for transportation by railroad or vessel, for single meals, or for fees to porters, waiters, and stewards. The cost of each meal should be stated.

(*f*) All telegrams sent to the Washington office of The Panama Canal should be marked "Collect, Government rates," as none should be prepaid. If the telegram is not to the Washington office, but nevertheless on official business, the toll should be prepaid at the rates fixed in the schedule of the Postmaster General. Whenever a telegram is paid for and charged in voucher a pen or carbon copy of same must be attached to the voucher, and the receiving agent of the telegraph company shall indorse receipt of the toll on such copy. Where an official telegram is received "Collect" by an officer or duly authorized employe of The Panama Canal, receipt for payment should be endorsed on such telegram by the agent of the telegraph company, receipted telegram to be used as subvoucher in expense account. Expenses for telegrams relating to leaves of absence, payment of salary, and expense vouchers, or any other matter of a personal nature, will not be allowed, and such telegrams must not be sent "Collect" at the expense of The Panama Canal. In preparing telegrams, care should be observed that all unnecessary words, initials, and figures are omitted.

Employes should provide themselves with means of identification to satisfy the telegraph companies that they are officially connected with The Panama Canal, to enable them to get messages accepted for transmittal on the terms herein fixed. Official identification cards will be issued to employes whose duties require frequent transmission of telegrams.

4. When reimbursement for traveling expenses is to be made on the Isthmus, accounts will be rendered in duplicate on forms of vouchers approved by the Governor. Such vouchers shall be certified to by the officer or employe who performs the travel and, with the original order for travel, if written, and all necessary explanatory statements in writing, shall be submitted to the Auditor on the Isthmus.

When reimbursement for traveling expenses is to be made in Washington, reports of the official travel performed and the expenses in connection therewith will be submitted to the official directing the travel, who will endorse thereon his verification and such other notations as may be necessary, and forward same to the Assistant Auditor at Washington.

The voucher or report will be so stated as to show clearly and in proper sequence the movements of the traveler, and detailed itemization of the expenses incurred day by day. Hotel expenses, when extended over several days, should be stated in the voucher or report as of the date on which paid.

5. No officer or employe traveling under orders shall pay for transportation on a railroad, steamer, or other conveyance operated by the Panama Railroad Company, but shall use an order for transportation furnished by the Governor or by his direction, at Washington, or by the duly authorized official on the Isthmus. An order for transportation shall also be issued, when practicable, for travel by any steamship line between ports on the Isthmus and ports in the United States or other countries.

6. These regulations shall not apply in any instance where by law a *per diem* allowance for any items of expense is fixed for any officer or employe.

These regulations shall be effective from and after July 1, 1914.

Geo. W. Goethals,
Governor.

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*First issue of new series of circulars by the Washington office of The Panama Canal; the last circular issued by the Washington office of the Isthmian Canal Commission was No. 52.

Engine Failures.

The Panama Canal,
The Panama Railroad Company,
Executive Office,
Culebra, C. Z., July 10, 1914.

Circular No. 677:

DELAYS CONSTITUTING ENGINE FAILURES.

1. All delays waiting for an engine at an initial terminal, except in cases where an engine must be turned and does not arrive in time to be dispatched and cared for before leaving time.

2. All delays on account of engine breaking down, running hot, not steaming well or having to reduce tonnage on account of defective engine, making delay at a terminal, a meeting point, or a junction connection, with delay to the traffic.

DELAYS NOT TO BE REPORTED AS ENGINE FAILURES.

3. Where engines lose time and afterward regain it without delay to connections or other traffic.

4. Where a passenger or scheduled freight train is delayed from other causes, and an engine (having a defect) makes up more time than it loses on its own account.

5. On passenger trains when they are less than five minutes late at terminals or junction points.

6. On scheduled freight trains when they are less than 20 minutes late at terminals or junction points.

7. When an engine is given excess or estimated tonnage and stalls on a hill, providing the engine is working and steaming well.

8. On extra dead freight trains if the run is made in less hours than the miles divided by fourteen.

9. Where delays are on account of engines steaming poorly, or flues leaking, or where the engine has been delayed on side tracks other than by defects of engine, or on the road an unreasonable length of time, say, nine minutes per mile for the actual distance run.

10. Where delay was reasonable for cleaning fires and ashpans on the road.

11. Where delays are on engines that are coming from outside points to the shops for repairs.

12. Where an engine is held in the roundhouse for needed repairs, and called for by the operating department, they being informed that the engine will not be ready until a stated time.

13. Where delays are due to broken draft rigging on engines and tenders caused by air being set on train, or on account of burst air hose or train breaking in two.

14. Where the weather conditions are such that it is impossible to make the time, even assuming that the engine is working and steaming well.

15. When an engine gets out of fuel and water, caused by being held between coal and water stations an unreasonable length of time.

16. Where work is done on engines while waiting for other trains to meet or pass, or while the station work is being done.

17. Where delays are due to engines striking obstructions on or beside the track.

Geo. W. Goethals,
Governor, The Panama Canal.
President, The Panama Railroad Company.

Correct Names and Check Numbers.

The Panama Canal,
Office of the Governor,
Culebra, C. Z., July 10, 1914.

Heads of Departments and Divisions:

Considerable difficulty is experienced from time to time in connection with the employment of aliens on the silver roll due to the fact that care has not been exercised by some officials with respect to securing the correct name and check number of the employe. Frequent trouble is experienced in connection with settling estates, admitting patients to hospitals, and in other ways due to this negligence.

It is directed that in all cases where it is necessary to give the name of a silver roll employe on any official document, no matter how unimportant it may seem to the official, the spelling of the name, and the writing of the check number be absolutely accurate. Where the name of the division, subdivision, or gang is required on a blank of any kind they should be filled in without fail. There are many West Indian and Spanish employes who have similar names, and confusion easily results, unless great care is taken to absolutely identify the employe by getting his correct name and check number.

Geo. W. Goethals,
Governor.

Rules and Regulations for Inspection of Boilers, Except those on Floating Equipment.

The Panama Canal,
Executive Office,
Culebra, C. Z., June 20, 1914.

Circular No. 674:

GENERAL.

1. The superintendent of the Mechanical Division is charged with the supervision of inspecting, testing, and prescribing the proper working steam pressure on all steam boilers operating in the Canal Zone and in the cities of Panama and Colon for The Panama Canal and the Panama Railroad Company, except boilers on floating equipment, which will be inspected by the Board of Local Inspectors.

2. The safe working pressure for boilers shall be determined and fixed by the head of the Mechanical Division from calculations and detailed examination, and after consideration of the general design, workmanship, and condition of the boiler, giving full weight to the service required of it and the conditions under which it is to operate. In determining the safe working pressure, a factor of safety not lower than 4.5 shall be used, except in special cases, when the service demands a higher pressure and a change of boilers is impracticable, in which case a minimum factor of safety of 4.0 may be permitted temporarily. Whenever the allowed working pressures are considered by operating divisions as being so low as to impair the efficiency of the plant, the division head may request reexamination and recalculation.

3. All steam boilers and their appurtenances shall be thoroughly tested and inspected, internally and externally, at least once every 12 months, and, in addition, there shall be partial inspections as provided for in Sections II and III below. Additional inspections will be made upon written request of the head of the department or division to which the boiler belongs.

4. The date of inspection will be fixed by the head of the department or division operating the boiler

(or his representative), after consultation with the superintendent of the Mechanical Division, or his representative. It shall be the duty of the superintendent of the Mechanical Division to inform the operating officials of the date an inspection is due sufficiently in advance of the date to allow preparations to be made. Inspections shall be distributed as uniformly as possible throughout the year, so as to permit a minimum number of inspectors.

5. Heads of departments or divisions shall furnish the superintendent of the Mechanical Division with an annual statement covering all boilers under their jurisdiction. this statement to show: (*a*) Boiler number; (*b*) service, or equipment on which installed; and (*c*) location. In addition to the annual statement, notification shall be given the superintendent of the Mechanical Division whenever a new boiler is installed, or whenever a boiler is transferred from one division or department to another, or whenever the location of a boiler, except those on rolling stock, is changed within the division or department.

6. After a boiler inspector has inspected any boiler, he will immediately make a report in writing to the superintendent of the Mechanical Division on the prescribed form, giving a statement as to the condition of the same. If the condition is such as to require immediate attention, he shall so inform the official in charge of the boiler or plant, describing the work immediately necessary to put the boiler in safe working condition. Copies of all inspection reports relating to locomotive boilers will be sent to the traveling engineer.

7. After the annual inspection and hydrostatic test have been made, the head of department or division shall be furnished with a certificate of inspection, signed by the boiler inspector making the inspection, and approved by the superintendent of the Mechanical Division. This certificate shall be kept posted in a conspicuous place near the boiler, and shall not be removed therefrom, except when the boiler or its appurtenances becomes defective, or a new certificate is issued. It shall then be removed by a member of the boiler inspection force. The inspection certificate shall be on the prescribed form.

BOILER INSPECTION RULES.

SECTION I—HYDROSTATIC PRESSURE TEST.

8. Every boiler rated to carry more than 50 pounds pressure per square inch, before being put in service and at least once during each twelve (12) months thereafter, shall be subjected to a hydrostatic pressure equal to one and one-fourth (1¼) times the maximum working pressure. Boilers rated to carry 50 pounds pressure per square inch, or less, and all types of "Old French" boilers, shall be tested before being put in use, and at least once during each twelve (12) months thereafter, to one and one-half (1½) times their maximum working pressure.

9. Boilers shall be prepared for inspection by cooling down (blanking off connections to adjacent boilers, if necessary), removing all soot and ashes from tubes, heads, shell, furnace, and combustion chamber, removing grate bars from internally fired boilers, and removing the steam gage for testing. Boiler inspectors are not expected to perform any work in connection with replacing grates, handhole, and manhole plates, or other work of similar nature necessary to put the boiler in condition for service. All work necessary to permit inspection will be performed by the force of the division to which it belongs. This force shall also replace all parts taken down for such inspection.

10. The boiler inspector, after applying hydrostatic pressure test, shall thoroughly examine every accessible part of the boiler, both internal and external, and apply a hammer test where it is possible.

11. If a boiler has not been properly cooled down, and otherwise prepared for inspection, the boiler inspector may decline to inspect it, but in this case he must at once report his action and his reasons therefor to the superintendent of the Mechanical Division. He must also state verbally to the employe in charge of the boilers his reasons for refusing to make the inspection.

12. When boilers are being tested in the shops by hydrostatic pressure, the foreman of the shop making the repairs, or a qualified representative, shall personally attend and assist the inspector in his examination.

13. After a boiler has been repaired, it shall be given the hydrostatic test, and shall then be fired up, and the steam pressure raised to not less than the allowed working pressure. While under steam it shall be again carefully inspected for leaks or evidences of straining.

SECTION II—INSPECTION OF INTERIOR OF BOILERS.

14. Every boiler, except boilers on locomotives, shall be given an internal inspection at least once every twelve (12) months about six (6) months after the annual hydrostatic test, or as much oftener as the superintendent of the Mechanical Division considers necessary, and whenever a sufficient number of flues are removed to allow inspection.

15. Whenever flues are removed from a boiler, the foreman in charge of work shall notify the boiler inspection service, so that an internal inspection may be made. After the flues have been removed, the boiler shall be scaled and cleaned thoroughly, where accessible, before notifying the inspector, so that inspection may not be delayed.

16. When making internal inspection, the entire interior of the boiler, where accessible, must be examined for cracks, pitting, and grooving. The edges of plates, laps, seams, and joints, where cracks and defects are likely to develop, and any defects which an external examination may have indicated to exist, must be given an especially careful examination. It must be seen that braces and stays are taut, that pins are properly secured in place, and that each brace, stay, or pin is in position to support its proportion of stress.

17. Any boiler developing cracks in the shell or sheets shall be taken out of service at once, and thoroughly repaired before being reported as in satisfactory condition.

18. Boilers having lap joint longitudinal seams shall be examined with special care to detect grooving and cracks at the edges of seams, and any sheets showing cracks in longitudinal seams shall be condemned for service and not repaired.

SECTION III—INSPECTION OF EXTERIOR OF BOILERS WHILE UNDER STEAM.

19. Every boiler shall be given an external inspection at least once every six (6) months, about three (3) months before and after the annual hydrostatic test, and while the boiler is in service under steam.

20. The boiler inspector shall test the steam gage, and if found defective, shall order it repaired or condemned.

21. The boiler inspector will see that the water glass, gage cocks, water column connections, feed water appliances, and bottom blow-off are free and clear, and in good working order; also, that the safety valve lifts freely from its seat at a pressure not above the maximum allowable working pressure. If the boiler is found to be working in excess of its maximum allowable working pressure, the inspector shall set the safety valve at the proper pressure, and report the circumstances to the superintendent of the Mechanical Division.

22. Fire doors, tube doors, and doors in settings shall be opened to view as far as possible the fire surface, settings, tube ends, blow-off pipe, and fusible plug.

23. In general, the boiler inspector shall fully note the condition of the boiler and its appurtenances, and recommend changes and repairs when necessary.

24. No boiler shall be allowed to remain in service which has one (1) or more fire tubes plugged at both ends of the tube, unless the plugs are securely tied together by means of a rod not less than five-eighths (⅝) inch in diameter, and these tubes must be renewed as soon as possible. The use of plugs in flues of locomotive type boilers should be avoided whenever practicable. In any case, not more than two plugs will be allowed in any one sheet for more than 12 hours if possible to avoid it. If the requirements of the service and the condition of the boiler require the use of more than two plugs for more than 12 consecutive hours, a report on the condition of the boiler and the necessity for continuing it in service must be made promptly by those in charge of it to the head of the department or division having jurisdiction over it, who shall send a copy of this report, with such comment as he may deem desirable, to the superintendent of the Mechanical Divison.

SECTION IV—STAY BOLT TEST.

25. All stay bolts in boilers shall be tested at least once every six (6) months, except those in locomotive boilers, which shall be tested once every forty-five (45) days. Stay bolts must also be tested immediately after every hydrostatic test, regardless of the length of time since they were previously tested.

26. The inspector must tap each bolt from the firebox side, and judge from the sound, or the vibration of the sheet, if any are broken. Unless the boiler can be emptied there must be not less than fifty (50) pounds pressure, and preferably more, which will produce sufficient stress on the stay bolts to cause the separation of the parts of the broken ones. If is preferable, however to make the test when the boiler is empty.

27. All stay bolts having "Tell-tale" holes must, when accessible, be thoroughly cleaned out by drill prior to hydrostatic test, and whenever boiler is in the shop for general repairs.

28. The boiler inspector shall make an accurate report of the location of each imperfect stay bolt, and forward same to the superintendent of the Mechanical Division, attached to his boiler inspection report. The head of the department or division under whom boiler is operating will be notified from the office of the Mechanical Division of all cases where a sufficient number of stay bolts are broken to render the boiler unsafe for service. Immediate action must then be taken to make necessary repairs.

SECTION V—STEAM GAGES.

29. Each boiler shall have at least one pressure gage connected up to the steam space of boiler by a syphon or equivalent device, sufficiently large to fill the gage with water, and in such manner that the steam gage cannot be shut off from the boiler, except by a cock with a T or lever handle, which shall be placed on the pipe near steam gage. All connections between steam gages and boilers must be of brass or other metal that does not rust, and this clause shall be inserted in specifications for all boilers purchased in future. When boilers go through the shops for general overhauling, the steam gage connections shall be changed to brass or other nonrustible metal if not already so made.

30. The dial of the steam gage shall be graduated to not less than one and one-half (1½) and preferably to two (2) times the maximum working pressure of the boiler.

31. Steam gages shall be calibrated by a boiler inspector at least once every three (3) months. All steam gages working on batteries of boilers shall be calibrated at the same time.

32. Each boiler shall be provided with a one-fourth (¼) inch pipe connection for attaching inspector's test gage while boiler is in service, so that the accuracy of boiler steam gage can be ascretained.

SECTION VI—SAFETY VALVES.

33. Each boiler of less than fifty (50) horsepower shall have one or more safety valves. On all boilers hereafter installed, and wherever practicable on boilers now in service, each boiler of fifty (50) horsepower and over shall have two or more safety valves.

34. The minimum size of a direct, spring loaded safety valve shall be determined by calculations made in the Mechanical Division and shall be governed by the pressure allowed, and by the grate area of the boiler, subject to the following conditions:

Condition 1. A single boiler, or two or more boilers connected to a common steam main, and allowed the *same pressure*; the minimum size of safety valve for each boiler shall be governed by the pressure allowed and the grate area of the boiler.

Condition 2. When two or more boilers, which are allowed *different pressures*, are connected to a common steam main, the minimum size of each safety valve shall be governed by the pressure allowed and by the grate area of boiler, and all safety valves *shall be set* at a pressure not exceeding the lowest pressure allowed. The aggregate valve area shall not be less than that required for the aggregate grate area, based on the lowest pressure allowed.

35. Each safety valve shall have a full-sized direct connection to the boiler, and when an escape pipe is used, it shall be full-sized and fitted with an open drain, to prevent water lodging in the upper part of safety valve or escape pipe.

36. When a boiler is fitted with two safety valves on one connection, this connection to the boiler shall have a cross-sectional area equal to or greater than the combined area of the two safety valves. No valve of any description shall be placed between the safety valve and the boiler, nor on the escape pipe between the safety valve and the atmosphere. When an elbow is placed on the safety valve escape pipe, it shall be located close to the safety valve outlet, and the escape pipe shall be securely anchored and supported.

37. Safety valves having either the seat or disc of cast iron shall not be used.

38. Safety valves hereafter installed on boilers shall not exceed five (5) inches in diameter, and shall be of the direct, spring loaded type.

39. Safety valves shall not be removed for any purpose whatever, except for repairs, and then only by properly authorized persons. Whenever a safety valve is changed or set, it shall be immediately reported to the Mechanical Division and a check shall be made of the setting by a boiler inspector.

40. Tampering with, or changing the setting of safety valves, without proper authority, shall be considered sufficient cause for dismissal from the service.

41. Safety valves shall be set by the gage attached to the boiler and shall lift at a pressure not exceeding the maximum allowable working pressure, as fixed by the superintendent of the Mechanical Division. The gage, in all cases, shall be tested before the safety valves are set or any change made in setting.

42. Safety valves shall be checked and reset, if necessary, under steam at least once every three months.

SECTION VII—FUSIBLE PLUGS.

43. Every boiler shall be equipped with one or more fusible plugs of standard design, and no other. All fusible plugs shall be filled with pure Banca tin, and located, as follows:

44. *In horizontal return tubular boilers*—In rear head not less than two (2) inches above the upper row of tubes, measurements to be taken between a line at the upper surface of tubes and the center of plug. The plug must project through the sheet not less than one (1) inch.

45. *In locomotive type or Star water tube boilers*—In the highest part of the crown sheet, and projecting through the sheet not less than one (1) inch.

46. *In vertical fire tube boilers*—In an outside tube, not less than one-third (⅓) the length of the tube above the lower tube sheet, and opposite a handhole; or in the lower tube sheet, and projecting through the sheet not less than one (1) inch. Location in tube is preferred.

47. *In vertical, submerged fire tube boilers*—In the upper tube sheet.

48. ***In water tube boilers, horizontal drums (Babcock and***

Wilcox type)—In the upper drum, not less than six (6) inches above the bottom of drum, over the first pass of the products of combustion, and projecting through the sheet not less than one (1) inch.

49. *In Sterling boilers, standard type*—In the front side of the middle drum, not less than four (4) inches above the bottom of the drum, and projecting through the sheet not less than one (1) inch.

50. *In Sterling boilers, superheater type*—In the front drum, not less than six (6) inches above the bottom of the drum exposed to the products of combustion, and projecting through the sheet not less than one (1) inch.

51. *In water tube boilers, Heine type*—In the front course of the drum, not less than six (6) inches above the bottom of the drum, and projecting through the sheet not less than one (1) inch.

52. *In Scotch marine type boilers*—In combustion chamber top, and projecting through the sheet not less than one (1) inch.

53. *In dry back Scotch boilers*—In rear head, not less than two (2) inches above the upper row of tubes, and projecting through the sheet not less than one (1) inch.

54. *In old French vertical (Galloway and drop tube type) boilers*—In top of firebox, and projecting through the sheet not less than one (1) inch.

55. For other types and new design, fusible plug shall be placed at the lowest water level in the direct path of the products of combustion, as near the primary combustion chamber as possible.

56. Fusible plugs shall be examined every time the boiler is washed out, and if defective shall be renewed.

SECTION VIII—WATER GAGE COCKS AND GLASS.

57. Every boiler shall be equipped with three or more gage cocks, located within the range of the visible length of water glass.

58. Every boiler shall be equipped with at least one water gage glass, the lowest visible part of which shall be above the fusible plug and lowest safe water line. All water glasses shall be supplied with two valves or shut-off cocks, one at the upper, and one at the lower connection to the boiler, and also a drain cock so constructed and located that they can be easily opened up and cleaned by hand.

SECTION IX—WATER COLUMN.

59. The minimum size of pipes connecting the water column of a boiler shall be one (1) inch.

60. The water connection to the water column should be of brass or other metal that does not rust, and this clause shall be inserted in specifications for all boilers purchased in future. In addition, boilers going through the shops for general overhauling shall have water column connections made of brass or other nonrustible metal to conform to the above, if not already so fitted.

61. The steam connections to the water column of a horizontal return tubular boiler shall be taken from the top of the shell, or the upper part of the head. The water connections shall be taken from a point not less than six (6) inches below the center line of shell.

62. No connections other than those to the gage glass shall be placed on pipes connecting water column to boiler.

63. When shut-off valves are placed on the pipes connecting the water column to boiler, these valves shall be of the straight-way type, and shall be locked or sealed in the open position.

SECTION X—BOTTOM BLOW-OFF AND FITTINGS.

64. Each boiler shall have a bottom blow-off pipe fitted with a valve or cock in direct connection with the lowest water space practicable. The minimum size of pipe and fittings shall be one (1) inch, and the maximum size shall be two and one-half (2½) inches. Globe valves should not be used for blow-off, and if any boiler in service is found to be so fitted another type of valve shall be fitted as soon as practicable.

65. When the pressure allowed on a boiler exceeds twenty-five (25) pounds per square inch, the bottom blow-off pipe and fittings from the boiler to the valve or valves, shall be extra heavy.

66. When the pressure allowed on the boiler exceeds one hundred and thirty-five (135) pounds per square inch, the bottom blow-off pipe shall have two (2) valves, or a valve and cock, and such valves, or valve and cock, shall be extra heavy.

SECTION XI—FEED WATER APPLIANCES.

67. Feed water shall not discharge in a boiler in close proximity to riveted joints in shell or furnace sheet.

68. When a pump, inspirator, or injector is required to supply feed water to a boiler of over fifty (50) horsepower, more than one such mechanical device shall be provided.

SECTION XII—STOP VALVES.

69. Each steam outlet from a boiler, except safety valve connection, shall be fitted with a valve located as near the boiler as practicable.

70. On all new boilers hereafter purchased, each steam outlet which is over two (2) inches in diameter, except a safety valve connection, shall be fitted with a stop valve or valves of the outside screw and yoke type, located as near the boiler as practicable. On boilers that are at present fitted with stop valvs of other types, when the same are renewed, they shall be replaced with stop valves of the outside screw and yoke type.

71. The stop valve, or valves, on the main steam pipe of a boiler shall be extra heavy when the pressure allowed exceeds one hundred and thirty-five (135) pounds. The fittings from boiler up to the valves shall be extra heavy, made to the manufacturers' standard for high pressure.

SECTION XIII—WASHING BOILERS.

72. All boilers shall be thoroughly washed out not less frequently than once every fourteen (14) days, excepting boilers using water from condensers, which shall be thoroughly washed out not less frequently than once every thirty (30) days. In special instances, the boiler inspection service may, at its discretion, and upon request of the head of department or division, extend these periods of time.

73. When boilers are washed all handhole plates and washout plugs shall be removed.

74. All gage cocks, water gage glass cocks, and fusible plugs shall be cleaned of scale and sediment whenever the boiler is washed, and if any are found defective, they shall be repaired or renewed.

75. An accurate record of all boiler washouts shall be kept posted adjacent to the boiler, using form PC 542 for this purpose.

76. All fusible plugs shall be examined on both sides at least once in every month of service, and, if defective shall be replaced.

BOILER INSPECTION SERVICE.

RULES GOVERNING THE CARE AND OPERATION OF BOILERS.

77. Immediately upon taking charge of the boiler, ascertain beyond a doubt whether the *water* in the boiler is at the proper level.

78. In case of *low water* with fire in the furnace, do not draw the fire, as this will intensify the heat and make matters worse, but immediately cover the fire with ashes or fresh coal (wet ashes or slack coal preferred), and close the ash doors. If oil is used as fuel, shut off oil supply from burners. *Do not, under any circumstances, turn on the feed water or touch the safety valve. Let all the steam outlets remain as they are until the boiler has cooled off.*

79. Keep the *gage cocks* clean, and try them frequently. See to it that all the connections to the *water glass* and water column are free. Do not entirely depend upon the water glass.

80. The *blow-off valve* must be used at least once in every twenty-four (24) hours that boiler is in service, and at least five (5) inches or two (2) gages of water blown out during said time. This will aid in keeping boiler and blow-off pipe clean. Never open the blow-off valve or cock with a jerk, as it is liable to let go and cause a serious accident. When boilers are equipped with *surface* or *scum cocks*, they must also be used once in every twenty-four (24) hours of service, reducing the water level at least one inch.

81. Try the *safety valves* frequently by carefully raising them from their seats; they sometimes stick, and care should, therefore, be exercised to keep them in good working order. If the safety valve is not blowing freely when the pressure gage indicates the stipulated pressure allowed in the inspection certificate, the cause should be ascertained immediately, and reported to the boiler inspection service. Tampering with or changing safety valves without proper authority may result in discharge from the service.

82. All boilers shall be *washed out* not less frequently than once in every fourteen (14) days or service, excepting boilers using water from condensers, which shall be thoroughly washed out not less frequently than once in every thirty (30) days of service. In special instances, the boiler inspection service may, at its discretion, and upon request of head of department or division, extend these periods of time.

83. *In getting up steam on boilers*—Fire shall be started in ample time, so that it will not be necessary to urge the boiler unduly. If oil is the fuel used, it is very important that steam be raised slowly; that is, no faster than it would be possible with coal as fuel. If this precaution is not observed, serious damage to the boiler is liable to result.

84. *When cutting in* boilers which are operated in battery, care should be taken to see that the pressure on the boiler being cut-in is equal to the one in service and under no conditions shall the valves be opened until the pressure is equalized.

85. When oil is used as fuel, the greatest precaution must be observed before *lighting the fire* to see that the drafts are opened for a sufficient length of time to remove the gases that may accumulate in the setting. Never turn on the fuel supply when starting up or after snapping out of burner without first introducing a lighted torch or burning waste into the furnace. Disregard of these precautions is liable to result in a serious accident.

86. Boilers and their appurtenances must be kept in a clean and efficient condition at all times.

87. A copy of this circular (large size) shall be kept posted in a prominent place in each boiler room, and a copy in pamphlet form shall be given to each fireman.

GEO. W. GOETHALS,
Governor.

Foremen's Orders.

THE PANAMA CANAL,
ACCOUNTING DEPARTMENT,
EMPIRE, C.Z., July 1, 1914.

CIRCULAR No. 54-Revised:
Amendment No. 2:

Effective July 1, 1914, all foremen's orders and invoices will be priced, extended, and totaled by the storehouse or division issuing or transferring the material.

Two copies of foremen's orders covering expendable material and three copies of foremen's orders covering nonexpendable property, accompanied by adding machine tape showing the total value, will be sent to the Auditor daily by each storekeeper.

Advance copies of all invoices will be forwarded to the Auditor daily, as heretofore. As accomplished copies are received the Auditor will stamp the advance copies to show accomplishment and transmit same with an adding machine tape to the proper storekeeper weekly.

H. A. A. SMITH,
Auditor, The Panama Canal.

Additional Panama-Balboa Labor Train.

PANAMA RAILROAD COMPANY,
OFFICE, SUPT. OF RAILROAD TRANSPORTATION,
PANAMA, R. P., July 17, 1914.

TRANSPORTATION BULLETIN No. 29:

To all concerned—Effective at 5.30 a. m., Saturday, July 18, a new time table for the Panama-Balboa labor service will become operative. Effective with this time table an extra labor train will leave Panama at 8 a. m., daily, arriving at Balboa docks at 9.05 a. m. Returning, it will leave Balboa docks at 9.10 a. m., arriving at Panama at 9.25 a. m. This extra labor train is put in service to accommodate the passengers arriving from Colon on train No. 3 at 8.35 a. m.

F. R. BLUNT,
Superintendent of Railroad Transportation.

Misdirected Letters.

ANCON, C. Z., July 20, 1914.

The following insufficiently addressed letters originating in the United States and its possessions, have been received in the office of the Director of Posts, and may be procured upon the request of the addressees:

Barnard, Marrian
Bullard, A.
Burlington, Albert L.
Clowe, V.
Morton, W. H.
McCarthy, Lawrence
Rudds, Felix
Williams, J. A.

LETTERS UNCALLED FOR JULY 15.

Arbogast, Joseph
Antonio, Mongiu
Anderson, Mrs. R.
Barchelder, Clarence W.
Banton, Wayne
Baucom, W. H.
Becksell, Jesse R.
Barrow, E. E.
Breckenridge, Ethelbert L. D.
Clarkson, W. J.
Clearwater, Walter
Conner, Evelyn Saxton
Farman, Harry
Gaynor, P. A.
Grow, Mrs. Harry
Giovanni, Faedda
Hartwig, A. H.
Hartshorne, E. C.
Hern, William O.
Heslip, Wm. J.
Jones, L. T.
Joyner, Charles K.
Kellar, John J.
Mahew, Harry C.
Maloone, Mrs. Meselita
McCauley, Wm. F.
McGilroy, James
McMillan, Mrs. Ella
McCarron, Mrs. T.
McHone, Chas. E.
Miles, John
Patton, Alma
Pitcock, R. L.
Sanders, R. M.
Saphro, Mrs. R.
Schieldeuer, Charles
Shartt, Frank R.
Smith, M. W.
Street, William A.
Stiff, W. O.
Stoffell, John
Stewart, E. L.
Teeling, George A. (2)
Van Devander, Fred
Watson, Simeon
Wieler, Richard
Waries, Witehing

Proposals for Excavation.

OFFICE OF CHIEF QUARTERMASTER,
CULEBRA, C. Z., JULY 15, 1914.

Sealed proposals will be received at this office until 3 p m., Saturday, August 10, 1914, and then opened, for the excavation involved in laying a 30-inch pipeline between Gamboa and Miraflores. Specifications can be secured upon application to this office. Folio containing blueprints referred to in specifications may be obtained at this office upon placing a cash deposit of Five dollars ($5) for the safe return of the prints. Proposals should be marked "Proposal for excavation," and addressed to Capt. R. E. Wood, Chief Quartermaster, Culebra, C. Z.

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The La Boca Cricket Club has been granted the use of a plot of ground at the La Boca silver settlement for a cricket field.

COMMISSARY DEPARTMENT.

Trial Shipments of Special Rolls.

THE PANAMA CANAL,
SUPPLY DEPARTMENT,
CRISTOBAL, C. Z., July 17, 1914.

CIRCULAR No. 590:

Effective Wednesday July 22, we will make trial shipments of special rolls at one cent each, leaving Colon at 4.30 p. m. Please advise your customers to that effect and send your orders for such rolls to this office as early as possible for deliveries beginning on the Wednesday afternoon train.

BENJ. L. JACOBSON,
Depot Commissary.

Raisin Bread to be Baked Daily.

THE PANAMA CANAL,
SUPPLY DEPARTMENT,
CRISTOBAL, C. Z., July 14, 1914.

CIRCULAR No. 508;

Effective Monday, July 20, raisin bread will be baked in the bakery of this depot daily. All standing orders for raisin bread should be revised, effective as of that date.

BENJ. L. JACOBSON,
Depot Commissary.

Commissary Hours.

The commissary stores are open during the following hours: From 8 a. m., to 12.30 p. m., and 3 to 6.30 p. m.

The gold departments of the Cristobal store will open at 2 p. m., on Saturdays and sailing days of Panama railroad vessels.

In rush periods, all stores will remain open until 7 p. m.

Cold Storage Prices.

Retail prices of cold storage provisions for the week beginning July 23, 1914:

	Price.
FRESH MEATS	
Mutton—Stewing, per pound	8
Shoulder, trimmed, per pound	12
Leg (8 to 10 pounds), per pound	19
Cutlets, per pound	20
Short cut chops, per pound,	23
Shoulder, chops, per pound	14
Lamb—Stewing, per pound	10
Shoulder trimmed, per pound	15
Leg (5 to 8 pounds), per pound	24
Chops, per pound	29
Shoulder, chops, per pound	18
Cutlets, per pound	29
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	18
Chops, per pound	27
Loin, for roasting, per pound	27
Cutlets, per pound	31
Beef—Suet, per pound	3
Soup, per pound	7
Stew, per pound	11
Plate, per pound	12
Corned, No. 1, per pound	18
Corned, No. 2, per pound	15
Chuck roast, 3 lbs., and over, special, per pound	12
Chuck roast, 3 lbs., and over, choice, per pound	15
Rib roast, second cut (not under 3½ pounds), special, per pound	16
Rib roast, second cut (not under 3½ pounds), choice, per pound	21
Rib roast, first cut (not under 3 pounds), special, per pound	19
Rib roast, first cut (not under 3 pounds), choice, per pound	24
Pot roast, special, per pound	20
choice, per pound	25
Rump roast, special, per pound	20
choice, per pound	25
Porterhouse roast, special, per pound	22
choice, per pound	27
Steak, chuck, special, per pound	13
choice, per pound	16
Round, bottom, special, per pound	13
choice, per pound	17
Round, top, special, per pound	15
choice, per pound	19
Rib, special, per pound	20
choice, per pound	24
Sirloin, special, per pound	20
Sirloin, choice, per pound	25
Sirloin, choice cut, special, per pound	23
Sirloin, choice cut, choice, per pound	28
Rump, special, per pound	20
choice, per pound	25
Porterhouse (not less than 1½ pounds), special, per pound	23
Porterhouse (not less than 1½ pounds) choice, per pound	30
Porterhouse, short, Delmonico, special, per pound	20
Porterhouse, short, Delmonico, choice, per pound	25
Tenderloin, Western, special, per pound	35
Tenderloin, Western, choice, per pound	40
	Price.
Pork—Hams, fresh, per pound	§23
Shoulders, fresh, per pound	§19
Spare ribs, per pound	18
Loin, chops or roast, per pound	20
Backbones, per pound	15
Pigs' feet, each	7
Pigs' heads, whole	83
Pigs' heads, ½-head	42
Sausage, home made, per pound	23
MISCELLANEOUS.	
Livers—Beef, per pound	†12
Calf, each	*62
Half, each	*31
Steak, Hamburger, package	17
Hamburger, 20-pound containers, per pound	14
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	†11
Pure pork, 1-lb. cartons, per pound	17
Sweetbread, beef, per pound	26
Eggs, fresh, per dozen	*35
per ½-dozen	*18
Bluefish, per pound	9
Halibut, fresh, per pound	5
Salmon, per pound	6
Yeast, per pound	31
Yeast, per cake	2
POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, per pound	†28
Fancy roasting, corn fed, per pound.	†25
Fowls, per pound	25
Ducks, Western, per pound	†22
Capons, per pound	33
Broilers, milk fed, per pound	†25
Broilers, corn fed, per pound	25
Turkeys, per pound	†29
Squabs, each	42
Fowls, light, per pound	†20
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30
CURED AND PICKLED MEATS.	
Ham—Real York and Cumberland, per pound	43
Genuine Westphalia, per pound	50
Sugar cured, per pound	21
Sliced, per pound	28
Half, for boiling, per pound	23
Boiled, per pound	30
Hocks, per pound	09
Butt end, about 1½ pounds to butt, per pound	11
Bacon—Breakfast, whole piece, per pound	26
Sliced, per pound	27
Ham, lunch, per pound	40
Port, salt, family, per pound	14
Ox tongues, each	1.35
Pigs' feet, per pound	7
Tongues, per pound	19
DAIRY PRODUCTS.	
Butter—Creamery, special, per pound	39
Sheffield Farms, extra fancy, per lb	54
Cheese—Philadelphia cream, cake	9
Roquefort, per pound	35
Young America, per pound	22
Swiss, per pound	27
Edam, each	72
Edam, tin	29
Parmesan, per pound	38
Gouda, per pound	†26
Snappy, per cake	9
Milk (certified), bottle	**24
Fer-mil-lac, bottle	**25
Ice cream, quart	‡25
½-gallon	‡50
Cream, Sheffield Farms, quart	**33
VEGETABLES.	
Beans, string, per pound	7
Beans, wax, per pound	8
Beets, per pound	4
Cabbage, per pound	*3
Carrots, per pound	4
Celery, per head	†8
Cucumbers, per pound	†4
Eggplant, per pound	6
Horseradish, per pound	17
Lettuce, per pound	9
Onions, per pound	7
Parsley, per bunch	†3
Peas, green, per pound	*9
Peppers, per pound	8
Potatoes, white, per pound	3
sweet, tropical, per pound	2
sweet, American, per pound	*3½
Rhubarb, per pound	2½
Spinach, per pound	*7
Squash, per pound	4
Tomatoes, per pound	†5
Turnips, per pound	3
Kale, per pound	5
Yams—Tropical, per pound	3
FRUITS.	
Apples, each	2½
Canteloupes, each	6
Cherries, per pound	*28
Grape fruit—American, each	6
Tropical, each	4½
Lemons, per dozen	19
Limes, per 100	56
Oranges—American, each	2½
Jamaican, per dozen	18
Peaches, per pound	†6
	Price
Plums per pound	†7
Watermelons, each	43

* Indicates advance from preceding list.

† Indicates reduction from preceding list.

**Indicates 5 cents allowed for return of bottle.

‡Sold only from commissaries; no orders taken for delivery.

§Sold only from cold storage and not from commissaries.

Porterhouse roast includes any cut of hind quarter down to rump, and will not be cut if orders for steak will consume the supply.

Tenderloins on porterhouse will not be cut and sold separately.

Not less than ½ ham or ½ shoulders of fresh pork will be sold.

Daily cold storage orders will be filed and kept for at least one month.

Rainfall, July 1 to July 18, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	Ins.		Ins.
Ancon	.55	12	1.28
Balboa	.48	3	1.26
*Miraflores	.63	5	1.19
Pedro Miguel	1.15	6	2.95
Rio Grande	.89	4	2.05
Central Section—			
Culebra	1 02	15	2.14
*Camacho	.65	4	1.98
Empire	1.96	15	3.18
Gamboa	.62	4	1.64
*Juan Mina	.91	17	3.67
Alhajuela	1.10	15	3.27
*El Vigia	2.35	4	5.36
Frijoles	.39	4	1.70
Trinidad	......	......	......
*Monte Lirio	.53	7	1.34
Atlantic Section—			
Gatun	.53	16	1.90
*Brazos Brook	2.40	12	4.95
Colon	1.83	16	7.43

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight.

Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes for the week ending midnight, Saturday, July 18, 1914. All heights are in feet above mean sealevel:

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela	Gamboa.	Gatun Lake.	Miraflores Lake.
Sun., July 12	125.80	92.38	84.86	84.91	53.72
Mon., July 13	126.20	92.70	84.91	84.91	53.82
Tues., July 14	127.40	93.40	84.90	84.91	53.75
Wed., July 15	128.20	94.15	84.97	84.98	53.70
Thurs., July 16	125.70	92.42	84.88	84.95	53.75
Fri., July 17	125.50	92.11	84.87	84.96	53.68
Sat., July 18	125.40	91.90	84.80	84.90	53.61
Height of low water to nearest foot	125.0	91.0			

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending August 1, 1914:

DATE.	Low	High	Low	High
	A.M.	A.M.	P.M.	P.M.
July 26	......	5.46	12.05	6.04
July 27	12.24	6.29	12.49	6.47
July 28	1.08	7.13	1.36	7.33
July 29	1.54	7.59	2.25	8.22
July 30	2.44	8.49	3.20	9.18
July 31	3.41	9.45	4.20	10.23
Aug. 1	4.47	10.50	5.27	11.40

75th meridian time

Hotel Aspinwall Launch Service.

The launch *Louise* will sail from the dredge landing at Balboa for the Hotel Aspinwall on Taboga Island at 9.10 a. m., on Monday, Thursday, and Saturday of each week. The time of sailing permits connection to be made with train No. 3, which arrives at Panama from Colon at 8.35 a. m., daily.

LOST—Watch fob, with metal checks I. C. C. 188169 and Panama Canal 47, on Saturday afternoon, July 18, along the pathway on the west bank of the Canal between Culebra and Paraiso. Finder please return to the Auditor's office, Empire, C. Z.

CANAL CLUBHOUSES.

Activities of the Young Men's Christian Association.

BALBOA.

F. C. Sheehan won the handicap pool tournament, which closed July 15, with S. T. Smith second, and J. Dubendorf third. There were 19 men entered. Sheehan won with a percentage of .923.

R. Watson is leading in the checker tournament, which was started Friday night, July 17, with six games won and none lost. James Burns is second with eight games won and four lost. A match game between the the Culebra checker club and the Balboa club will be arranged shortly, the first of the series to be played at Balboa.

The library books and phonograph records, formerly at the Empire clubhouse, have been transferred to the Balboa clubhouse.

COROZAL.

The following are the high scores made in bowling on the local alleys during the past week: *Tenpins*—Thirsk, 247, 245, 207, 205, 201; Terittier, 205, 205; Parkis, 200. *Duckpins*—Harper, 104, 102; Davis, 104; Ryan, 100.

PEDRO MIGUEL.

A dual athletic meet was held on Wednesday, July 15, at Pedro Miguel, between the Corozal and Pedro Miguel boys. The boys were divided into two classes, those under 90 pounds, and those over 90 pounds. The events consisted of a 60-yard dash, running broad jump, running high jump, potato race, and relay race for the smaller boys, the 75-yard dash replacing the 60-yard dash of the smaller boys, with the running broad and high jumps, and potato and relay races for the larger boys. The Corozal team won with a total score of 43½ points, Pedro Miguel making 36½ points. This is the first of a series of three meets that will be held between the two towns. The next meet will be held in a few weeks at Corozal.

The high scores in bowling made during the past week were: *Men's duckpins*—Davis, 114; Piper, 115. *Men's tenpins*—Farrar, 209. *Rubber banded duckpins for ladies*—Mrs. Landers, 111.

E. C. Eggleston of Pedro Miguel and Harry Duey of Corozal issue a challenge to any two players on the Isthmus for a match game of billiards.

Under the auspices of the ladies of Pedro Miguel and Paraiso a chicken dinner is being prepared for all the bachelors of Pedro Miguel and Paraiso for Friday evening, July 31, at 7 o'clock. A committee of bachelors is preparing a program of songs, instrumental and vocal solos, and a toast for the occasion.

Under the leadership of Mr. Ira W. Dye, the boy scouts were organized on Friday evening. Two groups of scouts will be formed, one of the small boys, and one of boys of 12 years and over.

CULEBRA.

There will be a "Smoker" for the men at the schoolhouse on Thursday evening, July 23. This will probably be the last entertainment of this kind under the auspices of the Culebra Y. M. C. A., as the schoolhouse will be dismantled about August 1.

GATUN.

The farewell reception given Companies A and C on Tuesday, July 14, was attended by about 400 people. In addition to the band concert and basketball game, the following program was carried out: Piano solo, Corporal Foster; soprano solo, Mrs. MacFarlane; recitation, Maud Cheatham; Irish melody, G. C. Fitzgerald; quartet, "Harmonious four;" monologue, Corporal Baker; baritone solo, Chas. Duey; tenor solo, Private Conley; Kipling recitation, Private Magee; trumpet calls, Musician Rassiz; cornet imitation, Private Stamm; Scotch songs, Mrs. McPherson; German songs, Mrs. Weiss; Dutch comedy, Private Ertle; tenor solo, Corporal Foster.

John Kuller has been appointed day office assistant in the secretary's office.

Corporal Foster and Musician Kenie gave piano and drum music at the special motion picture entertainment on Saturday, July 18.

The gymnasium classes will be held regularly twice a week from now on.

CRISTOBAL.

The "Doves" were defeated at indoor baseball by the score of 10 to 8 on Friday, July 17.

Mr. and Mrs. Sloan won the married folks bowling tournament on Monday, July 13. Scores follow: Mr. and Mrs. Sloan, 488; Mr. and Mrs. Bevington, 478; Mr. and Mrs. Grove, 477; Mr. and Mrs. Buser, 465; Mr. and Mrs. Cotton, 453.

Messrs. A. Gibson, Collins, Petterson, Burns, and Buser, representing the dry dock, took two out of three games from Messrs. Russell, Pinney, Strong, Barte, and Garrett, representing the "Penpushers." The scores were: Dry dock, 849, 843, 772; "Penpushers." 799, 775, 937.

High duckpin scores for the week were, as follows: Sloan, 106; Mrs. Sloan, 101; A. Gibson, 100; Garrett, 100.

High tenpin scores for the week were: Russell, 238; Barte, 235; Petterson, 204; Collins, 200.

A tenpin ragtime tournament is now in progress.

The regular monthly single folks' bowling tournament will be held on Monday, July 27.

Dr. Henry Pittier, connected with the Smithsonian Institution, and at present on the Isthmus doing experimental work for the Panamanian Government, will given an illustrated lecture on the forests of Panama, on Thursday, July 30, under the auspices of the discussion club. Dr. Pittier has spent many years in the tropics, and is considered an authority on tropical dendrology. This is the monthly open meeting of the discussion club, and the general public is invited.

The 6-reel feature film, "The last days of Pompeii," will be shown on Friday night, July 24. The usual prices for moving picture shows will prevail.

Sixteen members of the boys' department enjoyed an outing over Cucaracha slide, on Friday, July 17. Mr. W. G. Comber, resident engineer of the Dredging Division, had a launch meet the boys at Paraiso and land them at the base of the slide. The ascent proved very rough and the last 100 yards very steep affording the boys an interesting experience. On the return trip they found the hydraulic pipeline good walking, and took the train at New Culebra

Supplies for the Canal.

The following steamers, with supplies for The Panama Canal and the Panama railroad, arrived at the ports of Colon, Cristobal, and Balboa during the week ending July 11:

Brighton, July 6, from Mobile, with 198,373 board feet yellow pine lumber, for stock.

Prinz Sigismund, July 6, from New York, with tracings, for Division of Erection.

Ancon, July 6, from New York, with 482 crates roofing tile, 4,000 bags C. W. cement, 6,125 pieces hollow tile, for permanent buildings; four towing locomotives, for Division of Erection; 590 bundles conduit, for Electrical Division; 40 bundles iron pipe, for Panama Railroad Company; 121,991 bags Portland cement, 100 reels sash cord, 300 rolls building paper, for stock; and a miscellaneous cargo, the whole consisting of 133,684 packages, weighing approximately 6,660 tons.

Thames, (tug), July 8, with floating crane *Ajax*, for Division of Terminal Construction.

Cartago, July 8, from New Orleans, with 44 dredge dipper teeth, for Dredging Division; 487 barrels brick, for Division of Terminal Construction; 33,308 board feet yellow pine lumber, 10,843 board feet oak lumber, for Mechanical Division; 4,615 board feet yellow pine lumber, 298 bales straw, for stock.

Almirante, July 8, from New York, with 13 cases lighting material, 27 packages structural steel, for Fortification Division; 13 boxes steel plates, for Division of Erection.

Abangarez, July 9, for New Orleans, with 39 reels lead cable, for Panama Railroad Company; 12,809 board feet oak lumber, for Mechanical Division.

Damarà, July 9, from Portland, with five spud timbers (Oregon pine), for Dredging Division; 10,000 board feet redwood lumber, 3,600 board feet redwood lumber, for permanent buildings; 571,305 board feet Douglas fir lumber, for stock.

Droning Olga, July 10, from Mobile, with 410 pieces creosoted piling, for Fortification Division; 5,208 board feet yellow pine lumber, for Dredging Division; 22,880 board feet oak lumber, 29,768 lineal feet yellow pine lumber, 120 bags dairy feed, 28 barrels fire clay, for stock.

Calamares, July 10, from New York, with 95 pieces angles, 100 pieces channels, 38 boxes writing ink, for stock.

Advance, July 11, from New York, with nine packages dumb waiter material, 172 rolls iron wire cloth, 33 cases woodwork, 33 boxes marble, 4,000 bags C. W. cement, 100 barrels plaster, for permanent buildings; 25 packages signal material, for Panama Railroad Company; 12 cases selfwinding clocks, for Mechanical Division; 3,825 board feet maple lumber, 400 garbage cans, 13 cases paper drinking cups, 25 packages plumbing material, 95 drums lubricating oil, 51,543 pieces clay conduit, for stock; and a miscellaneous cargo, the whole consisting of 56,747 packages, weighing approximately 666 tons.

Administrator's Sale.

ANCON, C. Z., July 18, 1914.

The personal effects of Duncan S. May, deceased, will be sold to the highest bidder. These effects consist of a suitcase containing clothing, two diamond rings and two gold nuggets, and may be seen at the Executive Office, Ancon. Bids upon the whole lot, or separate pieces, will be accepted up to the close of business on August 5. The administrator reserves the right to reject all bids.

JOHN K. BAXTER,
Administrator of Estates.

MOVEMENTS OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

		Sails.	*Arrives.*
NEW YORK TO CRISTOBAL.			
*Allianca	P. R. R.	July 16	July 22
*Colon	P. R. R.	July 22	July 28
*Advance	P. R. R.	July 28	Aug. 4
CRISTOBAL TO NEW YORK.			
†Panama	P. R. R.	July 22	July 28
†Allianca	P. R. R.	July 28	Aug. 3
†Colon	P. R. R.	Aug. 3	Aug. 9
†Advance	P. R. R.	Aug. 10	Aug. 17
NEW YORK TO COLON.			
Metapan	U. F. C.	July 15	July 22
*Tenadores	U. F. C.	July 19	July 24
Trent	R. M.	July 18	July 26
Prinz August Wilhelm	H.-A.	July 18	July 27
Zacapa	U. F. C.	July 22	July 29
*Calamares	U. F. C.	July 25	July 31
Prinz Sigismund	H.-A.	July 25	Aug. 4
Almirante	U. F. C.	July 29	Aug. 5
*Pastores	U. F. C.	Aug. 1	Aug. 7
Orotava	R. M.	Aug. 1	Aug. 9
Prinz Joachim	H.-A.	Aug. 1	Aug. 10
*Santa Marta	U. F. C.	Aug. 5	Aug. 12
*Tenadores	U. F. C.	Aug. 8	Aug. 14
Prinz Eitel Friedrich	H.-A.	Aug. 8	Aug. 18
*Metapan	U. F. C.	Aug. 12	Aug 19
Calamares	U. F. C.	Aug. 15	Aug 21
Danube	R. M.	Aug. 15	Aug. 23
Pr. August Wilhelm	H.-A.	Aug. 15	Aug. 24
*Zacapa	U. F. C.	Aug. 19	Aug. 26
*Calamares	U. F. C.	Aug. 22	Aug. 28
*Almirante	U. F. C.	Aug. 26	Sept. 2
*Tenadores	U. F. C.	Aug. 29	Sept. 4
Tagus	R. M.	Aug. 29	Sept. 6
*Santa Marta	U. F. C.	Sept. 2	Sept. 9
*Calamares	U. F. C.	Sept. 5	Sept. 11
COLON TO NEW YORK.			
Pastores	U. F. C.	July 22	July 28
Santa Marta	U. F. C.	July 23	July 30
Prinz Eitel Friedrich	H.-A.	July 26	Aug. 4
†Tenadores	U. F. C.	July 29	Aug. 4
Metapan	U. F. C.	July 30	Aug. 6
Prinz August Wilhelm	H.-A.	Aug. 4	Aug. 12
Danube	R. M.	Aug. 4	Aug. 12
†Calamares	U. F. C.	Aug. 5	Aug. 11
Zacapa	U. F. C.	Aug. 6	Aug. 13
Prinz Sigismund	H.-A.	Aug. 9	Aug. 18
†Pastores	U. F. C.	Aug. 12	Aug. 18
Almirante	U. F. C.	Aug. 13	Aug. 20
Tagus	R. M.	Aug. 18	Aug. 26
Prinz Joachim	H.-A.	Aug. 18	Aug. 26
†Tenadores	U. F. C.	Aug. 19	Aug. 25
Santa Marta	U. F. C.	Aug. 20	Aug. 27
Prinz Eitel Friedrich	H.-A.	Aug. 23	Sept. 1
†Calamares	U. F. C.	Aug. 26	Sept. 1
Metapan	U. F. C.	Aug. 27	Sept. 3
Oruba	R. M.	Sept. 1	Sept. 9
Prinz August Wilhelm	H.-A.	Sept. 1	Sept. 9
NEW ORLEANS TO COLON.			
*Turrialba	U. F. C.	July 15	July 20
Cartago	U. F. C.	July 18	July 25
*Abangarez	U. F. C.	July 22	July 27
Heredia	U. F. C.	July 25	Aug. 1
Parismina	U. F. C.	July 29	Aug. 5
*Atenas	U. F. C.	Aug. 1	Aug. 6
COLON TO NEW ORLEANS.			
Parismina	U. F. C.	July 23	July 28
‡Turrialba	U. F. C.	July 23	July 30
Cartago	U. F. C.	July 30	Aug. 4
‡Abangarez	U. F. C.	July 30	Aug. 6
Heredia	U. F. C.	Aug. 6	Aug. 11
Parismina	U. F. C.	Aug. 6	Aug. 13

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Piers 8, 9, and 11, Cristobal, at 3 p. m.

Royal Mail steamers leave for New York on alternate Tuesdays at 10 a. m.

Movements of Vessels at Port of Balboa.

The arrivals and departures of steamships at the port of Balboa during the week ending at noon July 18, were, as follows:

Arrivals—July 11, *Santa Catalina*, from San Francisco; July 12, *Barracouta*, from San Francisco; July 13, *Quilpue*, from Guayaquil; July 14, *Palena*, from Valparaiso; July 15, *Panama*, from Panama; *Pachitea*, from Callao.

Departures—July 11, *Guatemala*, to Guayaquil; July 13, *Manavi*, to Guayaquil; *Huallaga*, to Callao. *Pennsylvania*, to San Francisco; July 16, *Nebraskan*, to Salina Cruz, *Panama*, to Panama; July 17, *San Juan*, to San Francisco; July 18, *Salvador*, to Salina Cruz.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, JULY 29, 1914. No. 49.

The Canal Record

Official publication of The Panama Canal.

The Canal Record is published weekly free of charge, one copy each, to all employes of The Panama Canal and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Opening of the Canal to Traffic.

The Secretary of War has announced that The Panama Canal will be opened to traffic on Saturday, August 15, to vessels drawing not to exceed 30 feet of water. This stipulation is made, because of the conditions at Cucaracha slide, which, although greatly improved, would not admit of the passage of vessels with absolute safety drawing a greater depth of water. This restriction, however, probably does not affect any vessel now using the Panama route regularly, either in the Atlantic or Pacific.

Arrival of Pontoon for Second 250-Ton Floating Crane.

The pontoon for the 250-ton floating crane *Hercules* arrived at Colon on Thursday, July 23, in tow of the tug *Schelde*, of the International Towing Company, of Rotterdam. The tow left Emden, Germany, on May 30, and was 56 days on the way, as compared with 74 days for the *Ajax*, which was considerably overdue at the time of its arrival.

The *Hercules* was towed to Dock 14, Cristobal, and moored alongside, in the rear of the *Ajax*. The forces of the contractor are engaged in completing the superstructure erection of both cranes. The crosshead of the *Ajax* was hoisted into place on Wednesday, July 22, and the supplementary work on the spindles is in progress. The work of jib erection, on the east backfill of the middle level at Gatun Locks, is nearing completion.

Weather Observatory at New Administration Building.

Clearing and excavation are in progress on top of the spur of Ancon Hill just south of that on which the new Administration Building stands and north of the former cemetery, for the erection of an 80-foot steel tower on which will be mounted an anemometer, an anemoscope, and a sunshine-recording machine. The tower will rest on concrete footings, will be 17 feet wide at the base, and will be selfsupporting, with a ladder on one side.

It is proposed to have the equipment to be installed on this tower supplant that on the timber tower in Ancon, and to transfer the Ancon observatory to the Administration Building. A special room for the seismographs, with solid concrete insulated piers to support the machines, has been fitted up in the basement of the building, at the northwest corner.

Widening Channel to Cristobal Docks.

Authority has been given for additional dredging at the juncture of the Atlantic entrance section of the Canal with the channel leading to the Cristobal docks, in order that large vessels may make the turn with greater speed and safety. The present channel leading to the docks is 600 feet wide throughout its length of 2,100 feet, and joins the 500-foot Canal channel at right angles. The axis of the Canal at this point lies due north and south. The juncture will be widened by dredging away a triangular space on the northeast corner (on the port bow of vessels coming into the docks), for a distance of 660 feet along each channel. It will allow a large ship to swing into the dock channel without approaching too close to the side of either channel.

The widening will be carried to 41 feet below mean sealevel, the proposed depth of the Canal and dock channels, and will require the removal of approximately 10,000 cubic yards of mud and earth. The excavation will be done by the seagoing suction dredge *Caribbean*, which is now on the Atlantic side, engaged in the maintenance of channel.

Removing the "Teredo."

It having been found impracticable to raise the drill barge *Teredo* entire, it was decided to cut it to pieces. This is being effected by the method of using old lengths of condemned fire hose, filled with dynamite, and placed along the line at which it is desired to direct the force of the explosion. This makes a fairly clean cut, and the sections sheared off are raised by the wrecking barges, assisted by the dipper dredge *Paraiso*. The first large section was lifted out on Monday, July 27.

The *Teredo* was purchased on April 20, 1908, from the Maryland Steel Company of Sparrows Point, Md., for $35,727. It was received, knocked down, on February 23, 1909, and reerected at the Balboa shipways; the total cost of the vessel, erected for service, was $46,902. The barge was of steel, 112 feet long by 36 feet in the beam, and eight feet deep. The maximum draft of the vessel was five feet. It was equipped with four 8 by 8-inch engines, with the necessary boilers, to operate the spuds, and with six Ingersoll-Rand "H-64" rock drills, with 5½-inch diameter cylinders, and with rails for the drill frames to slide on.

A coroner's jury, consisting of Charles Rose, Dr. H. C. Clark, and C. F. Quinby, called to investigate the explosion, has held several meetings to identify the recovered bodies, and on Wednesday afternoon, July 29, held a session to enter more fully into the causes of the explosion.

Improved Accommodations at Colon Detention Station.

The 3-story frame building, situated in the east end of the Colon Hospital grounds, formerly occupied by the nurses, has been turned over to the quarantine service for use as a detention station until such time as permanent facilities are provided. The old detention station will continue to be used for the accommodation of steerage passengers, but all of the first-class passengers will be housed in the newly acquired building, which contains 40 rooms, in addition to a large dining room. A temporary kitchen was added to the building last week, and all of the cooking, both for the first and second-class passengers, will be done there. The food for the steerage passengers will be taken to them from the kitchen at each meal. The grounds around the new quarters are well shaded; there are benches and a small covered pavilion, so that the guests are able to spend part of their period of waiting in the open if they choose.

Cruise of a Whaler.

The steamship *Hidalgo*, which arrived at the port of Balboa on July 20, and cleared on July 22 with a cargo of stores, is one of three tenders connected with a large Norwegian whaling vessel now on cruise in the South Pacific Ocean, and reported at present about 300 miles south of Panama City. The whales are captured from the tenders and towed by them to the principal vessel, which is equipped with complete apparatus for flensing the whales, rendering the blubber, and refining the oil, and is thus able to discharge the refuse portions overboard, and load with only the most valuable products. The crew of the *Hidalgo* reported that it is the expectation of the fleet to set sail for Norway with a full cargo about the first of September.

Canal Excavation in June.

The grand total of Canal excavation to July 1, 1914 was 223,108,369 cubic yards, leaving 9,244,631 cubic yards remaining to be excavated, according to the revised estimate of July 1, 1913.

The total excavation in June was 1,167,870 cubic yards, as compared with 1,115,412 cubic yards in May. The output of the dredges constituted the greater part of the amount excavated, and more than one-half of the total was taken out in the Culebra Cut section, principally at Cucaracha slide. The dry excavation during the month was confined to the work of steamshovels on the banks of Culebra Cut prior to the suspension of operations there on June 8, and dry dock excavation at the Balboa terminals. The hydraulic operations at Gold Hill resulted in the removal of 103,875 cubic yards.

No concrete was placed in the locks, dams, or spillways during June, and no additional fill was made in dams.

The detailed figures of excavation, by sections, follow:

ATLANTIC SECTION.

LOCALITY.	"Work" Excavation.	"Plant" Excavation.	Total Excavation.
Dry excavation—	*Cu. Yds.*	*Cu. Yds.*	*Cu. Yds.*
Locks, dam and spillway	....	....	....
Mindi	....	....	....
Terminal	....	....	....
Total	....	....	....
Wet excavation—			
Atlantic entrance	100,982	....	100,982
Locks, dam and spillway	....	....	....
Terminal, Cristobal C.P.	18,106	....	18,106
Total	119,088	....	119,088
Total wet excavation	119,088	....	119,088

CENTRAL SECTION.

LOCALITY.	"Work" Excavation.	"Plant" Excavation.	Total Excavation.
Dry excavation—			
Culebra Cut	20,850	....	20,850
Total dry	20,850	....	20,850
Wet excavation—			
Hydraulic	103,875	....	103,875
Dredging	530,003	....	530,003
Total wet	633,878	....	633,878
Total wet and dry excavation	654,728	....	654,728

PACIFIC SECTION

LOCALITY.	"Work" Excavation.	"Plant" Excavation.	Total Excavation.
Dry excavation—			
Locks, dams and spillways	....	....	....
Terminal	84,663	....	84,663
Rio Grande Diversion	....	....	....
Total	84,663	....	84,663
Wet excavation—			
Pacific entrance	107,797	....	107,797
Miraflores Locks	....	....	....
Diversions	....	....	....
Terminal	201,594	....	201,594
Total	309,391	....	309,391
Total wet and dry excavation	394,054	....	394,054

TOTAL CANAL EXCAVATION.

Dry excavation	105,513	....	105,513
Wet excavation	1,062,357	....	1,062,357
Total	1,167,870	....	1,167,870

Mean rainfall along Canal (nine stations), 11.66 inches.

◆

Obituary.

The funeral services of David Kett and James F. Smith, two of the victims of the premature explosion of dynamite at Cucaracha slide on July 20, were held at St. Luke's Hospital chapel, Ancon, on Sunday morning, July 26, under the auspices of the Order of Red Men. Mr. Smith was also a member of the Spanish War Veterans, and a number of the members of the local camps was present at the services. He was buried in the Red Men's plot at Mount Hope cemetery. The bodies of David Kett and Joseph W. Jones will be shipped to the United States for interment, in charge of Mrs. Kett, on August 3. The body of Charles Sackett, the fourth of the American victims of the explosion, was found on Saturday, July 25, in the drill frame of the *Teredo*. It was buried the same day in the cemetery at Corozal.

David Kett, the master of the *Teredo*, was a naturalized American, born at Amherstburg, Ontario, Canada, in 1876. He was appointed to the Canal Service on January 10, 1910, and was assigned to duty on the *Teredo*, where he had been continuously up to the time of his death. Prior to coming here, he was in the employ at various times of the Dunbar Dredging Company of Sault Ste. Marie, Mich., Buffalo Dredging Company of Buffalo, and M. Sullivan, dredging contractor, of Detroit. He is survived by his wife and two children, who have been living at East Balboa.

Joseph W. Jones, a brother-in-law of Kett, was born at Houghton, Mich., in 1874. He entered the Canal Service as a machinist in the Gorgona shops of the Mechanical Division on April 25, 1911; was transferred to the old Pacific Division, as a steam engineer, on August 27, 1912, and assigned to duty on the *Teredo*. Prior to coming to the Isthmus, he was a machinist at various times for a number of Milwaukee firms. He is survived by his wife, and three children, a son and two daughters, who live at No. 729 Bartlett avenue, Milwaukee, Wis.

James F. Smith was born in New York City, in 1867. He entered the Canal Service, as a blacksmith in the old Pacific Division, on July 22, 1909, and was assigned to work on the *Teredo* on April 20, 1912. Prior to coming here, he followed his vocation in New Jersey and New York, having been for a time at the Brooklyn Navy Yard. During the Spanish-American War, he was a corporal in Company I, Fourth New Jersey Volunteers. His wife and two children, who live in Balboa, survive him. A brother, W. D. Smith, resides at No. 2111 Mifflin street, Philadelphia, Pa.

Charles Sackett was born in New York State, in 1866. He was appointed to the Canal Service, as a pipefitter in the old Pacific Division, on April 6, 1909. On September 8, 1909, he was made an engine runner; on April 19, 1910, he was transferred to the former Atlantic Division as a foreman at Porto Bello quarry; on July 26, 1910, he was retransferred to the Pacific Division, and on August 1 of the same year he was assigned to the position of drill runner on the *Teredo*. He was employed, previous to his coming to the Isthmus, with the Carter Oil Company, and later, with the South Penn Oil Company of Parkersburg, West Virginia. A stepdaughter, Curilda Weekly, lives at No. 14 Atlantic avenue, Parkersburg.

The body of Private Charles W. Dodds, Company E, Tenth Infantry, on patrol duty at Miraflores Locks, was found on the Panama railroad main line track, a few feet north of the cement storage shed at Corozal, at about 4.20 a. m., on Monday, July 27. He was on pass, and it is supposed that he missed the last train out of Panama on Sunday night, and was walking to the lock camp, when he was struck by a train. He was born at Yorktown, Ind., was 26 years of age, unmarried, and enlisted on December 16, 1913, at Indianapolis, Ind. An uncle, William Dodds, lives at No. 332 Indiana avenue, Indianapolis. The funeral was held, with military honors, at 3 o'clock on Monday afternoon. Interment was at the Corozal cemetery.

Gerald D. Bliss of Cristobal has received a cable message announcing the death of his sister, Mrs. Gladys Bliss Haynie, wife of Walter T. Haynie, who was private secretary to the late Lieut.-Col. D. D. Gaillard up to September 2, 1909, when he resigned from the Canal Service and went to Chicago. Mrs. Haynie was at one time employed as a teacher in the Division of Schools, and was married at Pedro Miguel on July 22, 1908. She was 26 years of age, and is survived by her husband, and two children, a daughter three years old, and a son four months old. Her mother, and a brother and sister live at Sherman, Chautauqua County, N. Y. Another brother, Gerald D. Bliss, resides at Cristobal, and two sisters, Mrs. Carl P. Hoffman and Miss Genella Bliss, live at Ancon. The funeral was held at Sherman on July 24.

CANAL EXCAVATION TO JULY 1, 1914.

By French Companies		78,146,960
French excavation useful to present Canal		29,903,000
By Americans—		
Dry excavation	130,112,734	
Dredges	92,997,204	
Total		223,109,938
May 4 to December 31, 1904	243,472	
January 1 to December 31, 1905	1,799,227	
January 1 to December 31, 1906	4,948,497	
January 1 to December 31, 1907	15,765,290	
January 1 to December 31, 1908	37,116,735	
January 1 to December 31, 1909	35,096,166	
January 1 to December 31, 1910	31,437,677	
January 1 to December 31, 1911	31,603,899	
January 1 to December 31, 1912	30,269,349	
January 1 to December 31, 1913	27,177,960	
January 1 to June 30, 1914	7,651,666	

TOTALS BY SECTIONS AND AMOUNTS TO BE EXCAVATED.

SECTIONS.	Amount excavated.		Remaining to be excavated.	
Atlantic—				
Dry excavation	8,858,977		*3,977	
Wet excavation	41,258,055		3,053,945	
Total	....	50,117,032		3,049,968
Central—				
Culebra Cut	102,767,120		2,244,880	
All other points	12,945,824		*260,824	
Total	....	115,712,944		1,984,056
Pacific—				
Dry excavation	11,162,744		*374,744	
Wet	46,115,649		4,585,351	
Total	....	57,278,393		4,210,607
Grand total	....	223,108,369		9,244,631

*Estimate exceeded by this amount.

SOCIAL LIFE OF THE ZONE.

Noonday Prayer Meetings at Balboa Shops.

At the request of 18 employes of the Balboa shops, permission has been given for the use of building No. 8 at the shops, for the holding of noonday prayer meetings. The building is not yet completed, but it has been furnished with benches for the accommodation of the men, and a pulpit is to be added. The prayer meeting is held every day from 11.30 to 12.30. The Rev. Harry Compton of the Methodist Church, Panama, took the meeting on Wednesday, July 22; other preachers assist whenever possible. The meeting is conducted by one of the men in the absence of a minister. The average attendance during the week has been about 12.

Methodist Memorial Church.

An offer has been made to the missionary minister of the Methodist Episcopal Church in Panama, by a person in the United States interested in the work of the church in Panama and Latin America, to build a memorial church at any point which shall be decided upon by the minister. The donor's name has not yet been made public, but the church will be in memory of a child who has recently died. The edifice will probably occupy a site in La Boca.

Church Notes.

The series of revival meetings that have been in progress in the Union Church at Cristobal will be continued during the present week. The meetings have been conducted by the missionary minister from Costa Rica, the Rev. A. B. DeRoos. The expenses for the series are being borne by the Home Mission Board of the Southern Baptist Convention, and by collections taken locally.

The missionary auxiliary of the Union Church of the Canal Zone, with headquarters at Empire, will hold its regular monthly meeting on Friday afternoon, August 7; the place of meeting will be announced later. Requests for information regarding the society and its work should be addressed to the secretary, Mrs. F. T. Greener, Empire.

Panamanian Students Visit New Administration Building.

Three hundred pupils of the grade schools of the city of Panama, accompanied by several teachers, visited the new Administration Building of The Panama Canal at Balboa, on Friday afternoon, July 24. After making a tour of the finished parts of the building, and viewing the marble rotunda, the various architectural features of the whole being pointed out to them, the pupils were called to military order in front of the building, where they went through a short practice drill in calisthenics, and concluded by singing the Panamanian National Hymn.

Lecture on Personal Hygiene.

The lecture on personal hygiene to be given under the auspices of the junior league of St. Luke's Hospital chapel will take place at Ancon Hall on Wednesday afternoon, August 5, at 4 o'clock. Any one interested will be admitted under the following conditions: League members free; children under 12 years, 10 cents; over 12 and adults, 15 cents, United States currency. The lecture will be given by Dr. M. E. Connor.

PERSONAL.

M. Philippe Bunau-Varilla, who, for a number of years, was a engineer in the service of the French canal companies, and, following the independence of Panama on November 3, 1903, was appointed the first Minister of the Republic to the United States, arrived from Paris, via New York City, on the *Tenadores*, on Friday, July 24. He will spend several days on the Isthmus inspecting the Canal.

Mr. F. C. Clark, superintendent of Pacific Locks, returned on Wednesday, July 22, on the *Allianca*, from a leave of 42 days spent in the United States.

I. B. of S. S. and D. M.

The next regular meeting of the International Brotherhood of Steamshovel and Dredgemen willl be held at Ancon lodge hall on Sunday, August 2, at 1.30 p. m.

R. G. WARREN, *Secretary-Treasurer.*

COROZAL, C. Z., July 25, 1914.

Missing Man.

Any one having information regarding the whereabouts of James McScott, who is supposed to be on the Isthmus, is requested to communicate with S. J. Berman, 7709 Linwood avenue, Cleveland, Ohio.

◆

Señor Luis S. S. Ortega has been placed in charge of the Spanish Consulate in Panama, as vice-consul.

◆

WANTED—A young man to do some tutoring in review work in algebra, geometry, grammar, geography, United States history, and arithmetic. Please apply to the office of the Superintendent of Schools, Ancon, C. Z.

Deceased Employes.

Name.	*Check No.*	*Native of*	*Isthmian residence.*	*Employed by*	*Date of death.*
Augustin Belasco	19456	Panama	Cristobal	Fortifications	July 22.
Evans Boyce	22195	Barbados	Panama	Dredging Div	July 20.
Henry Gaspar	21469	Jamaica	Colon	Dredging Div	July 23.
Joseph W. Jones	2196	U. S. A	Corozal	Dredging Div	July 20.
David Kett		U. S. A	Balboa	Dredging Div	July 20.
Ernest Phillips	129127	Trinidad	Colon	Atlantic Div	July 20.
Charles Sackett	2201	U. S. A	Corozal	Dredging Div	July 20.
James Smith	2197	U. S. A	Ancon	Dredging Div	July 20.
James Springer	22193	Barbados	Panama	Dredging Div	July 20.
Paul Steven	51981	Guadeloupe	Miraflores	E. and C. Div	July 20.
Fitz G. Stewart	77507	Barbados	Corozal	Health Dept	July 16.

The estates of these deceased employes of the Panama Canal or the Panama Railroad Company are now in process of settlement, and any claims against these estates, or any information which might lead to the finding of heirs or to the recovery of property, bank deposits, postal savings or postal money order deposits, or any other moneys due them, should be presented at once to the Administrator of Estates, Ancon, C. Z. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once.

EXECUTIVE ORDER

To Require Ocean Going Vessels to be Fitted With Wireless Apparatus.

By virtue of the authority vested in me, I hereby establish the following Order for the Canal Zone:

Section 1. From and after the first day of July, 1915, it shall be unlawful for any ocean-going steamer of the United States, or of any foreign country, carrying 50 or more persons including passengers and crew, to leave or attempt to leave any port of the Canal Zone unless such steamer shall be equipped with an efficient apparatus for radio communication in good working order in charge of a person skilled in the use of such apparatus, which apparatus shall be capable of transmitting and receiving messages for a distance of at least 100 miles, night or day; provided, that the provisions of this Order shall not apply to steamers plying only between the Canal Zone and ports less than 200 miles therefrom.

Section 2. The master or other person being in charge of such vessel which leaves or attempts to leave any port of the Canal Zone in violation of any of the provisions of this Order shall, upon conviction, be fined in a sum not to exceed Five Thousand Dollars ($5,000), and any such fine shall be a lien upon such vessel, and the vessel may be liable therefor in the District Court of the Canal Zone, and the leaving or attempting to leave by any vessel from each and every port of the Canal Zone shall constitute a separate offense.

Section 3. This Order shall take effect from and after this date.

WOODROW WILSON.

THE WHITE HOUSE,
July 9, 1914.
[No. 1988.[

EXECUTIVE ORDER

Authorizing the Board of Admeasurement to Administer Oaths to Witnesses, and to Compel their Attendance.

By virtue of authority vested in me, I hereby establish the following Order for the Canal Zone:

Section 1. The Board of Admeasurement of the Canal Zone, and the respective members thereof, are hereby authorized to administer oaths to witnesses appearing before the board, or before any member thereof, to testify in matters within the jurisdiction of the board; and upon application to the District Judge, the board may obtain process to compel the attendance of witnesses and the production of books and papers. Any person who fails to obey the process of the Court, or who refuses to be sworn, or who refuses to answer any material or proper questions, after being duly sworn, shall be punished in the manner prescribed in the Penal Code for contempt of court.

Section 2. This Order shall take effect on and after this date.

WOODROW WILSON.

THE WHITE HOUSE,
July 9, 1914.
[No. 1989.]

Installation of Officers.

The officers of Gatun Lodge, No. 5, Independent Order of Odd Fellows, for the second term of 1914, were installed at Cristobal lodge hall on Friday evening, July 17. Following is the list: Noble grand, J. H. Poole; vice-grand, W. H. Kromer; secretary, M. J. Tuttle; treasurer, C. E. Pring.

CANAL WORK IN JUNE.

Monthly Report of the Governor to the Secretary of War.

Culebra, C. Z., July 23, 1914.

The Honorable the Secretary of War,
Washington, D. C.

Sir: I have the honor to submit the following report of operations on the Isthmus for the month of June, 1914:

Department of Operation and Maintenance.

Division of Erection—Work was confined chiefly to erection of chain fender machines and chain fender sump pumps. Backfilling and cleaning up were continued, and Miraflores Lake was cleared of floating débris. Electrical work on Miraflores Spillway machines, guard valve machines at Pedro Miguel, and all drainage sump and culvert sump pumps of the Pacific locks was completed.

Tests of the hydroelectric station were continued, and the major portion of the plant was turned over to the Electrical Division, for operation, on June 18. The transmission line is complete from Cristobal to Balboa, except for five special towers, contract for which was let during the month. The Miraflores control board was completed and tested, and a lockage was made on June 24 with remote control.

Thirty-one lockages were made at Gatun, 28 at Pedro Miguel, and 30 at Miraflores.

Electrical Division—The net output of the power plants was: Gatun, 611,350 kilowatt-hours; Miraflores, 1,763,090 kilowatt-hours; Empire, 103,030 kilowatt-hours; Balboa, 8,185 kilowatt-hours.

The output of the Balboa air compressor plant was 312,030,510 cubic feet of free air, compressed to 105 pounds; Empire, 63,859,454 cubic feet. Installations in the new and reconstructed quarters, and in the new shops at Balboa, were continued.

Division of Municipal Engineering—In addition to maintenance work, work was in progress on municipal improvements in the city of Panama. The work of maintaining air and water service lines was assigned to this division on June 16. Construction of the new pumping station at Gamboa was begun, and the other construction work in connection with the new water works for Panama and vicinity was continued.

Meteorology and hydrography—Rainfall was above the station averages at eleven stations, and deficient at eight stations. The monthly totals ranged from 5.64 inches at Miraflores, to 17.78 inches at Gamboa. The maximum precipitation in one day was 5.18 inches, at Gamboa. The total yield for Gatun Lake watershed was eight per cent below the 7-year normal for June, but the lake continued to rise, making it necessary to open the spillway gates to keep the water from rising above plus 85.

Division of Terminal Construction.

PACIFIC TERMINALS.

Dry docks—Design and construction were continued on dry dock No. 1. Excavation amounted to 50,183 cubic yards, and all the material taken out was rock. Two steamshovels were employed.

Quay wall and piers—Studies were continued on pier No. 1 and quay walls l-j-m-n and d-e-f. A ninth scheme was drawn up, and estimates were prepared, to compare the costs of all schemes previously considered for landing for oil ships. Excavation amounted to 480 cubic yards, concrete placed, 5,413 cubic yards, piles driven, 14,925 linear feet.

Coal and fuel oil plants—Designs for the manifold layout and the steel boiler supports were approved, and preliminary plans for oil cribs were submitted and type of construction approved. An estimate of the total cost of the fuel oil plants is in course of preparation. Concrete placed in connection with the coal pocket amounted to 1,548 cubic yards.

Balboa shops—Design and construction were continued on the shop buildings.

ATLANTIC TERMINALS.

East breakwater—Work on this project included installation of tools in the machine shop, driving of piles, laying and ballasting of tracks, setting up a standpipe for watering locomotives, and the erection of a warehouse, sawmill shed, and other temporary structures.

Coaling plant—The loads imposed by the superstructure were carefully reviewed and the attention of the Washington Office invited to errors and discrepancies detected. The design of the superstructure was proceeded with. The driving of piles for both the east and west bridge track foundations was completed, and work on the concrete wall for these foundations was continued. The use of Chagres River gravel in concrete was begun about the middle of the month. The work of assembling and sinking caissons proceeded satisfactorily. The air compressor from Gatun was installed and operated for the first time on June 30; it is believed this will be very satisfactory.

Cristobal piers—Pier No. 10 is 90 per cent completed; the work during the month was mostly on the shed. Pier No. 9 is practically completed. Wash drill soundings were started on pier No. 7, and 267,854 cubic yards of dredging were done.

Dredging Division.

The status of dredging on June 30 was, as follows:

Location.	Cu. Yds.	Remaining. Cu. Yds.
Miraflores Locks to Pacific	60,872	1,991,373
Miraflores Lake	46,925	266,516
Culebra Cut	530,003	263,168
Gatun Lake	....	51,000
Gatun Locks to Atlantic	100,982	461,973
Total Canal prism	738,782	3,034,030
Balboa harbor	215,746	4,343,897
Cristobal terminals	160,178	....
Fortifications	100,357	....
Miscellaneous	55,790	....
Total general	532,061	4,343,897
Grand total	1,270,843	7,377,927

A survey of the prism from Gatun Locks to the sea shows a fill of 175,800 cubic yards from March 1 to July 1.

Culebra Cut—Eight dredges removed 93,673 cubic yards of earth and 436,371 yards of rock from the Canal prism. Following is a statement of the excavation in detail:

Location.	Earth. Cu. Yds.	Rock. Cu. Yds.	Total. Cu. Yds.
Hagan's slide	....	4,373	4,373
East Culebra slide	433	56,551	56,984
West Culebra slide	....	87,208	87,208
Cucaracha slide	93,199	288,239	381,438
Total	93,632	436,371	530,003

The destruction of water hyacinths in Gatun Lake was continued.

Mechanical Division.

The quantity of work was slightly less than in May, and in the foundry it dropped off 25 per cent, making it necessary to furlough six molders six days each. The amount of overtime was materially less, due to the decrease in quantity of work and to improved supervision. A new organization of work permitted a reduction in the supervisory force. The new cost accounting system worked more satisfactorily on account of the increasing experience of the force, and it is undoubtedly well adapted to the situation. The hostling of locomotives at Gatun passed to the division during the month.

Special work at Balboa shops consisted chiefly of the manufacture of dredge pipe, and caissons for the coaling plant and pier foundations, and preparing Lidgerwood cars for the work of hauling rock from Sosa Hill, at the Pacific entrance, to the east breakwater, at the Atlantic entrance. At Paraiso, the work was chiefly on dredging equipment, including the fitting up of the new 15-yard dipper dredge *Paraiso*. At Cristobal, the work was largely on dredging equipment, but caissons for the coaling docks and piers were also constructed. Fourteen pieces of equipment were docked.

For the whole division, shop orders issued and completed consisted of: Uncompleted, May 31st, 512; authorized during June, 795; total, 1,307; completed during June, 820, uncompleted June 30th, 487. The foundry output was: Iron, 250,931 pounds; steel, 89,599; brass, 19,713; total, 360,243 pounds. Hostling was done on 5,757 pieces of equipment, repairs on 5,721 cars and 752 other pieces of rolling stock.

Division of Canal Transportation.

The pooling of launches at the Atlantic entrance was advanced, so that the combined service was begun July 1. The Division of Lighthouses was transferred to this division; the Board of Local Inspectors did its work, and the preliminary work for admeasurement of vessels was continued.

Port of Balboa—Thirty vessels arrived and 33 departed. Of the arrivals, 10 were of American registry, 10 British, five Peruvian, two Chilean, one Panamanian, one German, and one Norwegian. Two launches were measured for certificates, and measurements were begun on three ships. The revenues amounted to $4,910.80 for tolls, and $450 for pilotage.

Port of Cristobal—Eighty-five vessels arrived at Cristobal, of which 45 were British, 14 German, 11 Norwegian, nine American, three French, and one each Dutch, Italian, and Spanish. Eighty-one departed. No vessels were measured for Canal certificates. The tolls collected amounted to $3,408.16, and pilotage fees to $1,110; total, $4,518.16.

Lights and buoys—All range towers have been completed and lights are installed. All beacons in Culebra Cut, except those which cannot be built because of slides, have been completed and the lights are installed. Work on other beacons, post lights, range and reference targets has been advanced. Construction of pole transmission lines was continued. All spar buoys at both entrances have been placed on station.

Material to complete gas generating and compressing plant at Balboa, in order that gas tanks may be charged at that plant, has been installed, and turned over to the Mechanical Division.

A sailing chart on a scale of 1:20,000, in two sections, has been prepared, each section measuring 56 by 72 inches over the border. The first section embraces the territory from deep water in Limon Bay to Mile 29, and the second section from Mile 29 to deep water in Panama Bay. The original drawings have been forwarded to the United States, where they will be photolithographed and printed in colors, on a scale of 1:40,000.

Board of Local Inspectors—Eleven vessels were inspected and certificated; six chauffeurs' licenses, and one for operation of a fire engine; and nine licenses for navigators of motor boats were issued. Fourteen boilers on floating equipment were inspected. Six appraisals of floating equipment were made.

Supply Department.

FORCE.

The force reports for the last week in June show 29,673 employes at work. Of these, 4,257 are white Americans, 1,248 are European laborers, and the balance are West Indian laborers and artisans. The occupants of Government quarters numbered 7,638 Americans, 1,478 Europeans, and 8,822 West Indians. The force decreased about 1,500 men during the month.

BUILDINGS.

Work on the new Administration Building at Balboa advanced materially, but the progress on quarters for gold roll employes continued slow. Work on the removal and reerection of frame quarters continued, a number of officials' houses having been taken down at Gatun and Culebra. Work on all the silver married quarters at La Boca was completed. Originally, 300 apartments were authorized, which was later increased to 400. Altogether, 413 apartments were completed and are now occupied, bringing in a monthly rental of over $2,000.

MATERIALS AND SUPPLIES.

Movements of material continued heavy, although the value of the material received was somewhat less than last month. The material came forward in 40 steamers, total weight of cargo, exclusive of lumber, ties, and piling, being 11,130 tons.

SUBSISTENCE.

There was a profit on the line hotels of $705.71; a loss on the Hotel Aspinwall of $695.41; a profit on laborers' mess of $2,137.19, and a loss on the Hotel Tivoli of $302.81, making a net profit on the subsistence operations for the month of $1,844.68. The Hotel Washington report for May shows a net loss of $2,255.06.

COMMISSARY.

The Ancon commissary was opened for business on June 15. Its opening relieves the congestion at the Balboa commissary, and it is also much more convenient for employes living in the Ancon district. A readjustment of commissary prices was made, a general increase being made on beef and other meats. The price of ice was cut 25 per cent. Prices on all articles of hardware and dry goods were materially reduced.

Accounting Department.

On June 30, the cash balance in Canal construction appropriations was $6,587,969.10, with an estimated amount to be paid therefrom in July of $3,800,000. The cash balance in fortification appropriations was $4,673,964.16. The regular rolls for June, exclusive of fortification rolls of $69,801.55, amounted to $1,176,038.74. The accrued leave and omitted time rolls for June, exclusive of fortification rolls of $36,268.87, amounted to $906,463.91. The rolls for June were, as follows:

APPROPRIATIONS.	Regular rolls	Accrued leave
Officers and employes on Isthmus	$246,635.12	$384,074.74
Isthmus pay rolls	840,254.30	386,711.93
Officers and employes, Canal Zone	35,948.57	62,799.80
Sanitary officers and employes	33,906.45	70,518.72
Sanitary pay rolls	15,489.30	960.06
Canal connecting	2,950.00	....
Miscellaneous material	855.00	1,371.66

The payments during July by the disbursing clerk in the United States, were $1,386,765.08, by the Paymaster on the Isthmus, $2,005,348.59, a total of $3,392,348.67. Of this amount, $201,331.65 was paid to the Panama railroad commissary. The collections during the month repaid to appropriations, amounted to $351,387.75, while the amount deposited as miscellaneous receipts was $14,873.75, of which $4 was collected as tolls.

The collections of Canal Zone funds amounted to $23,260.32; money order funds, $289,594.67; postal savings funds, $122,600; clubhouse funds, $9,833.60. The payments were: Canal Zone, $58,986.14; money orders, $367,452.80; postal savings, $152,480; clubhouse, $7,647.61.

Department of Health.

The diminishing death rate in the Canal Zone and the increasing death rate in the city of Panama, which has been noted for some time, is believed to be due largely to a shifting of population from the Canal Zone to Panama. The census which is now being taken will settle this point. The health of the employes has continued good during the month. No case of yellow fever, smallpox, or plague originated on, or was brought to the Isthmus. The number of names on the rolls for the preceding month was 47,579.

The total number of admissions to hospitals and quarters was 1,511, or a rate of 381.09 per thousand per annum, as compared with 407.92 for the preceding month, and 472.50 for the corresponding month of last year. The total number of deaths from all causes was 20. Of these, 13 died from disease, or 3.28 per thousand per annum, as compared with 5.74 for the preceding month, and 3.27 for the corresponding month of last year. The diseases causing the greatest number of deaths were, as follows: Lobar pneumonia, two; organic disease of heart, two; tuberculosis, two. The number of employes per thousand constantly sick was 11.69, compared with 11.65 for the preceding month, and 14.98 for the corresponding month of last year.

The disease causing the highest admission and noneffective rates in hospitals was malaria, or 62 per thousand per annum, and 1.62 per thousand, respectively. The corresponding admission rate for last month and the same month of last year was 50 and 49; 27 per cent of all admissions was due to this cause. The next highest admission rates were for venereal diseases, diseases of the digestive system, and the diseases of the respiratory system. These four classes of diseases caused 51 per cent of all admissions. The admission rate for typhoid fever per thousand per annum was .00, as compared with .75 for the preceding month, and .00 for the corresponding month of last year.

The admission rate to hospitals, and death rate for disease for black employes were 139.79 and 3.67 per thousand per annum, as compared with 350.66 and 1.43 for white employes. The noneffective rate for disease and injuries for black employes per thousand was 10.20, as compared with 18.67 for white employes. The admission rate to hospitals for malaria was 53.23 per thousand per annum for blacks, as compared with 103.47 for whites.

Canal Zone—The number of persons, white and colored, living in the Canal Zone is estimated at 54,655, among whom there were 44 deaths. Of these, 42 deaths were from disease, a rate of 9.22 per thousand per annum, as compared with 12.93 for the preceding month, and 12.39 for the corresponding month of last year. Of the total deaths from disease, the percentage under five years of age was 33, compared with 42 last month.

Panama—In Panama City, with an estimated population of 47,172, there were 156 deaths. Of these, 150 deaths were from disease, a rate of 38.16 per thousand per annum, as compared with 32.56 for the preceding month, and 30.02 for the corresponding month of last year. Of the total deaths from disease, the percentage under five years of age was 55, compared with 52 last month.

Colon—In Colon, with an estimated population of 20,232, there were 48 deaths. Of these, 44 deaths were from disease, a rate of 26.10 per thousand per annum, as compared with 30.25 for the preceding month, and 21.34 for the corresponding month of last year. Of the total deaths from disease, the percentage under five years of age was 36, compared with 31 last month.

Executive Department.

COURTS.

Eight cases were disposed of in the Supreme Court and, the work of the court having been concluded, it went out of existence on June 30. In the District Court, two civil, 27 criminal, and 60 probate cases were settled. In the Magistrates' Courts, 22 civil and 408 criminal cases were tried.

POSTS.

Money order sales amounted to $289,593.58, and the fees to $1.409.69; receipts from stamp and card sales and newspaper postage, $6,713.78; deposits in savings accounts, $122,600; withdrawals, $152,379.

POLICE AND FIRE.

Arrests numbered 394, of which 368 were of men. Five convicts were committed to the penitentiary and 14 were discharged; total in confinement at the close of the month, 75. The cost of guarding and subsisting the convicts was $1,228.92, and the value of their work was $1,411.30.

Nine fires occurred, with a total loss of $253.

SCHOOLS.

The net enrollment in the white schools was 1,270, the average number belonging, 824.1, and the average daily attendance, 789.5. In the colored schools, the net enrollment was 1,492, the average number belonging, 663.3, and the average daily attendance, 531.5.

Panama Railroad.

Traffic congestion continued throughout the month, due to arrival of American-Hawaiian Line ships, which kept up the increased tonnage from the Pacific to the Atlantic side. During the month, 8,256 tons of sugar and miscellaneous cargo were towed through the Canal on barges, northbound; southbound, approximately 2,000 tons.

Five ships of the Panama Railroad Steamship Line arrived at Cristobal, delivering 801 first-class and 32 steerage passengers. Six ships sailed for New York, carrying 568 first-class and 98 steerage passengers. Full cargoes were carried both ways.

Construction work on Piers 7, 8, 9, and 10 was continued, and Pier 8 is now complete.

Transisthmian duct line work progressed satisfactorily, there being constructed 36,974 feet.

Work on the new coaling trestle and dock at the north end of Dock 13, Cristobal, was started on June 22. The trestle and dock will be used for coaling commercial vessels until the permanent coaling plants are placed in operation. About 10 per cent of this work was completed to June 30.

Respectfully,
GEO. W. GOETHALS,
Governor.

Rainfall, July 1 to July 25, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	.70	21	2.22
Balboa	1.33	23	2.95
*Miraflores	1.35	24	2.87
Pedro Miguel	1.63	23	4.67
Rio Grande	.89	4	2.66
Central Section—			
Culebra	1.02	15	2.76
*Camacho	.65	4	1.60
Empire	1.96	15	3.87
Gamboa	.72	23	2.63
*Juan Mina	1.80	23	6.53
Alhajuela	1.10	15	4.99
*El Vigia	2.35	4	7.15
Frijoles	.54	21	2.43
Trinidad	......	......	......
*Monte Lirio	.60	23	2.44
Atlantic Section—			
Gatun	.81	23	2.89
*Brazos Brook	2.40	12	7.63
Colon	2,64	23	10.11

*Standard rain gage—readings at 5 p. m., daily. Automatic rain gage at unstarred stations—values midnight to midnight.

Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes for the week ending midnight, Saturday, July 25, 1914. All heights are in feet above mean sealevel:

DAY AND DATE.	STATIONS.				
	Vigia.	Alhajuela	Gamboa.	Gatun Lake.	Miraflores Lake.
Sun., July 19	125.80	92.40	84.67	84.75	53.80
Mon., July 20	125.35	91.98	84.58	84.58	53.67
Tues., July 21	125.25	91.80	84.60	84.58	53.62
Wed., July 22	126.70	93.22	84.59	84.62	53.68
Thurs., July 23	126.20	92.52	84.68	84.65	53.76
Fri., July 24	125.60	92.15	84.71	84.68	53.90
Sat., July 25	125.30	91.89	84.77	84.73	53.89
Height of low water to nearest foot	125.0	91.0			

Tide Table.

The following table shows the time of high and low tides at Panama for the week ending August 8, 1914:

DATE.	High	Low	High	Low
	A.M.	A.M.	P.M.	P.M.
August 2	......	5.58	12.04	6.38
August 3	12.58	7.10	1.17	7.42
August 4	2.06	8.13	2.21	8.40
August 5	3.02	9.08	3.16	9.32
August 6	3.50	9.57	4.05	10.18
August 7	4.32	10.42	4.48	11.00
August 8	5.11	11.22	5.28	11.40

75th meridian time.

Family Quarters.

Applications for married quarters on file on June 30, were, as follows:

DISTRICT.	List No. 1.	List. No. 2
Ancon	88 (71)	457 (190)
Ancon Hospital	....	9
Corozal	23 (23)	199 (94)
Cristobal	....	157 (41)
Gatun	1	104 (1)
Paraiso	....	150 (27)
Total	112 (94)	1,076(353)

NOTE—The figures in parentheses show the number of applicants already occupying regular or nonhousekeeping family quarters at stations other than those at which applications are filed.

Sailing of the "Cristobal."

The steamer *Cristobal* will sail from Dock 9, Cristobal, on Wednesday, August 5, at 3 p. m.

OFFICIAL CIRCULARS.

Steamboat Inspection Service.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., July 7, 1914.

CIRCULAR NO. 644–1:

FEES FOR INSPECTION.

Paragraph 30 of Circular 644 is modified by inserting after the words "or which may hereafter be, allowed by law," the words:

"For each row boat or panga equipped with detachable, motor, $1.

GEO. W. GOETHALS,
Governor.

Parcel Post Packages.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., July 6, 1914.

CIRCULAR NO. 613–1:

REQUESTS FOR FREE ENTRY.

Postmasters of Canal Zone post-offices are hereby authorized to sign for the Executive Secretary requests of gold employes for the release of parcels upon which no duty is payable, when such requests are duly authenticated in writing by the heads of departments or divisions, or by district quartermasters.

GEO. W. GOETHALS,
Governor.

Issue of Identification Certificates by Unauthorized Timekeepers.

THE PANAMA CANAL,
OFFICE OF EXECUTIVE SECRETARY,
CULEBRA, C. Z., July 24, 1914.

All concerned—Attention is called to the fact that there have been a number of recent instances where identification certificates have been issued by unauthorized timekeepers, these certificates being issued in case brass checks have been lost.

Field timekeepers will not issue identification certificates unless they have been authorized to sign papers of this character.

By direction of the Governor.

C. A. MCILVAINE,
Executive Secretary.

Notice to Mariners.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., July 24, 1914.

CIRCULAR NO. 643–3:

CRISTOBAL HARBOR.

1. The third-class red can buoy heretofore marking the westerly edge of the shoal making out from the end of the mole off Cristobal Point has been replaced by a black painted gas buoy showing a fixed white light.

2. The buoy is moored in 32 feet of water, and from it the end of the mole bears 103° true, distant about 930 feet.

3. Vessels entering or leaving Cristobal Harbor are cautioned to keep to the southward of an imaginary line between this buoy and the end of the trestle of pier No. 7, now under construction, and not to pass between the buoy and the end of the mole.

4. A third-class spar buoy has been placed to mark the riprap off the end of the mole off Cristobal Point.

5. This buoy is moored in 16 feet of water and marks a small channel for launches only. Launches and small boats are cautioned not to pass between this buoy and the mole.

GEO. W. GOETHALS,
Governor.

Service Ratings.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., July 7, 1914.

CIRCULAR NO. 604–1:

1. The following definitions of ratings for workmanship and conduct are given for general guidance, so that one standard may be used by all. It is realized, however, that there are many factors entering into the question of ratings in individual cases which cannot be covered by rules, and in such special cases the judgment of the official in charge will govern.

WORKMANSHIP.

2. The mark "Excellent" indicates that the employe has performed the duties of his position faithfully, accurately, with good judgment and minimum error, without waste of time, and with minimum expense to the Government; that neither the quantity nor quality of his work has been subject to deserved criticism, either as a whole or in specific instances. An unimportant or very minor error will not be taken into consideration. An employe need not necessarily be brilliant, nor of exceptional ability, to attain this rating. Any employe who thoroughly knows his business and performs his work faithfully, intelligently, diligently, and for the best interest of the Service, may attain this rating.

3. The mark "Very good" should be given in cases where, for any reason, the mark "Excellent" cannot be given, and where a better rating than "Good" is deserved.

4. The mark "Good" indicates that the employe has performed the duties of his position in a satisfactory manner, that his work and attention to duty have been average; it should be used in those cases where the employe cannot be marked "Excellent" or "Very good", due to insufficient experience, incomplete training, or imperfect physical condition. This rating may be given in cases where either the quantity or quality of the employe's work has been subject to a small degree of criticism or has needed closer supervision than that of others, although on the whole his work has been good and satisfactory.

5. The mark "Mediocre" indicates that the employe's service has been only moderately good, not good enough, in fact, to make his employment desirable. It would be applied in case an employe were incapable of performing or were disinclined to perform a standard quantity of work, or if his work were of indifferent quality, or if, though a good enough workman, his habits or his attitude toward his work rendered him undependable or trying to his superiors.

6. The mark "Poor" indicates unfitness of the employe to occupy the position in which the rating is given. This mark should be given in all cases where the employe has demonstrated that. because of poor quality of work, poor quantity, or inattention to his duties, he is not fitted for the place. In case he is apparently well qualified for a lower grade of the same trade or occupation, the fact may be stated on the rating report.

CONDUCT.

7. In rating general conduct, it is proper to take into consideration the following factors:

(*a*) *Attendance.*

(*b*) *Cooperation* with fellow workmen, superiors, and subordinates.

(*c*) *Interest in the work* and general disposition to act for the good of the Service.

(*d*) *Personal habits.*

(*e*) *Character*, such traits as loyalty, honesty, truthfulness, courage, temperance, sound judgment, subordination, etc.

8. The rating "Excellent" in conduct should be given to an employe faithful to duty, interested in his work, willing and helpful in his general attitude, and of good integrity and reputation.

9. The rating "Very good" in conduct should be given where the employe's conduct is subject to minor impeachment on one or more counts of the above schedule, but on the whole the man is of good character and deserving of commendation.

10. The rating "Good" in conduct should be given where the employe may have some faults not of serious character, and where he has gotten along satisfactorily. It would also cover cases of those who perform their duties perfunctorily and whose traits of character are negative rather than positive.

11. The rating "Mediocre" need not be used in rating conduct.

12. The rating "Poor" should be used where the employe seriously fails to maintain a proper standard of conduct in any of the five essentials above enumerated.

GEO. W. GOETHALS,
Governor.

Accountable Official.

THE PANAMA CANAL,
ACCOUNTING DEPARTMENT,
EMPIRE, C. Z., July 24, 1914.

CIRCULAR NO. 68:

Effective July 25, 1914, Mr. W. R. Holloway, supervisor, Division of Operation and Maintenance, will cease to be accountable official and will transfer his property to Mr. F. C. Clark, superintendent of Pacific Locks, who is hereby designated an accountable official of The Panama Canal.

H. A. A. SMITH,
Auditor, The Panama Canal.

Approved:
GEO. W. GOETHALS,
Governor.

Subsistence for Employes on Floating Equipment of Dredging Division.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., July 25, 1914.

CIRCULAR NO. 680:

1. All employes on floating equipment of the Dredging Division will be carried on the rolls at a nonsubsistence rate, effective August 1, 1914.

2. When subsistence is furnished, deduction will be made from the pay of gold employes at the rate of $20 per month, or at the rate of 67 cents a day when the period subsisted is less than one month, the total charge for subsistence not to exceed $20 in any one month.

3. The time rolls will be kept in such manner as to

show all gold employes on each piece of floating equipment separately, instead of being arranged alphabetically, as at present.

4. The division will furnish to the chief timekeeper and to the Auditor, at the close of each month, a statement showing:

(*a*) Each piece of floating equipment upon which subsistence is regularly furnished to gold employes.

(*b*) A list of employes who, during that month, were carried for a part of their time on equipment where no subsistence was furnished, and a part of the time on equipment where subsistence was furnished.

5. An employe absent, for any cause, from a piece of equipment on which subsistence is furnished, for a period not exceeding two days, will be charged for subsistence the same as if actually present and subsisted. This rule will not apply when an employe is detailed from a subsisted to a nonsubsisted piece of equipment.

6. An employe assigned to a subsisted piece of equipment will be charged for a day's subsistence if given a day's time on the subsisted piece of equipment, but no charge for subsistence will be made for less than one day.

GEO. W. GOETHALS,
Governor.

Delay in Sending in New Time Books.

THE PANAMA CANAL,
OFFICE OF EXECUTIVE SECRETARY.
CULEBRA, C. Z., July 24, 1914.

All concerned—There has been some delay in sending in promptly the new time books to the timekeeping office. The books must be in the timekeeping office at Balboa Heights in the forenoon of the day following the close of each 4-day period, and the chief timekeeper will report to this office promptly all failures to comply with this requirement.

By direction of the Governor.

C. A. MCILVAINE,
Executive Secretary.

Paymaster, Panama Railroad.

THE PANAMA RAILROAD COMPANY,
OFFICE OF LOCAL TREASURER,
COLON, R. P., July 17, 1914.

HEADS OF DEPARTMENTS:

Effective with this date, Mr. B. M. Fennell is appointed paymaster of the Panama Railroad Company, vice Mr. G. E. Mohr, resigned.

R. H. WARDLAW,
Local Treasurer.

Approved:
C. H. MOTSETT,
Superintendent.

Examinations by Board of Local Inspectors.

THE PANAMA CANAL,
BOARD OF LOCAL INSPECTORS,
ANCON, C. Z., July 21, 1914.

The Board of Local Inspectors will conduct examinations at the administration building, Ancon, on Wednesday, July 29, 1914, beginning promptly at 2 p. m., for persons desiring the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for license must procure from the office of the board, Ancon, forms of application and information respecting the filling out of the same not later than the day previous to the examination. All persons desiring chauffeurs' licenses must provide themselves with automobiles with which to demonstrate their ability properly to operate the same.

The demonstration test for applicants for chauffeurs' licenses will be given on Tuesday, the day preceding the regular examination, at 2 p. m., at the administration building, Ancon; on Wednesday, the day of the regular examination, for out-of-town applicants, at 2 p. m., at the administration building, Ancon

Applicants for license as navigator of motor boats will be required to give a demonstration of their ability to operate such boats, and will be obliged to provide themselves with boats for this purpose. This test will be given on Thursday, the day following the written examination, as follows: At Cristobal, upon arrangement with the captain of the port; at Gamboa, at 8 a. m., and at Balboa, at 2 p. m. Applicants for the test at Cristobal or Balboa should present themselves at the office of the captain of the port; at Gamboa, the deputy inspector will be present at the Panama railroad station at the hour abovementioned.

By direction of the chairman of the board.

W. H. HYDE,
Clerk of the Board.

Married.

BUEHLER-ROCHE—On Friday evening, July 24, at St. Luke's Hospital chapel, Ancon, Miss Gertrude V. Roche to Mr. G. H. Buehler, the Rev. H. R. Carson officiating. Canal Zone residence, Ancon.

FOUND—Near Ancon post-office, pass book issued by the Royal Bank of Canada branch at Kingston, Jamaica, B. W. I. Rightful owner may obtain same by communicating with police headquarters, Ancon, C. Z.

COMMISSARY DEPARTMENT.

Sale of Shoes.

A sale of shoes will be held at the following commissaries on the days shown:

Pedro Miguel, August 4 to August 8, inclusive.

Cristobal, August 11 to August 15, inclusive.

Sale of Hats.

A sale of hats will commence at the Ancon commissary on Monday, August 3, 1914.

Cold Storage Lists.

THE PANAMA CANAL,
SUPPLY DEPARTMENT,
CULEBRA, C. Z., July 15, 1914.

CIRCULAR No. 172:

District quartermasters, commissary storekeepers—The practice of scratching off cold storage lists items in stock at Cristobal, but not carried in local commissaries leads to misunderstanding on the part of solicitors and customers as to what is actually in stock.

Hereafter, you will please circle items that will have to be procured from Cristobal, Your list will then show as scratched only those items that are out of stock in both Cristobal and line stores.

R. E. WOOD,
Chief Quartermaster.

Commissary Stores Closed for Inventory.

THE PANAMA CANAL,
SUPPLY DEPARTMENT,
CULEBRA, C. Z., July 23, 1914.

CIRCULAR No. 106-1:

District quartermasters, commissary storekeepers—The following stores will be closed for the regular monthly inventory from 12.30 p. m., Friday, July 31 to 8 a. m., Saturday, August 1:

Gatun, Gamboa, Las Cascadas, Culebra, Paraiso, Pedro Miguel, Balboa, La Boca, Naos Island.

The following stores will be closed for an audited inventory from 12.30 p. m., July 31, to 8 a. m., August 3:

Toro Point, Cristobal, Camp Bierd, Monte Lirio, Empire, Corozal, Ancon.

Commissary Form 15 will be used in taking this inventory.

Post notices to the above effect prominently in all commissaries, and have salesmen and solicitors notify customers of the period during which commissaries will be closed.

R. E. WOOD,
Chief Quartermaster.

Commissary Hours.

The commissary stores are open during the following hours: From 8 a. m., to 12.30 p. m., and 3 to 6.30 p. m.

The gold departments of the Cristobal store will open at 2 p. m., on Saturdays and sailing days of Panama railroad vessels.

In rush periods, all stores will remain open until 7 p. m.

Cold Storage Prices.

Retail prices of cold storage provisions for the week beginning July 30, 1914:

	Price.
FRESH MEATS	
Mutton—Stewing, per pound	8
Shoulder, trimmed, per pound	12
Leg (8 to 10 pounds), per pound	19
Cutlets, per pound	20
Short cut chops, per pound	23
Shoulder, chops, per pound	14
Lamb—Stewing, per pound	10
Shoulder trimmed, per pound	15
Leg (5 to 8 pounds), per pound	24
Chops, per pound	29
Shoulder, chops, per pound	18
Cutlets, per pound	29
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	18
Chops, per pound	27
Loin, for roasting, per pound	27
Cutlets, per pound	31
Beef—Suet, per pound	3
Soup, per pound	7
Stew, per pound	11
Plate, per pound	12
Corned, No. 1, per pound	18
Corned, No. 2, per pound	15
Chuck roast, 3 lbs., and over, special, per pound	12
Chuck roast, 3 lbs., and over, choice, per pound	15
Rib roast, second cut (not under 3½ pounds), special, per pound	16
Rib roast, second cut (not under 3½ pounds), choice, per pound	21
Rib roast, first cut (not under 3 pounds), special, per pound	19
Rib roast, first cut (not under 3 pounds), choice, per pound	24
Pot roast, special, per pound	20
choice, per pound	25
Rump roast, special, per pound	20
choice, per pound	25
Porterhouse roast, special, per pound	22
choice, per pound	27
Steak, chuck, special, per pound	13
choice, per pound	16
Round, bottom, special, per pound	13
choice, per pound	17
Round, top, special, per pound	15
choice, per pound	19
Rib, special, per pound	20
choice, per pound	24
Sirloin, special, per pound	20
Sirloin, choice, per pound	25
Sirloin, choice cut, special, per pound	23
Sirloin, choice cut, choice, per pound	28
Rump, special, per pound	20
choice, per pound	25
Porterhouse (not less than 1½ pounds), special, per pound	23
Porterhouse (not less than 1½ pounds) choice, per pound	30
Porterhouse, short, Delmonico, special, per pound	20
Porterhouse, short, Delmonico, choice, per pound	25
Tenderloin, Western, special, per pound	35
Tenderloin, Western, choice, per pound	40
Pork—Hams, fresh, per pound	§23
Shoulders, fresh, per pound	§19
Spare ribs, per pound	18
Loin, chops or roast, per pound	20
Backbones, per pound	15
Pigs' feet, each	7
Pigs' heads, whole	83
Pigs' heads, ½-head	42
Sausage, home made, per pound	23
MISCELLANEOUS.	
Livers—Beef, per pound	12
Calf, each	62
Half, each	31
Steak, Hamburger, package	17
Hamburger, 20-pound containers, per pound	14
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	*12
Pure pork, 1-lb. cartons, per pound	17
Sweetbread, beef, per pound	26
Eggs, fresh, per dozen	35
per ½-dozen	18
Bluefish, per pound	9
Halibut, fresh, per pound	5
Salmon, per pound	*7
Yeast, per pound	31
Yeast, per cake	2
POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, per pound	28
Fancy roasting, corn fed, per pound.	25
Fowls, per pound	†24
Ducks, Western, per pound	22
Capons, per pound	33
Broilers, milk fed, per pound	25
Broilers, corn fed, per pound	†21
Turkeys, per pound	29
Squabs, each	42
Fowls, light, per pound	20
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30
CURED AND PICKLED MEATS.	
Ham—Real York and Cumberland, per pound	43
Genuine Westphalia, per pound	50
Sugar cured, per pound	*23
Sliced, per pound	*30
Half, for boiling, per pound	*25
Boiled, per pound	*32
Hocks, per pound	09
Butt end, about 1½ pounds to butt, per pound	11
Bacon—Breakfast, whole piece, per pound	26
Sliced, per pound	27
Ham, lunch, per pound	40
Port, salt, family, per pound	14
Ox tongues, each	1.35
Pigs' feet, per pound	7
Tongues, per pound	*23
DAIRY PRODUCTS.	
Butter—Creamery, special, per pound	39
Sheffield Farms, extra fancy, per lb	54
Cheese—Philadelphia cream, cake	9
Roquefort, per pound	35
Young America, per pound	22
Swiss, per pound	27
Edam, each	72
Edam, tin	29
Parmesan, per pound	38
Gouda, per pound	26
Snappy, per cake	9
Milk (certified), bottle	**24
Fer-mil-lac, bottle	**25
Ice cream, quart	‡25
½-gallon	‡50
Cream, Sheffield Farms, quart	**33
VEGETABLES.	
Beans, string, per pound	7
Beans, wax, per pound	8

(*Continued on Page 492.*)

(*Continued from Page 491.*)

	Price.
Beets, per pound	4
Cabbage, per pound	*3½
Carrots, per pound	*4½
Celery, per head	8
Cucumbers, per pound	†3½
Eggplant, per pound	6
Horseradish, per pound	17
Lettuce, per pound	*10
Onions, per pound	7
Parsley, per bunch	3
Peas, green, per pound	9
Peppers, per pound	8
Potatoes, white, per pound	*4
sweet, tropical, per pound	2
sweet, American, per pound	3½
Rhubarb, per pound	2½
Spinach, per pound	7
Squash, per pound	†3
Tomatoes, per pound	*6
Turnips, per pound	3
Kale, per pound	5
Yams—Tropical, per pound	3
FRUITS.	
Apples, each	2½
Apricots, per pound	13
Canteloupes, each	*7
Cherries, per pound	28
Grape fruit—American, each	6
Tropical, each	4½
Lemons, per dozen	19
Limes, per 100	56
Oranges—American, each	2½
Jamaican, per dozen	18
Peaches, per pound	6
Plums per pound	7
Watermelons, each	43

* Indicates advance from preceding list.

† Indicates reduction from preceding list.

**Indicates 5 cents allowed for return of bottle.

‡Sold only from commissaries; no orders taken for delivery.

§Sold only from cold storage and not from commissaries.

Porterhouse roast includes any cut of hind quarter down to rump, and will not be cut if orders for steak will consume the supply.

Tenderloins or porterhouse will not be cut and sold separately.

Not less than ½ ham or ½ shoulder of fresh pork will be sold.

Daily cold storage orders will be filed and kept for at least one monh.

CANAL CLUBHOUSES.

BALBOA.

The first "Smoker" at the Balboa clubhouse will be held Friday night, July 31. All the men of Balboa and Ancon are invited to attend.

The Balboa checker club will play the Culebra checker club at the Culebra clubhouse on Monday evening. It is expected that the Culebra checker club will play a return match at Balboa.

A beginners' class in Spanish has been started. All those interested are requested to see the secretary.

An effort is being made to hold song services at the local clubhouse on Sunday evenings.

PEDRO MIGUEL.

High bowling scores made for the past week were, as follows: *Duckpins*—Davis, 100; Holloway, 102, 107; Whiston, 123; Vandeburgh, 107. *Ladies' rubber banded duckpins*—Mrs. Landers, 103, 104; Mrs. Westendorf, 103.

The bachelors dinner to he given on Friday evening, July 31, is for all the bachelors of Paraiso and Pedro Miguel. It is being prepared by the ladies, and the committee of bachelors working on the program has arranged a program of toasts, songs, and solos.

The Pedro Miguel Christian Endeavor Society gave a social in the clubhouse hall on Friday evening. Eighty-five people were present, and were entertained by a program of games and other exercises. A lunch was served.

A committee of men and ladies is preparing a Southern social for Tuesday evening, August 4, for all the people of Paraiso and Pedro Miguel. A program of games and songs will be arranged, followed by a watermelon feast.

Supplies for the Canal.

The following steamers, with supplies for The Panama Canal and the Panama railroad, arrived at the ports of Colon, Cristobal, and Balboa during the two weeks ending July 25:

Orubia, July 13, from New York, with 10 cases safety fuse, for stock.

Prinz Joachim, July 13, from New York, with 274 kegs bolts, for stock.

Santa Catalina, July 13, from San Francisco, with 14,000 board feet redwood lumber, for Fortifications Division; 272,195 board feet redwood lumber, 16,987 board feet cedar lumber, 1,241,309 board feet fir lumber, for stock.

Falk, July 15, from New York, with 265 barrels and 250 crates gasoline, for stock.

Heredia, July 15, from New Orleans, with 119 barrels paving brick, for Division of Terminal Construction; 12,622 board feet oak lumber, for Mechanical Division; 727 bales straw, for stock.

Santa Marta, July 16, from New York, with six reels hoisting cables, for Dredging Division.

Parismina, July 16, from New Orleans, with 38 reels cable for Panama Railroad Company; 28,850 board feet yellow pine lumber, for Mechanical Division.

Pastores, July 17, from New York, with 32 crates and boxes heating apparatus, for Mechanical Division; three fender chains, for Department of Maintenance.

Panama, July 17, from New York, with 307 barrels plaster, 4,000 bags C. W. cement, five cases woodwork, for permanent buildings; 16 cases woodwork, for Division of Municipal Engineering; 5,790 board feet maple lumber, for Mechanical Division; 27 cases lighting material, 60 cases, four skids, electrical machinery, for Fortifications Division; 29 reels cable, for Panama Railroad Company; 70 boxes varnish, 43 boxes wire cloth, 42 crates and boxes plumbing fixtures, 2,127 bales hay, 50 coils manila rope, 2,388 board feet maple lumber, 102 kegs bolts, 834 bundles corrugated galvanized sheets, 5,104 bags cement, for stock; and a miscellaneous cargo, the whole consisting of 13,466 packages, weighing approximately 845 tons.

Prinz Eitel Friedrich, July 20, from New York, with 44 kegs bolts, for stock.

Turrialba, July 22, from New Orleans, with 19,341 board feet, yellow pine lumber, for Mechanical Division; 153 barrels paving brick, for Division of Terminal Construction; 373 bales straw, for stock.

Metapan, July 22, from New York, with 199 kegs boat spikes, for stock; 31 cases electrical material, for Panama Railroad Company.

Cristobal, July 22, from New York, with 425 crates tile, for permanent buildings; 210 pieces pipe, for Dredging Division; 119 crates tile, 10 crates ventilators, for Division of Municipal Engineering; six crates ventilators, for Department of Maintenance; 125,394 bags cement, 500 rolls paper, 51 crates plumbing fixtures, 250 bundles shovels, for stock. and a miscellaneous cargo, the whole consisting of 127,041 packages, weighing approximately 6,519 tons.

Allianca, July 22, from New York, with 20 universal couplings, for Dredging Division; 20 reels copper wire, for Department of Maintenance; 15 cases woodwork, for permanent buildings; 14 cases woodwork, 38 cases water meters, for Division of Municipal Engineering 12 reels cable, for Panama Railroad Company; 20 crates rubber hose, 108 pieces black pipe, for stock; and a miscellaneous cargo, the whole consisting of 517 packages, weighing approximately 133 tons.

Cartago, July 23, from New Orleans, with 13,768 board feet, yellow pine lumber, 13,261 board feet poplar lumber, for Mechanical Division; 39 reels cable, for Panama Railroad Company; 11,130 board feet yellow pine lumber, 321 bales straw, for stock.

Tenadores, July 24, from New York, with 12 crates indicator apparatus, for Fortifications Division; 53 boxes window glass, 85,600 pounds billets, for stock.

Proposals for Excavation.

OFFICE OF CHIEF QUARTERMASTER,
CULEBRA, C. Z., JULY 15, 1914.

Sealed proposals will be received at this office until 3 p m., Saturday, August 10, 1914, and then opened, for the excavation involved in laying a 30-inch pipeline between Gamboa and Miraflores. Specifications can be secured upon application to this office. Folio containing blueprints referred to in specifications may be obtained at this office upon placing a cash deposit of Five dollars ($5) for the safe return of the prints. Proposals should be marked "Proposal for excavation," and addressed to Capt. R. E. Wood, Chief Quartermaster, Culebra, C. Z.

Proposals for Backfill.

THE PANAMA CANAL,
OFFICE OF CHIEF QUARTERMASTER,
CULEBRA, C. Z., July 22, 1914.

Sealed proposals will be received at this office until 3 p.m., Monday, August 10, 1914, and then opened, for placing 42,000 yards of backfill at Fort Amador, and 16,825 yards of backfill at Perico Island. The material for the above to be obtained from Balboa dump in the vicinity of the new radio station. The above quantities to be either increased or decreased at the option of The Panama Canal Government within reasonable limits. Copy of specifications to be secured upon application to this office. Bids must be accompanied by cash, certified check, or post-office money order for five per cent of amount of bid. Proposals should be marked: "Proposals for backfill," and addressed to Capt. R. E. Wood, Chief Quartermaster, Culebra, C. Z.

Administrator's Sale.

ANCON, C. Z., July 18, 1914.

The personal effects of Duncan S. May, deceased, will be sold to the highest bidder. These effects consist of a suitcase containing clothing, two diamond rings and two gold nuggets, and may be seen at the Executive Office, Ancon. Bids upon the whole lot, or separate pieces, will be accepted up to the close of business on August 5. The administrator reserves the right to reject all bids.

JOHN K. BAXTER.
Administrator of Estates.

MOVEMENTS OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and of the United Fruit Company's Line:

		Sails.	*Arrives.*
NEW YORK TO CRISTOBAL.			
*Colon	P. R. R.	July 22	July 28
*Advance	P. R. R.	July 28	Aug. 4
*Panama	P. R. R.	Aug. 4	Aug. 10
*Allianca	P. R. R.	Aug. 10	Aug. 16
*Colon	P. R. R.	Aug. 15	Aug. 21
*Advance	P. R. R.	Aug. 22	Aug. 29
*Panama	P. R. R.	Aug. 28	Sept. 3
CRISTOBAL TO NEW YORK.			
†Allianca	P. R. R.	July 28	Aug. 3
†Colon	P. R. R.	Aug. 3	Aug. 9
†Advance	P. R. R.	Aug. 10	Aug. 17
†Panama	P. R. R.	Aug. 16	Aug. 22
†Allianca	P. R. R.	Aug. 22	Aug. 28
†Colon	P. R. R.	Aug. 27	Sept. 2
†Advance	P. R. R.	Sept. 3	Sept. 10
NEW YORK TO COLON.			
Zacapa	U. F. C.	July 22	July 29
*Calamares	U. F. C.	July 25	July 31
Prinz Sigismund	H.-A.	July 25	Aug. 4
Almirante	U. F. C.	July 29	Aug. 5
*Pastores	U. F. C.	Aug. 1	Aug. 7
Orotava	R. M.	Aug. 1	Aug. 9
Prinz Joachim	H.-A.	Aug. 1	Aug. 10
*Santa Marta	U. F. C.	Aug. 5	Aug. 12
*Tenadores	U. F. C.	Aug. 8	Aug. 14
Prinz Eitel Friedrich	H.-A.	Aug. 8	Aug. 18
*Metapan	U. F. C.	Aug. 12	Aug 19
Calamares	U. F. C.	Aug. 15	Aug 21
Danube	R. M.	Aug. 15	Aug. 23
Pr. August Wilhelm	H.-A.	Aug. 15	Aug. 24
*Zacapa	U. F. C.	Aug. 19	Aug. 26
*Calamares	U. F. C.	Aug. 22	Aug. 28
*Almirante	U. F. C.	Aug. 26	Sept. 2
*Tenadores	U. F. C.	Aug. 29	Sept. 4
Tagus	R. M.	Aug. 29	Sept. 6
*Santa Marta	U. F. C.	Sept. 2	Sept. 9
*Calamares	U. F. C.	Sept. 5	Sept. 11
COLON TO NEW YORK.			
†Tenadores	U. F. C.	July 29	Aug. 4
Metapan	U. F. C.	July 30	Aug. 6
Prinz August Wilhelm	H.-A.	Aug. 4	Aug. 12
Danube	R. M.	Aug. 4	Aug. 12
†Calamares	U. F. C.	Aug. 5	Aug. 11
Zacapa	U. F. C.	Aug. 6	Aug. 13
Prinz Sigismund	H.-A.	Aug. 9	Aug. 18
†Pastores	U. F. C.	Aug. 12	Augl 18
Almirante	U. F. C.	Aug. 13	Aug. 20
Tagus	R. M.	Aug. 18	Aug. 26
Prinz Joachim	H.-A.	Aug. 18	Aug. 26
†Tenadores	U. F. C.	Aug. 19	Aug. 25
Santa Marta	U. F. C.	Aug. 20	Aug. 27
Prinz Eitel Friedrich	H.-A.	Aug. 23	Sept. 1
†Calamares	U. F. C.	Aug. 26	Sept. 1
Metapan	U. F. C.	Aug. 27	Sept. 3
Oruba	R. M.	Sept. 1	Sept. 9
Prinz August Wilhelm	H.-A.	Sept. 1	Sept. 9
NEW ORLEANS TO COLON.			
Heredia	U. F. C.	July 25	Aug. 1
Parismina	U. F. C.	July 29	Aug. 5
*Atenas	U. F. C.	Aug. 1	Aug. 6
Cartago	U. F. C.	Aug. 5	Aug. 12
*Turrialba	U. F. C.	Aug. 8	Aug. 13
COLON TO NEW ORLEANS.			
Cartago	U. F. C.	July 30	Aug. 4
‡Abangarez	U. F. C.	July 30	Aug. 6
Heredia	U. F. C.	Aug. 6	Aug. 11
Parismina	U. F. C.	Aug. 6	Aug. 13

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Panama Railroad Company's steamers sail from Piers 8, 9, and 11, Cristobal, at 3 p. m.

Movements of Vessels at Port of Balboa.

The arrivals and departures of steamships at the port of Balboa during the week ending at noon July 25, were, as follows:

Arrivals—July 19, *Oriana*, from Valparaiso; July 20, *Quito*, from Colombian ports; *Hidalgo*, whaling tender, from South Pacific Ocean; *Ucayali*, from Callao; July 21, *Ecuador*, from Guayaquil; *Peru* (P. S. N.) from Callao; July 23, *City of Para*, from San Francisco.

Departures—July 18, *Salvador*, to Salina Cruz; July 20, *Palena*, to Valparaiso; *Pachitea*, to Callao; July 21, *Quilpue*, to Guayaquil; *Santa Catalina*, to Callao; July 22, *Hidalgo*, to South Pacific Ocean; *Oriana*, to Valparaiso; July 25, *Barracouta*, to Central American ports.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, AUGUST 5, 1914. No. 50.

The Canal Record

Official publication of The Panama Canal.

The Canal Record is published weekly free of charge, one copy each, to all employes of The Panama Canal and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information, will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Steamship "Cristobal" Makes Test Trip Between Entrance Channels.

In anticipation of the opening of the Canal to traffic on August 15, as directed by the Secretary of War, a test voyage from Cristobal to Balboa was made on Monday, August 3, by the steamship *Cristobal* of the Panama Railroad Steamship Line. A return trip was made on Tuesday, August 4.

The *Cristobal* is a steel twin-screw steamship of 9,606 gross, and 6,195 net tons. It is 489½ feet long overall, 58 feet in the beam, and was drawing about 25 feet of water at the time of passage. It is a sister ship of the *Ancon*, with which an official opening voyage will be made on August 15.

The *Cristobal* left Dock 9, Cristobal, shortly after 7 a. m., stopped before the lower guard gates of Gatun Locks at 8.15; entered Gatun Lake shortly after 11; entered Culebra Cut at 1 p. m.; reached Pedro Miguel at 2.30; reached Miraflores Locks at 3.40; entered the Pacific channel about 5.45; and arrived opposite Balboa about 6.30. The voyage was without operating incident, other than some minor difficulties with towing locomotives at Gatun and Pedro Miguel Locks. On the return trip the *Cristobal* left Balboa at 7.30 a. m., August 4, and arrived at Cristobal at about 4 p. m.

It is expected to operate the *Advance* through the Canal on Sunday, August 9. Applications for passage by old employes will be received at the office of the Governor.

Removal of Part of Mount Hope Stores.

Section B of the Depot Quartermaster's storehouse at Mount Hope, which is filled with heavy material, such as bolts, nuts, etc., will be moved to the new storehouse at Balboa as soon as the necessary arrangements can be made. The wooden supports under this section have become weakened and in time would probably give way under the heavy load. As over 50 per cent of the issues are now made from the Balboa storehouse, and the proportion will probably increase from now on, the transfer will be of advantage as far as distribution is concerned. The removal of the remainder of the stock in the Mount Hope storehouse will probably not be effected until late in the year.

Steamship Sailings Suspended.

The Colon office of the Hamburg-American Line, acting under orders from the resident director of the company in New York City, has announced the temporary suspension, on account of hostilities, of the services through the Caribbean Sea, connecting with New York. The various vessels will remain in their present ports until further orders. The following are now in Colon: *Savoia*, which arrived Saturday, August 1, from St. Thomas; *Grunewald*, arrived August 2 from Cartagena; *Prinz Sigismund*, arrived August 3 from Cuba; and *Sachsenwald*, arrived August 4 from Kingston. The *Prinz August Wilhelm*, which sailed from Colon on Tuesday, July 28, is now at Santa Marta.

Representatives of other lines connecting with the Isthmus say they anticipate no curtailment of their services.

Award for Paving Brick for Pier No. 1, Balboa.

Contract has been entered into with the Murphysboro Paving Brick Company of Murphysboro, Ill., for the manufacture of 243,810 square feet of paving brick or blocks, four inches high and about eight and one-half inches long, at the price of $0.23¼ per square foot, amounting to $56,685.82, and for 6,030 lineal feet of special brick or blocks at $0.19 per lineal foot, or a total of $1,145.79. This brick is for use in paving head wall and quay wall e–f on pier No. 1 at the Balboa terminals. Fifty per cent of the brick on this order is to be delivered on or before July 30, and the remainder on or before August 14.

Contract for Rice Straw.

The firm of Joseph V. Ferguson and Company of New Orleans, La., has been awarded the contract for furnishing the Supply Department with 300,000 pounds of rice straw for use as bedding at The Panama Canal corrals. The price per hundred pounds was $0.6975, or a total of $2,092.50.

Contract for Bonding Employes.

Contract was entered into on July 1 with the Maryland Casualty Company of Baltimore, Md., for the bonding of employes of The Panama Canal who are required to furnish sureties. The award was made to the lowest bidder, the only other regular proposal received being that of the Illinois Surety Company at 30 cents per $100. Under the contract with the Maryland Casualty Company, the rates are considerably lower than heretofore; for postal clerks, the rate is 65 cents for each $1,000 per annum; for postmasters, $1.25 for each $1,000 per annum, and for all other employes, $1.70 for each $1,000 per annum. The previous bond was executed by the Illinois Surety Company.

New P. R. R. Time Table.

A new passenger train time table will go into effect at 12.01 a. m., on Sunday, August 9. The changes are principally in the time of leaving and departure caused by the operation of trains on a slower schedule. The main line trains, which now cover the distance between Colon and Panama in one hour and thirty-five minutes, and one hour and forty minutes, will, after Saturday, be operated on a one hour and 45-minute schedule.

Progress on New Balboa Pier.

The concrete for the last section of the superstructure of the new pier, No. 1, of the Balboa terminals was poured on Friday, July 17, and on the following day, the concrete was poured for the last section of superstructure of the headwall.

The pier is 1,000 feet long and 200 feet four inches wide; the floor on either side and across the end is supported on concrete caissons, there being 209 of these sunk into bedrock to an average depth of 61 feet below mean sealevel. The concrete used in its construction, including what was required to fill caissons, amounts to 27,077 cubic yards. Sinking the caissons was begun in February, 1913, and completed in February, 1914. The superstructure was begun in March, 1914.

The head wall connects the land end of the pier with the eastward extension of the quay wall from the lumber wharf, and extends beyond it a distance of 303 feet to the north, to the point from which it is proposed to build the next pier that may be authorized. For a distance of 246 feet in slips Nos. 1 and 2, it is 38 feet wide, the ends being 66 feet wide, forming a bay in which will rest a floating landing for small boats, made necessary by the rise and fall of the tide. An ornamental concrete balustrade and seat extends along the water face. This wall is supported by 65 caissons sunk to an average depth of 47 feet below mean sea level, and 7,084 cubic yards of concrete were required in its construction.

There yet remains to be built about 1,000 feet of quay wall west of the lumber dock; the foundation work of the 6-foot caissons is about 30 per cent completed. Forces of the Division of Terminal Construction are now engaged in sinking these caissons, and in finishing the superstructure of pier No. 1 and the head wall. This work includes setting the snubbing posts and track along the two faces of the pier, attaching across the central space of the pier a number of tie rods to prevent any outward movement of the walls when the slips are dredged, paving the floors, and placing a pile fender along the full length of the face.

The new concrete docks, when completed,

will have about 5,700 lineal feet of water front.

Excavation of the slip between the quay wall and pier No. 1, is in progress. Pipeline suction dredge *No. 85* is advancing toward the head wall along that portion of the quay wall east of the lumber dock, and the old French ladder dredge *Gopher* is working in its rear, making a cut nearer to pier No. 1.

Awards for Kerosene.

Contract has been entered into with the Liberty Oil Company of New Orleans, for supplying The Panama Canal, during the fiscal year 1915, with 420,000 gallons of kerosene, in cans and cases, at the price of $0.131 per gallon, or a total of $55,020, and with the Texas Company for supplying 140,000 gallons in 50-gallon steel drums at $0.0845 per gallon.

PERSONAL.

Mr. W. R. McCann, supervisor in the former Division of Erection, resigned, effective July 29, and, accompanied by Mrs. McCann, sailed for the United States, Tuesday, Aug. 4. He was appointed to the Canal Service on October 21, 1907, and upon arrival on the Isthmus, was assigned to duty at Culebra in the old Department of Lock and Dam Construction. He resigned on October 12, 1908, to take a special 2-year course in engineering at the University of Wisconsin, but was reappointed to the Canal Service on June 18, 1910, as assistant engineer in the First Division. Under the direction of the Electrical and Mechanical Engineer, he designed the entire transmission system of The Panama Canal, and, as supervisor, has had charge of its installation, remaining to see the work nearly completed. From July 27 to September 1, 1913, he was on detached duty in the United States to supervise electrical and structural steel drawings of the four new substations, material for which was urgently required by The Panama Canal. Prior to coming to the Isthmus, he was with the Chicago Edison Company from 1904 to 1907, and again in the summer of 1909. Recently, he has been engaged in the preparation of a thesis on the transmission system, to be submitted to the University of Wisconsin for a master's degree. He is a member of the American Institute of Electrical Engineers, and is secretary-treasurer of the Panama section of that organization; also, an associate member of the American Society of Civil Engineers, and a member of the Society for the Promotion of Engineering Education.

Mr. Walter F. Beyer, assistant engineer in charge of the Division of Lighthouses until its merger on June 16 with the Division of Canal Transportation, terminated his service with The Panama Canal, effective July 15, and has gone to Peru on a month's visit. He was appointed to the Canal Service on February 16, 1911, as assistant engineer in the First Division, and upon his arrival on the Isthmus was charged by the former Assistant Chief Engineer with the preparation of a detailed project for lighting and buoying The Panama Canal, and the approaches thereto. This work, with the exception of the west breakwater light in Colon Harbor, has been practically completed. Before coming to the Isthmus, he had been connected with the United States Lighthouse Establishment since 1893, with headquarters for the greater part of the time at Detroit, Mich., his work consisting of designing and constructing light stations on the Great Lakes. He resigned from the Lighthouse Establishment in January, 1911.

Verdict of Coroner's Jury on "Teredo" Explosion.

The coroner's jury, impaneled to investigate the cause of the dynamite explosion which wrecked and sank the drill barge *Teredo*, causing the death of six employes, has rendered the following verdict:

ANCON, C. Z., July 29, 1914.

We, the coroner's jury impaneled to inquire into and determine the fact and cause of death, and responsibility therefor, of David Kett, J. W. Jones, J. F. Smith. Charles Sackett, James Springer, and Evans Boyce, having viewed the bodies, and identified them as those of the persons abovenamed; visited the scene of the explosion; examined witnesses and taken testimony, find, that the abovementioned deceased persons came to their death as a result of injuries received when the drill barge *U. S. Teredo* was wrecked and sunk by a premature explosion of dynamite amounting to about 3,200 pounds, contained in eight drilled holes in the Canal prism under water near the east bank of the Canal, opposite Cucaracha slide, about 1.05 p. m., Monday, July 20, 1914.

From a careful consideration of all evidence and our observations, we do further find that the explosion was accidental, and we believe that it was probably caused by using a steel drill bar in a drill machine to tamp or force a charge of dynamite into partially loaded hole No. 6 under drill machine frame No. 1 (or A) of said drill barge, this operation being under the direction and personal handling of Capt. David Kett, while in the performance of his duty as foreman in charge of all work and men on board the drill barge *U. S. Teredo*.

CHARLES ROSE, FREDERICK QUIMBY, H. C. CLARK,
Jurors.

C. W. BARBER, *Coroner.*

The Panama railroad embankment, south of Pedro Miguel, will be widened for a short distance, in order to provide space for laying the Gamboa-Miraflores pipe line. Material for this purpose will be obtained fron the dry dock excavation at Balboa, as the use of rock from the dry dock pit for armoring the Naos Island breakwater has been temporarily discontinued.

Insane Employes.

Name.	*Check No.*	*Native of*	*Isthmian residence.*	*Employed by*	*Date of commitment.*
Solomon Brown	146580	Jamaica	Panama	Second Division	July 29.
John Henry	71829	Antigua	Balboa	P. R. R.	July 27.
Gabriel Torval	85487	Guadeloupe	Gatun	P. R. R.	July 27.

The estates of these insane employes of the Panama Canal or the Panama Railroad Company are now in process of settlement, and any claims against these estates, or any information which might lead to the finding of heirs or to the recovery of property, bank deposits, postal savings or postal money order deposits, or any other moneys due them, should be presented at once to the Administrator of Estates, Ancon, C. Z. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once.

TEST OF EMERGENCY DAM.

Full Head of Water Against East Dam at Gatun.

All the emergency dams guarding the lock approaches were tested, as far as practicable, directly after their completion and accepted as satisfactory. A supplementary test has since been made on the east dam at Gatun Locks, to determine its behavior under pressure of a full head of water, with Gatun Lake at normal level and an empty chamber on the downstream side of the dam. This is as near the final test as can be made. The ultimate test of the dams, for their primary duty of checking the rush of water through the lock chamber if the gates should be broken down, will be made, if ever, only in consequence of accident. The test under full head of stationary water was meant to show the amount of leakage through the crevices between the gates and at the sill at the bottom of the chamber, against which rest the lower ends of the girders holding the gates; and any deflection of the horizontal truss across the chamber, supporting the pivot end of the gate girders.

The dam was swung into closed position and the gates lowered and wedged. The intermediate gates of the upper chamber were closed, and water was admitted to fill the upper section to the level of the lake. The upper guard and operating gates were then opened, and the chamber was emptied through the culverts. This made a head of water of 45 feet on the upstream side of the dam.

The greatest leakage occurred at the bottom of the gates. Under the heavy pressure, the water came through with great velocity, and in a kind of spray; as well as could be discerned, the leakage was principally at the pockets in the sill into which the ends of the girders had been swung. The culverts were then closed, and the chamber was allowed to fill from the leakage. The leakage through the dam was measured by the rate of filling of the lock; under the maximum head it amounted to 950 cubic feet per second. The surface rose five feet in the first 10 minutes, and the chamber filled to the level of the lake in two hours and 50 minutes. This was the 400-foot section of the lock; to have filled the entire 1,000-foot chamber would have required about seven hours. The surface current on the upstream side of the dam was so slight that it could not be measured; a north breeze blowing at the time caused the water to appear to be flowing toward the lake.

Measurements of the deflection of the horizontal truss were made by means of a steel wire, stretched between the side and center walls of the lock, close by the truss. They showed maximum movement in a vertical plane amounting to .097 foot under the increasing head of water, and .079 foot under decreasing head.

Award of News Agency Privilege.

The Panama railroad news agency privilege for a period of five years, dating from August 1, 1914, has been awarded to I. L. Maduro, Jr. of Panama City. Four proposals were received, as follows: Albert Lindo, at $2,000 per annum; A. S. Fisher, at from $2,100 to $2,400 per annum; Chas. E. Mead, at $4,500 for the entire 5-year period, and I. L. Maduro, Jr., at $3,072 per annum. The previous contract was held by Albert Lindo, and was based on a sliding scale, namely, $1,800 per annum for the first two years, $1,900 per annum for the second two years, and $2,000 for the fifth year.

PANAMA RAILROAD COMPANY.

(PASSENGER TRAIN TIME TABLE NO. 19—IN EFFECT AUGUST 9, 1914.)

COLON-PANAMA MAIN LINE SERVICE.

SOUTHWARD.					STATION.	NORTHWARD.					
FIRST-CLASS.						FIRST-CLASS.					
Sunday only	Saturday only.	Daily.				Distance from Colon.	Daily.			Sunday only.	
73	71	7	5	3			4	6	8	72	74
P. M.	P. M.	P. M.	A.M.	A. M.			A.M.	P.M.	P.M.	A. M.	P. M.
9.35	11.35	4.25	11.05	7.00	Lv. †Colon Arr.	0	9.20	12.45	7.15	1.15	11.15
s 9.40	s11.40	s4.30	s11.10	s7.05	†Mount Hope	1.57	s9.15	s12.40	s7.10	s 1.10	s11.10
f 9.48	f11.48	4.38	11.18	7.13	New Gatun	5.94	9.07	f12.33	f7.02	f 1.02	f11.02
s 9.50	s11.50	s4.40	s11.20	s7.15	†Gatun	6.79	s9.05	s12.31	s7.00	s 1.00	s11.00
	A. M.										
f10.04	f12.04	s4.55	s11.35	s7.30	†Monte Lirio	14.48	s8.50	s12.16	s6.45	f12.45	f10.45
f10.15	f12.15	s5.06	s11.46	s7.41	†Frijoles	20.92	s8.39	s12.05	s6.34	f12.34	f10.34
								P. M.			
f10.23	f12.23	s5.14	f11.54	s7.49	Darien	25.27	s8.31	f11.57	s6.26	f12.26	f10.26
			P.M.								
s10.34	s12.34	s5.24	s12.04	s7.59	†Gamboa	30.26	s8.20	s11.46	s6.15	s12.15	s10.15
f10.46	f12.46	f5.35	f12.15	f8.10	†New Culebra	35.19	f8.10	f11.36	f6.05	f12.05	f10.05
										A. M.	
s10.59	s12.59	s5.49	s12.29	s8.24	†Pedro Miguel Jct	40.24	s7.57	s11.23	s5.52	s11.52	s9.52
11.05	1.05	f5.55	f12.35	f8.30	Miraflores Locks	42.35	f7.50	f11.16	f5.45	11.45	9.45
s11.09	s 1.09	s5.59	s12.39	s8.34	†Corozal	44.24	s7.46	s11.12	s5.41	s11.41	s9.41
s11.15	1.15	s6.05	s12.45	s8.40	Balboa	46.25	s7.40	s11.05	s5.35	s11.35	s9.35
11.20	1.20	6.10	12.50	8.45	Arr. †Panama. Lv.	47.61	7.35	11.00	5.30	11.30	9.30
P.M.	A. M.	P. M.	P. M.	A. M.			A.M.	A.M.	P.M.	P M.	P. M
73	71	7	5	3	*f.* Flag. †Telegraph station.		4	6	8	72	74
Sunday only		Daily.					Daily.			Saturday only.	Sunday only

Northward main line passenger trains will wait at Pedro Miguel Junction for connections from Las Cascadas branch trains, and northward Las Cascadas branch shuttle trains will wait at Pedro Miguel Junction for southward main line connections unless otherwise instructed.

LAS CASCADAS-PANAMA SHUTTLE TRAIN SERVICE.

SOUTHWARD.								STATION.	NORTHWARD.							
SECOND-CLASS.									SECOND-CLASS.							
Sunday only.		Daily.							Daily.						Sunday only.	
55	53	51	49	47	45	43	41		40	42	44	46	48	50	52	54
P. M.	A. M.	P. M.	P. M.	P. M.	P. M.	A. M.	A. M.		A. M.	A. M.	P. M.	P.M.	P. M.	P. M.	A. M.	P. M.
9.15	1.42	11.35	6.40	5.10	1.25	10.45	7.10	Leave. Las Cascadas Arrive.	6.50	9.13	1.05	3.50	6.26	11.25	1.30	9.05
9.21	1.47	11.40	6.46	5.16	1.30	10.50	7.15	Empire	6.45	9.07	12.59	3.44	6.21	11.20	1.25	9.00
9.25	1.52	11.44	6.51	5.21	1.35	10.55	7.20	Culebra	6.39	9.01	12.55	3.40	6.17	11.16	1.21	8.56
9.41	2.09	11.57	7.06	5.36	1.50	11.10	7.35	Paraiso	6.26	8.46	12.41	3.26	6.03	11.04	1.06	8.41
9.44	2.12	11.59	7.09	5.39	1.53	11.13	7.38	Pedro Miguel Jct	6.23	8.43	12.38	3.23	6.00	11.01	1.03	8.38
		A.M.														
9.50	2.18	12.05	7.14	......	1.59	11.19	7.44	Miraflores Locks	6.16	8.36	12.31	3.16	......	10.56	12.56	8.31
9.54	2.23	12.09	7.19	......	2.04	11.24	7.49	Corozal	6.11	8.31	12.26	3.11	......	10.51	12.51	8.26
10.00	2.29	12.15	7.25	......	2.10	11.30	7.55	Balboa	6.05	8.25	12.20	3.05	......	10.45	12.45	8.20
10.05	2.35	12.20	7.30	......	2.15	11.35	8.00	Arrive. Panama Leave.	6.00	8.20	12.15	3.00	......	10.40	12.40	8.15
P. M.	A. M.	A. M.	P. M.	P. M.	P. M.	A. M.	A. M.		A. M.	A. M.	P. M.	P. M.	P.M.	P. M.	A. M.	P. M.
55	53	51	49	47	45	43	41	Trains stop at all stations.	40	42	44	46	48	50	52	54

COLON-GATUN SHUTTLE TRAIN SERVICE.

SOUTHWARD.				STATION.	NORTHWARD.			
SECOND-CLASS.					SECOND-CLASS.			
127	125	123	121		122	124	126	128
P.M.	P.M.	A.M.	A.M.		A. M.	A. M.	P. M.	P. M.
5.05	1.30	9.30	5.50	Leave. Third Street, Colon Arrive.	6.50	10.40	2.40	6.05
5.06	1.31	9.31	5.51	Fifth Street, Colon	6.47	10.38	2.38	6.03
5.08	1.33	9.33	5.53	Passenger station, Colon	6.45	10.36	2.36	6.01
5.10	1.35	9.35	5.55	Commissary, Cristobal	6.43	10.34	2.34	5.59
5.12	1.37	9.37	5.57	Shops, Cristobal	6.41	10.32	2.32	5.57
5.16	1.41	9.41	6.01	Mount Hope	6.37	10.27	2.27	5.52
5.22	1.47	9.47	6.07	Mindi	6.31	10.21	2.21	5.46
5.27	1.52	9.52	6.10	New Gatun	6.28	10.18	2.18	5.43
5.30	1.55	9.55	6.13	Arrive. Gatun Leave	6.25	10.15	2.15	5.40
P.M.	P.M.	A.M.	A.M.		A. M.	A. M.	P. M.	P. M.
127	125	123	121	Trains stop at all stations.	122	124	126	128

Award for Material for New Cristobal Pier.

The United States Steel Products Company has been awarded the contract for furnishing the material for the steel cylinders and forms in connection with the construction of the new concrete pier, No. 7, of the Panama railroad, at Cristobal. The order consists of 4,285,063 pounds of steel for the 6-foot cylinders; 620,953 pounds of steel for the cylinder forms; 714 pounds of wrought iron lifting hooks, 102 in number, for the steel forms; 182,768 pounds of rivets, and 9,120 pounds of bolts and nuts, the whole aggregating 5,098,618 pounds at $0.01447 per pound, or a total of $73,777.33.

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The launch *Q* has been transferred from the Supply Department to the Mechanical Division.

The Governor has approved the recommendation of the Executive Secretary that such schools as may be required during the next school year be maintained at Las Cascadas, Empire, and Culebra, at the expense of the Canal Zone Government.

MATERIALS FOR CONCRETE.

Consumption of Sand, Cement, and Crushed Rock about One-Third of Former Rate.

With the increased use of Chagres River gravel in concrete for the Canal work, which is being laid now at about half the rate at which concrete was placed during the height of construction, the consumption of sand and rock has fallen to about a third of what it was when the massive masonry of the locks and spillways was under construction. Cement is being used at about 45 per cent of its former maximum rate. The principal pieces of work in which these materials are being used at this time are the terminal facilities at both ends of the Canal, the permanent buildings for operation and for employes' quarters, the fortifications, and municipal engineering construction.

Sand is being brought from Punta Chame at the rate of approximately 20,000 cubic yards per month, which is about half of the production from this beach when the lock work was in full swing, or about 30 per cent of the former output from both Chame and Nombre de Dios. The floating equipment now in the sand service consists of the ladder dredge *Gopher* and the tug *Chame*, handling seven 500-yard barges. The sand is unloaded at the lower east flare wall of Miraflores Locks, and handled direct into dump cars.

From February 1, 1914, to July 31, the sand was handled by a locomotive crane and one of the cantilever berm cranes formerly used for mixing and placing concrete in the locks; since August 1, a second locomotive crane has been substituted for the cantilever crane. The old stock pile for the lock construction is used as an auxiliary source of supply.

The output of rock from Ancon crusher has met all demands since the closing of the Porto Bello crusher on April 30, 1912, though there was a temporary shortage of No. 2 rock several months ago, due to extraordinary use of it in the building and landscape work at the new town of Balboa. The present output is about 1,800 cubic yards per day. This is approximately three-fourths of the product from this crusher alone at the height of operations, or about 35 per cent of the rate of production of both the Ancon and Porto Bello plants during the six months from July 1, 1911, to January 1, 1912, for which the total output was 359,025 cubic yards at Ancon, and 439,833 cubic yards at Porto Bello. Of the rock now turned out from the Ancon crusher, approximately 40 per cent is No. 1, and 60 per cent is No. 2. Screenings amount to about 10 per cent of the rock crushed, and are used in roadwork and building construction.

Cement is now received at the rate of approximately 2,600 barrels, or 10,400 bags, a day, as compared with a former consumption of about 6,000 barrels daily. Present deliveries are being made entirely on the *Ancon* and *Cristobal* of the Panama Railroad Steamship Line, though the *Colon* brought 5,000 barrels on July 3. The last shipments in chartered vessels were received on September 13, 1913, and March 27, 1914.

Chagres River gravel is being reclaimed at the rate of about 1,500 cubic yards a day. It is excavated by a ladder dredge, now working a little above the former village of Cruces, and handled to the unloading wharf at Gamboa in clapets. The tender *De Lesseps*, formerly towing barges in this service, was returned to Culebra Cut in April, as it was not strong enough to handle the barges against the currents which prevail during the rainy season. The gravel is unloaded by a cantilever crane, formerly at Balboa in the sand service, with a capacity of 250 cubic yards per hour. The work of this crane is supplemented by a locomotive crane equipped with a clamshell bucket. Prior to the beginning of the dredging service, gravel was reclaimed by a maximum of two locomotive cranes, equipped with ¾-cubic yard buckets. One of these, operated by the Panama railroad, made a high daily record for such equipment by excavating 1,203 cubic yards on February 21, 1913. Authority has been granted for transfer of another of the sand unloading cranes at Balboa to Gamboa, to furnish additional facilities for handling the gravel.

The requirements of sand, gravel, and crushed rock during the six months from June to November, 1914, inclusive, have been estimated, as follows:

Month.	Sand.	Gravel.	Ancon rock.	
			No. 1	*No. 2*
June	25,024	22,052	17,060	24,609
July	21,780	24,608	11,660	23,804
August	18,270	25,608	8,460	22,539
September	21,820	24,608	12,560	15,073
October	21,675	24,408	12,560	14,029
November	20,875	24,908	12,560	13,029
Total	129,444	146,192	74,850	113,083

It will be seen from the above tabulation that the use of sand and crushed rock is decreasing, while the demand for gravel remains practically constant. The distribution of the six months' demand among the various divisions is shown below:

Division.	Sand.	Gravel.	Ancon rock.	
			No. 1	*No. 2*
Municipal Eng.	12,725	5,642	7,500	30,981
Dredging	150	....	110	....
Mechanical	1,200	....	....	....
Terminal Con.	55,800	63,300	39,700	36,000
Supply Dept.	41,000	150	....	41,000
Fortifications	18,005	....	22,500	4,880
Panama railroad	564	89,100	1,500	222

Included with the quantities for the Division of Municipal Engineering are the quantities required for the work under the former Division of Erection, principally in the completion of lock machinery installation and the installation of electrical equipment. The Division of Terminal Construction will use also 3,250 cubic yards of rock screenings, and, in addition, 15,000 cubic yards extra of gravel will be kept subject to its order.

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Obituary.

The death of John Crittenden Warren, local agent of the Panama Railroad Company at Colon, occurred at Atlanta, Ga., on July 21. He had been in ill health for some time, and was granted a leave of absence on June 18. In point of service, he was one of the oldest employes of the railroad company, having first entered its employ, as a conductor, on September 10, 1887, under the late Col. A. L. Rives, then its superintendent. He was appointed general ticket agent on October 14, 1888, and later, in addition to his other duties, was placed in charge of the baggage and local express business of the company. On January 18, 1890, the positions of general ticket and baggage agent and master of trains were consolidated, and, in addition to performing these duties, he served as acting general superintendent at different times between November 26, 1890 and November 27, 1895, in all about 24 months. On November 14, 1895, he was promoted to assistant general superintendent and master of trains, which position he filled until April 11, 1900, when he resigned and went to Atlanta, Ga. In July, 1905, he returned to the Isthmus and reentered the railroad's employ as claim clerk; the following year he was made cashier of the local agency at Colon; in 1909, he was appointed clerk in charge of the Colon agency, and in 1913, was promoted to local agent. He was born at Edenton, N. C., April 13, 1845, and entered the University of Virginia in 1861, but left the institution later in the year on account of the war, and enlisted as a private soldier in Company C, Fifty-second North Carolina Regiment of the Confederate Army. He was promoted to sergeant-major, second, and first lieutenants, successively. He was wounded five times at the battle of Gettysburg, and was taken prisoner, remaining in the Federal hospitals for about a year. In January, 1865, he was retired from active service on account of his wounds, and was assigned to the Bureau of Conscriptions, where he remained until the war was over. In January, 1866, he entered the service of the Virginia and Tennessee Railroad, now a part of the Norfolk and Western Railroad, at Lynchburg, Va. In June, 1868, he left the service of that company, and entered the employ of the Orange and Alexandria Railroad, now a part of the Southern Railway system, continuing with that company until 1875, when he was appointed agent of the Southern Express Company at Jackson, Tenn., where he remained until he came to the Isthmus. He is survived by his wife, Mrs. Kate P. Warren, residing at No. 109 Hunter street, Atlanta, Ga., and by a daughter, Mrs. Patty W. Darby, No. 29 Avery Drive, Ansley Park, Atlanta.

James H. Roake, an American employed as a plumber in the permanent building division, died at Ancon hospital on Monday, August 3, at 7.30 a. m. He was born at Puskville, N. Y., was 35 years of age, and married. He entered the Canal Service on March 20, 1914. He is survived by his wife, Mrs. Margaret Roake, and three sons, living at No. 14 East Twenty-eighth street, Bayonne, N. J.

Word has been received of the death, at Brooklyn, N. Y., of James Wilson, a shipfitter, who was in the Canal Service from August 17, 1909, to January 13, 1912, first in the old Atlantic Division, and later, in the former Pacific Division. He was 48 years old, and is survived by his wife, a daughter, and three sons, the latter having been former Canal employes. He was a member of Isthmian Canal Lodge, No. 1, Independent Order of Odd Fellows.

The death of Charles E. Rottger, a first-class policeman in the service of the Canal Zone police department, occurred at Bristol, Conn., on July 10. He was born at Hoboken, N. J., was 28 years of age, and unmarried. He entered the Canal Service on January 9, 1913, and was stationed at Empire during the greater part of his residence on the Isthmus. From 1907 to 1910, he served in the 83d Company of the Coast Artillery Corps, with station at Fort Revere, and from 1910 to 1912, served in the 59th Company of the Coast Artillery Corps, with station at Fort Andrews, Boston Harbor. A sister, Mrs. Marie Ohler, resides at No. 140 West street, Bristol, Conn.

EXECUTIVE ORDER.

Rules and Regulations for the Operation and Navigation of the Panama Canal and Approaches Thereto, Including All Waters Under Its Jurisdiction.

GENERAL REGULATIONS.

1. The following rules and regulations, pertaining to the operation and navigation of the Panama Canal, are published for the benefit of all vessels coming within its jurisdiction, and masters of vessels, or their agents, one or both, desiring to use the Canal and terminal ports, or any of the waters, must observe them.

2. Any person violating any of the provisions of the rules and regulations established hereunder shall be deemed guilty of a misdemeanor and, upon conviction thereof, shall be punished by a fine of five hundred dollars ($500), or by imprisonment not to exceed six months, or by both such fine and imprisonment, at the discretion of the court.

3. After entering, no vessel shall leave one of the terminal ports for the purpose of passing further into the Canal, until authority in proper form has been given by the captain of the port.

4. The Canal authorities may deny any vessel the privilege of passing through the Canal, the cargo of which is of such a nature that it might, in any way, endanger the locks, wharves, equipment, or any part of the Canal, by being explosive or highly inflammable. The further right is reserved to them to impose such safety regulations as they may see fit upon any such vessel while in Canal waters.

5. Vessels desiring to pass through the Canal, whose cargoes consist of high explosives, should, when practicable, so report and obtain permission from the Canal authorities to use the Canal before leaving their ports of departure.

6. In any case where the condition of the cargo, hull, or machinery is such that it is liable to endanger or obstruct the Canal, permission to pass through may be refused until steps have been taken to remedy the defect.

7. All vessels, having a specially dangerous cargo, such as explosives or oils of any kind, shall fly a red flag by day at the masthead, and hoist a red lantern at night.

8. The following information must be ready for immediate delivery upon the arrival of the ship in port: Name of vessel, nationality, name of master, date and time of arrival, port of departure, date of departure, port of destination, length, draft, beam, registered tonnage, crew and passenger list, and character of cargo; the bill of health should also be ready for presentation.

9. The Canal authorities may dispatch vessels through the Canal in any order and at any time they may see fit; priority of arrival at a terminal does not give any vessel the right to pass through the Canal ahead of another that may arrive later, although this will be a consideration in determining the order of passage.

10. The Canal authorities may hold a vessel for the purpose of investigating any report made against her by the proper persons, for the violation of the rules of the Canal or the laws of the Canal Zone, or of the United States, or for the investigation or adjustment of any claims or disputes that may arise on either side, but no vessel shall have any claim for damages against the Canal for any delay in consequence thereof.

PILOTS AND MOVEMENTS OF VESSELS.

11. Vessels will not be allowed to enter or depart from terminal ports between sundown and sunrise, without having obtained permission from the proper authorities. This will not be interpreted to mean that a vessel in danger or distress will be prohibited from entering a terminal port at any time in case of necessity or emergency, but such vessel should, when practicable, give due notice in advance, by radio or otherwise, and obtain a pilot if possible; nor shall this be interpreted to prevent a vessel from anchoring just inside of the breakwater in the outer harbor at the Atlantic terminal, or to seaward of the entrance to the dredged channel on the Pacific side, between sundown and sunrise.

12. Except when exempted from the operation of this rule by the Governor of The Panama Canal, no vessel will be allowed to pass through the Canal, enter or leave a terminal port, maneuver, shift berth, go alongside of, or leave any wharf or dock in Canal waters, without having a regularly authorized Government pilot on board.

13. Pilotage for vessels in transit through the Canal will be free, nor will they be charged pilotage for entering or leaving a terminal port when it is for the sole purpose of passing through the Canal, but should any such vessel, while in Canal waters, discharge or receive freight or passengers, or take on board supplies, provisions, stores, or fuel, or remain for the purpose of effecting repairs, or make either terminal a port of call, she may be liable for entrance or departure pilotage, as the Canal authorities may direct.

14. Pilotage in and out of the Atlantic and Pacific terminals of the Canal is compulsory, and all vessels, unless otherwise exempted, will be compelled to take a regular Government pilot upon entering or leaving. The fact that the master or any officer of any vessel holds a pilot's license for any of the waters of the Canal Zone will not authorize the vessel to enter without taking a Government pilot.

15. No person, steamer, company, or corporation will be allowed to maintain or employ pilots in Canal waters for the exclusive use of their own or any other vessels; all pilots, without exception, must be duly authorized and licensed by the Canal authorities and be in the employ of the Canal. This shall not be interpreted to mean that the Canal authorities shall be prohibited from issuing restricted pilot licenses for small craft in Canal waters, or any other that they may see fit.

16. Pilots will meet incoming vessels inside of the breakwaters at the Atlantic terminal; should there be any delay, vessels may anchor just inside of the Atlantic breakwaters or to seaward of the Canal entrance on the Pacific side, make the usual signal for a pilot, and await his arrival. Should a vessel desire a pilot to meet her outside of the Atlantic breakwaters, she should remain there and make signal to this effect.

17. Whenever practicable, vessels should send notification of the probable time of their arrival, by radio or otherwise, so that pilots may meet them promptly.

18. All vessels entering port must take the berths or docks assigned them by the captain of the port, and they will not be allowed to shift berths or moorings without the proper permission.

19. Except in the prescribed limits in Gatun Lake and adjacent waters, no vessel will be allowed to anchor in any part of the Canal, nor on any of the marked ranges; should an emergency arise wherein it may be necessary to let go an anchor, whenever practicable, the pilot should be consulted before doing so.

20. At all times when a vessel is under way in the terminal ports or in transit through the Canal, except while passing through the locks, with a duly accredited pilot on board, the captain or master of a vessel will be held solely responsible for the safety, handling, and proper navigation of the vessel; the pilot is to be considered as being on board solely in an advisory capacity, but masters of vessels must abide by the rules and regulations of the Canal, as interpreted to them by the pilots.

21. The pilot shall be freely consulted at all times to insure safety in navigation, and that no accident or damage result from ignorance on the part of the master or officers of the vessel in transit; and should any such master, officer, or person connected with the ship, give or cause to be given any order, or direct any change of speed or direction of the ship on his own initiative without the knowledge of the pilot, which may result in damage to his own or any other vessel, dredger, or property of any kind, or endanger or block the Canal, or any of its equipment, he will be held strictly responsible, and the vessel itself may be held by legal process until settlement in full shall have been made to cover any loss or damage that may have resulted in consequence thereof.

22. Inasmuch as every vessel has its own individual peculiarities in handling, answering her helm, variation in headway due to speed, it shall be the duty of the master of the vesesl, or his qualified representative, to be present at all times on the bridge of the ship to keep the pilot informed in regard to these matters, so that the pilot may be best qualified to give advice in regard to navigating the ship safely.

23. The pilot should not only be freely consulted at all times on matters relating to the navigation of the ship, but to the rules and regulations pertaining to the same, to signals, locks, weather, or other matters of importance relating to the movements of the vessel. While on board, he is the properly qualified representative of the Canal authorities in these matters, and should any accident or damage result from failure to consult him, or from not following his advice, the vessel shall be held responsible for such accident or damage.

24. The pilot must inform the master or captain that his (the pilot's) experience and knowledge of the Canal is at his (the master's or captain's) disposal and that, inasmuch as he (the pilot) is not in a position to know the defects, difficulties, or eccentricities of the vessel in maneuvering, while getting under way, or in transit, the responsibility for navigating the vessel is entirely in the hands of the master or captain, except when passing through the locks.

25. When in the opinion of the pilot, the master or captain, or their representatives, shall fail to follow his advice and thereby endanger his own or any other vessel, or any part of the Canal or its equipment, the pilot shall then direct the master or captain of such vessel to stop, anchor, or moor, until the facts have been laid before the Canal authorities.

26. Pilots shall conform to such other rules as shall be prescribed for their guidance by the Governor of The Panama Canal.

PREPARATION FOR AND TRANSIT THROUGH THE CANAL.

27. Vessels shall, at all times, when under way in Canal waters, when passing through

the locks, or moored temporarily in transit through the Canal, keep a full watch on deck and in the engine room, in the same manner in which they are kept at sea.

28. While a vessel is under way in Canal waters, no one shall be allowed on the bridge or in the pilot house, except the pilot and other representatives of the Canal, the master, and such officers and crew of the ship as may be necessary for her management, direction, and safety. Under no condition will any passenger or any other unauthorized person be allowed on the bridge or in the pilot house.

29. Before beginning the passage of the Canal vessels will be required to have hawsers, lines, and fenders ready for passing through the locks, for warping, towing, or mooring as the case may be; and will have both anchors ready for letting go. During the passage, at all times while the vessel is under way or moored against the lock walls, her deck winches, capstans, or other power for handling lines, as well as her mooring bits, deck chocks, cleats, hawsepipes, etc., shall be ready for handling ship to the exclusion of all other work.

30. At least one boat for handling lines shall be kept ready for lowering.

31. Should any part of a vessel's engines, machinery, condensers, boilers, shafts, propellers, steering gear, valves, hull, equipment, or anything else be in such condition that it might, through failure, interfere to prevent or retard a vessel's passage through the Canal, such fact must be presented to the captain of the port before a vessel will be allowed to enter.

32. All sailing craft, vessels whose machinery may be in bad condition or disabled, and vessels without motive power, must be towed through all parts of the Canal lying between the entrances, for which service an additional charge will be imposed.

33. When passing through the locks, vessels will habitually be towed by Canal equipment. In exceptional instances, as when such equipment is not available, or in case of very small vessels, special permission to use the vessel's own motive power may be given by the Governor. Without such special permission, the vessel's motive power will not be used while passing the locks.

34. Upon approaching the lock, vessels will moor against the middle approach wall with the bow at least 50 feet from the nearest fender chain. They will then be taken in charge by the lock force and made ready for passage through the locks.

35. When these regulations are complied with in all respects, responsibility for handling vessels through the locks will rest with the Canal operating force, but the crew and officers will be required to render such assistance as may be necessary to supplement the lock force. To assist in insuring safety of passage, the lock force will take complete supervision of the engine room, even to the extent of sealing the engines if the Governor shall so direct.

36. The Governor of The Panama Canal is hereby authorized to issue, from time to time, orders regulating the procedure in passing vessels through the locks, and the details of the supervision which will be exercised by the lock force. Such orders, when issued, shall have the force of these regulations.

37. In cases where special permission to use the vessel's own motive power has been given by the Governor, he shall indicate what precautions must be taken to insure safety in passing through the locks. His directions as to such precautions must be observed strictly and in every detail.

38. Vessels will be liable for any damage to Canal structures or equipment while passing through the locks, caused through disregard or noncompliance of these rules and regulations or any orders which may be issued by the Governor to regulate such passage. The Panama Canal will not be held liable for any damage to the vessel occasioned by such disregard or noncompliance.

39. Masters of vessels will not allow any one to take passage on their ships while passing through the Canal, except the ship's officers, crew, and duly accredited passengers, and such officials and other persons as may be designated by the Canal authorities

RADIO COMMUNICATION AND REPORT.

40. As soon as radio communication can be established with the Canal, vessels should report their names, nationality, length, draft, tonnage, whether or not they desire to pass through the Canal, require coal, provisions, supplies, repairs, to go alongside of a wharf, the use of tugs, probable time of arrival, length of stay in port, or any other matters of importance or interest. If this information has been previously communicated, through agents or otherwise, to the captain of the port, it will not be necessary to report by radio, but the probable time of arrival should always be sent.

41. Control of radio communication is entirely in the hands of the radio shore stations. No vessel will be allowed to interfere in the slightest degree with the Canal radio stations; upon an order being received by a vessel at any time while within the waters under the control of the Canal, to discontinue using radio, even if in the midst of transmission of a message, she shall immediately comply.

42. Upon a ship's arriving within the 15-mile limit, and until leaving the 15-mile limit of the Canal Zone, she shall transmit only with low power, not exceeding ½-kilowatt.

43. Messages to stations will be sent only to Colon station (NAX) when in Gatun Locks and to northward thereof, and only to Balboa station (NPJ) when in Miraflores Locks and to southward thereof; between these two points, ships may work to either station, preferably to the nearer one; the high power station, (Darien) at Darien, will not handle commercial work and will not be called for Canal business, except in case of emergency.

44. All messages between ships in the Canal Zone and ships at sea must be forwarded through the nearer shore station.

45. Messages from ships in the Caribbean Sea for ships in the Pacific waters, or *vice versa*, shall be routed through the Canal Zone shore stations.

46. All vessels fitted with radio, after leaving the terminal harbor to pass through the Canal, shall keep an operator on watch until the further terminal harbor has been reached; this applies to the time when they are anchored in Gatun Lake, while passing through the locks, or moored to the lock walls, or to any of the wharves in the Canal proper, as well as when they are under way. Messages relating to the ship's movements and the Canal business shall take precedence over all commercial messages.

47. Pilots on vessels passing through the Canal shall have the right to use a vessel's radio freely for the transaction of the Canal business.

48. Under the direction of the pilots, vessels will, from time to time, report their progress through the Canal; accidents to machinery, propellers, steering gear, equipment, or anything else that may delay them or require assistance; any sickness or casualties that require medical attendance from Canal officials; or any other matters of importance that may arise.

49. No charges will be imposed against the Canal by vessels receiving or sending messages in relation to Canal business.

50. No vessel will be allowed to communicate with any lock or signal station while in transit through the Canal, except through the pilot; all messages of any kind must be sent through him. This does not apply to vessels moored at the terminals at Cristobal or Balboa, before entering, or after having passed through the Canal, which may wish to communicate through the terminal stations.

51. Vessels in transit through the Canal can communicate with the locks and signal stations, through the pilots, both by the international code and special signals; information on this subject may be obtained from the Governor of The Panama Canal.

ACCIDENTS OR DEFECTS.

52. If any defect in any part of a vessel's hull, machinery, steering gear, or equipment be discovered while in transit through the Canal, of such a serious nature that it might interfere with the further passage of the vessel, or be liable to block the Canal, the vessel shall stop and, if practicable, be anchored or moored at the first available place. A full report shall immediately be made to the Superintendent of Transportation, through the captain of the port, stating fully the cause and nature of the trouble, probable delay, and request for assistance if it be necessary.

53. Under any and all circumstances, whenever a vessel is liable to become unmanageable from any weakness, or damage to her machinery, steering gear, or for any other reason, she shall immediately, through the pilot, request the assistance of a tug.

FIREARMS.

54. No firearms of any kind shall be discharged while in transit through the Canal or Canal waters, and every precaution will be taken to prevent this.

SUBSISTENCE OF PILOTS.

55. Pilots and other authorized persons on duty, belonging to the Canal Service, shall be subsisted without charge while on board vessels in transit through the Canal.

MAINTENANCE OF TUGS AND OTHER FLOATING EQUIPMENT.

56. No vessel, company, nor individual will be authorized to maintain or operate permanently any tugs, launches, lighters, or floating equipment of any kind within the Canal waters without permission from the Governor; nor shall any small craft or boat of any kind be operated without the proper authority from him.

CLAIMS.

57. All claims for damages arising from injury to vessels, cargo, or passengers from the passing of vessels through the locks under the control of those operating them in accordance with the rules and regulations governing the operation of the Panama Canal, shall be adadjusted by mutual agreement, when practicable, between The Panama Canal and the passengers, owners, agents, or underwriters of the vessel, or owners, agents, or underwriters of the cargo of the vessel, as the respective interests may appear.

58. To facilitate the adjustment of such

claims, the Board of Local Inspectors, together with an officer or employe detailed from the Accounting Department to assist the board, shall immediately proceed to investigate and report upon all accidents to vessels in the locks, which may result in claims for damages against The Panama Canal under the provisions of Section 5 of the Panama Canal Act.

59. The Board of Local Inspectors or any member thereof, acting for the board, shall have authority to summon witnesses and administer oaths to such witnesses at any hearing held by such board, and the attendance of witnesses may be compelled by process of court on application of the board to the District Judge.

60. The findings of the board shall be expressed in writing and reported to the Governor, and a certified copy thereof immediately sent to the Auditor. If the finding of the board is against The Panama Canal, the Auditor may proceed at once to effect a settlement with the claimants, if practicable, but such settlement shall be subject to the approval of the Governor. When the settlement is effected, immediate payment of the claim shall be made, if there is an appropriation available for such purpose. In case of disagreement, suit may be brought by the claimant in the District Court of the Canal Zone, against the Governor of The Panama Canal, in conformity with Section 5 of the Panama Canal Act.

61. The Governor of The Panama Canal is authorized to issue such detailed rules, not inconsistent with this order, governing the duties of the board and the adjustment of claims.

MEASUREMENT OF VESSELS.

62. The rules for the measurement of vessels, to determine their tonnage, will be found in the Proclamation of the President, dated November 21, 1913.

AIDS TO NAVIGATION.

63. In general, the channels of the Canal, except Culebra Cut, are marked by double ranges, which are set a little to the starboard side of the channel, so that no matter in which direction a vessel may be going, there will be a range available ahead.

64. The sides of the channels are marked by red and black buoys, in accordance with the system in vogue in the United States, with the red buoys on the starboard hand on entering from seaward, and the black buoys on the port. The lock at Pedro Miguel is the dividing line between the Atlantic and Pacific systems; that is to say, that after passing through the lock, red and black buoys will be found on the opposite sides of the channels to those on which they were before reaching the lock.

65. All lighted ranges show flashing or intermittent white lights; the red lighted buoys show flashing or intermittent red lights; the black lighted buoys show flashing or intermittent white lights, beacons show red or white flashing or intermittent lights, depending upon the side of the channel upon which they are situated. Further information in regard to the navigation of the Canal can be obtained upon application to the Superintendent of Transportation, or the captains of the ports.

RULES OF THE ROAD, WHISTLE AND OTHER SIGNALS, AND SPEED REGULATIONS RELATING TO THE NAVIGATION OF THE CANAL AND APPROACHES THERETO.

66. In the following rules, every steam vessel which is under sail and not under steam, is considered a sailing vessel; and every vessel under her own motive power, whether under sail or not, is to be considered a steam vessel.

67. The words "Steam vessel" and "Steamer" shall include every vessel propelled by machinery.

68. A vessel is under way, within the meaning of these rules, when she is not at anchor, moored, or aground.

69. Risk of collision can, when circumstances permit, be determined by carefully watching the bearings of an approaching vessel by compass, or otherwise; if the courses be converging and the bearing does not appreciably change, such risk should be deemed to exist.

70. A steam vessel shall be provided with an efficient whistle or siren, sounded by steam or some substitute for steam, so placed that the sound may not be intercepted by any obstruction, and a sailing vessel with an efficient fog horn; both shall be supplied with an efficient bell.

71. A sailing vessel of 20 tons gross tonnage, or upward, shall be provided with a similar fog horn and bell.

72. Motor boats shall be divided into classes, as follows, according to the length, which shall be measured from end to end:

Class I—Less than 26 feet.

Class II—Twenty-six feet, or over, but less than 40 feet.

Class III—Forty feet, or over, but less than 65 feet.

73. All motor boats shall be provided with a whistle or other mechanical sound producing device, capable of making a blast of at least two seconds' duration, and, in addition, Classes II and III shall be provided with an efficient fog horn and fog bell, the latter to be at least eight inches across the mouth.

74. A short blast of the whistle shall mean a blast of about one second's duration, and a prolonged blast of the whistle shall mean a blast of from four to six seconds' duration.

75. One short blast of the whistle signifies intention of or assent to steamer first giving the signal to direct course to her own starboard, except when two steamers are approaching each other at right angles or obliquely, when it signifies intention of steamer which is to starboard of the other to hold course and speed.

76. Two short blasts of the whistle signify intention of or assent to steamer first giving the signal to direct course to her own port, except when steamers are approaching each other at right angles or obliquely, when the signal signifies desire of or assent to steamer which is to the port of the other to cross the bow of steamer to starboard.

77. Three short blasts of the whistle shall mean: "My engines are going at full speed astern."

78. When vessels are in sight of one another, a steam vessel under way whose engines are going at full speed astern shall indicate that fact by three short blasts of the whistle.

79. If, when vessels are approaching each other, either vessel fails to understand the course or intention of the other, from any cause, the vessel so in doubt shall immediately signify the same by making the danger signal, namely, several short and rapid blasts, not less than four, on the steam whistle.

80. Whenever the danger signal is given, engines of both steamers shall be stopped and backed until the headway of the steamers has been fully checked, nor shall the engines of either steamer be again started ahead until the steamers can safely pass each other, and the proper signals for passing have been given, answered, and understood.

81. Steam vessels are forbidden to use what has become technically known among pilots as "Cross signals;" that is, answering one whistle with two, and answering two whistles with one. In all cases, and under all circumstances, a pilot receiving either of the whistle signals provided in these rules, which for any reason he deems injudicious to comply with, instead of answering it with a cross signal, shall at once sound the danger signal and observe the rule applying thereto.

82. The signals for passing, by blowing the whistle, shall be given and answered by vessels, in compliance with these rules, not only when meeting head on, or nearly so, but at all times when the vessels are in sight of each other, when passing or meeting at a distance within a half mile of each other, and whether passing to starboard or port.

83. The whistle signals provided in the rules for steam vessels meeting, passing, or overtaking, are never to be used, except when steamers are in sight of each other, and the course and position of each can be determined in the daytime by a sight of the vessel itself, or at night by seeing its signal lights, except in cases hereafter mentioned, where vessels are approaching a turn in the Canal. In fog, mist, or heavy rainstorms, when vessels cannot see each other, fog signals only must be given.

84. When steam vessels are approaching each other head on, or nearly so, it shall be the duty of each to pass on the port side of the other; and either vessel shall give, as a signal of her intention, one short and distinct blast of her whistle, and thereupon they shall pass upon the port side of each other. But if their courses be so far to starboard of each other as not to be considered as meeting head on, either vessel shall immediately give two short, distinct blasts of her whistle, which the other vessel shall answer promptly with two similar blasts, and they shall pass to starboard of each other; but vessels going in opposite directions, in transit through the Canal, shall make it an invariable rule to pass to port of each other, unless there be some special reason to the contrary.

85. When they sight each other in the straight reaches of the Canal, going in opposite directions, they shall, when within a mile of each other, be slowed down and each placed upon its respective range, which is marked by the two light towers to the starboard side of the middle line, and should not be allowed to approach closer than this to the center line until they have passed each other; this will obviate any risk of collision and prevent a vessel from approaching too close to the sides of the Canal.

86. Selfpropelling Canal craft, at work on their stations or under way, will give way and leave the center of the channels clear to seagoing vessels in transit; nothing in this rule shall be construed to warrant a violation of the rules of the road, but shall be interpreted to mean that tugs, launches, and small selfpropelling craft shall keep close to the sides of the Canal and out of midchannel when large vessels are passing, whenever practicable, without involving any danger to themselves.

87. The foregoing applies only to cases where vessels are meeting end on, or nearly so, in such manner as to involve risk of collision; in other words, to cases in which, by day, each vessel can see the masts of the other in a line, or nearly so, with her own, and at

night, to cases in which each vessel can see the other's side lights, and each can see the range lights of the other in line, or nearly so. It does not apply to cases in which a vessel can see another ahead crossing her own course, or by night, to cases where the red light of one vessel is opposed to the red light of the other, or where the green light of one vessel is opposed to the green light of the other, or where a red light without a green light, or a green light without a red light, is seen ahead, or where both green and red lights are seen anywhere but ahead.

88. Vessels approaching the sharper bends in the Canal, particularly when the next reach may be obscured, and all bends in Culebra Cut, shall, when at a distance of at least half a mile from such bend, slow down and blow one prolonged blast as a notification to other vessels which may be coming from the opposite direction; if there be no reply, the vessel may proceed, but vessels shall not pass each other in the bends of the Canal; if there be a reply to the blast first sounded, both vessels shall stop and proceed cautiously, following the rules of the road, but the vessel which has the turn of the bend on her port bow shall have the right to first proceed and make the turn.

89. When steam vessels are moved from their docks, or berths, and other vessels are liable to pass from any direction toward them, they shall sound a prolonged blast, but immediately after clearing their berths, so as to be fully in sight, they shall be governed by the steering and sailing rules.

90. A prolonged blast shall also be sounded when approaching all signal stations or locks, and when leaving the latter.

91. When steam vessels are running in the same direction, and the vessel astern desires to pass on the starboard hand of the vessel ahead, she shall give one short blast, and if the vessel ahead answers with one blast, they shall maneuver accordingly, but if the vessel ahead does not think it safe for the vessel astern to attempt to pass at that point, she shall immediately signify the same by giving several short and rapid blasts of the whistle, not less than four, and under no circumstances shall the vessel astern attempt to pass the vessel ahead until such time as they have reached a point where it can be safely done, when the vessel ahead shall signify her willingness by blowing the proper signals; the vessel ahead shall in no case attempt to cross the bow or crowd upon the course of the passing vessel.

92. Every vessel coming up with another vessel from any direction more than two points abaft her beam; that is, in such a position with reference to the vessel which she is overtaking that at night she would be unable to see either of the vessel's side lights, shall be deemed to be an overtaking vessel, and no subsquent alteration of the bearing between the two vessels shall make the overtaking vessel a crossing vessel within the meaning of these rules, or relieve her of the duty of keeping clear of the overtaken vessel, until she is finally passed and clear. As by day the overtaking vessel cannot always know with certainty whether she is forward of or abaft this direction from the other vessel, she should, if in doubt, assume that she is an overtaking vessel and keep out of the way.

93. After whistle signals have been made and answered, Canal craft must haul close out to the sides of the Canal and leave the center of the channels unrestricted for seagoing vessels; this applies particularly to the 500-foot channels and the Culebra Cut.

94. Unless specially authorized by the Governor, no owner, master, or operator of floating craft, except such as may belong to or be chartered by The Panama Canal, or such as may be engaged in passage of the Canal under charge of a Government pilot, shall cause or permit such craft to enter, navigate, or be present within that portion of the Panama Canal, known as the Culebra Cut, which lies between Gamboa and the Pedro Miguel Lock.

95. For the better enforcement of this regulation, the officers and agents of the Canal, and the assistant engineers, superintendents, and supervisors employed under them by the authority of the Governor, shall have power and authority to arrest and take into custody, with or without process, any person or persons who may violate this rule.

96. Speed exceeding six knots per hour is prohibited in the Cut; large vessels, particularly when approaching a turn, shall go at the slowest speed that will enable them to keep their steerage way. This rule does not apply to vessels owned by the Canal.

97. The movement of vessels in Culebra Cut will be regulated by orders to be issued by the Governor, which orders will be communicated to the masters of vessels by the pilots.

98. The Canal authorities may require any vessel to take a tug through the Cut, on approaching the locks, or in any other part of the Canal, when, in their opinion, it may be necessary to insure the safety of the vessel or to prevent accident or grounding.

99. Should a vessel be unwieldy, steer badly, or be hard to handle, the captain or master should so report and request the services of a tug to assist him through the Cut, should he deem it necessary.

100. On approaching another vessel under way in the narrow reaches, or before passing a vessel that has been tied up, or lighters, scows, dredgers, piledrivers, or anything that is afloat, whether moored, anchored, or under way, vessels shall blow a prolonged blast and slow down in plenty of time to pass at the slowest speed at which they can be steered.

101. The following speeds shall not be exceeded by vessels in transit through the Canal:

	Knots per hour.
Colon to Gatun Locks	6
Gatun Lake, in the 1,000-foot channels	15
Gatun Lake, in the 800-foot channels	12
Gatun Lake, in the 500-foot channels	10
Culebra Cut	6
Miraflores Lake	6
Miraflores Locks to Pacific entrance to Canal	6
Steamers entering or leaving a port	6

102. The Governor may change the rules in regard to speed and the use of tugs at any time that he may see fit, but will give due notice in case any changes be made.

103. Under no condition will steamers be allowed to run side by side in any part of the Canal proper, terminal ports, or adjacent waters, both going in the same direction, except for the time necessary for one steamer to pass ahead of another, after the proper signals have been made and answered; nor shall such passing take place in any of the bends of the Canal; should an occasion arise, however, where steamers may find themselves running side by side, or nearly so, in the same direction, in the open waters, or elsewhere, the steamer on the right or starboard side shall have the right-of-way, and the steamer on the left or port side shall check her way, drop astern, and keep at a safe distance until the bend shall have been passed or there is no further danger of collision.

104. When two steamers are approaching each other at right angles, or obliquely, so as to involve risk of collision, other than when one steamer is overtaking another, the steamer which has the other on her port side shall hold her course and speed; and the steamer which has the other on her starboard side shall keep out of the way of the other, by directing her course to starboard, so as to cross the stern of the other steamer, or, if necessary to do so, slacken her speed, or stop, or reverse. The steamer having the other on her own port bow shall blow one blast of her whistle as a signal of her intention to cross the bow of the other, holding her course and speed, which signal shall be promptly answered by the other steamer by one short blast of her whistle as a signal of her intention to direct her course to starboard, so as to cross the stern of the other steamer or otherwise keep clear.

105. If, from any cause whatever, the conditions covered by this situation are such as to prevent immediate compliance with each other's signals, the misunderstanding or objection shall at once be made apparent by blowing the danger signal, and both steamers shall be stopped and backed, if necessary, until signals for passing with safety are made and understood.

106. Every vessel which is directed by these rules to keep out of the way of another vessel, shall, if the circumstances of the case permit, avoid crossing ahead of the other.

107. Every vessel which is directed by these rules to keep out of the way of another vessel, shall, on approaching her, if necessary, slacken her speed, or stop, or reverse.

108. When a steam vessel and a sailing vessel are proceeding in such directions that they may involve the risk of collision, the steam vessel shall keep out of the way of the sailing vessel.

109. When two sailing vessels are approaching one another, so as to involve risk of collision, one of them shall keep out of the way of the other, as follows:

(*a*) A vessel which is running free shall keep out of the way of a vessel which is closehauled.

(*b*) A vessel which is closehauled on the port tack shall keep out of the way of a vessel which is closehauled on the starboard tack.

(*c*) When both are running free, with the wind on different sides, the vessel which has the wind on the port side shall keep out of the way of the other.

(*d*) When both are running free, with the wind on the same side, the vessel which is to the windward shall keep out of the way of the vessel which is to the leeward.

(*e*) A vessel which has the wind aft shall keep out of the way of the other vessel.

110. Where, by any of these rules, one of two vessels is to keep out of the way, the other shall keep her course and speed.

111. Notwithstanding anything contained in these rules, every vessel overtaking another shall keep out of the way of the overtaken vessel.

112. Sailing vessels under way shall keep out of the way of sailing vessels or boats fishing with nets, or lines, or trawls. This rule shall not give to any vessel or boat engaged in fishing the right of obstructing a fairway used by vessels other than fishing vessels or boats.

113. Nothing in these rules shall exonerate any vessel, or the owner or master or crew thereof, from all the consequences of any neglect of any precaution which may be required by the ordinary practice of seamen, or by the special circumstances of the case.

114. In obeying and construing these rules, due regard shall be had to all dangers of navigation and collision, and to any special circumstances which may render a departure from the above rules necessary, in order to avoid immediate danger.

115. In fog, mist, or heavy rainstorms, whether by day or night, signals shall be given, as follows:

(*a*) A steam vessel under way, except when towing other vessels or being towed, shall sound, at intervals of not more than one minute, on the whistle or siren, a prolonged blast.

(*b*) A vessel when towing other vessels shall sound, at intervals of not more than one minute, on the whistle or siren, three blasts in succession, namely, one prolonged blast followed by two short blasts.

(*c*) Seagoing dredges, when dredging in a fog, shall give four blasts in succession: one prolonged blast followed by three short blasts.

(*d*) A vessel towed may give, at intervals of not more than one minute, on the fog horn, a signal of three blasts in succession, namely, one prolonged blast followed by two short blasts, and she shall not give any other.

(*e*) A sailing vessel under way shall sound, at intervals of not more than one minute, when on the starboard tack one blast, when on the port tack, two blasts in succession, and when the wind is abaft the beam, three blasts in succession.

(*f*) All rafts or other water craft, not herein provided for, navigated by hand power, horsepower, or by the current of the river, shall sound a blast on the fog horn, or equivalent signal, at intervals of not more than one minute.

(*g*) A vessel at anchor shall, at intervals of not more than one minute, ring the bell rapidly for about five seconds.

116. Every vessel shall, in fog, mist, or heavy rainstorm, go at a moderate speed, slow down, or stop, having due regard to the existing circumstances and conditions.

117. A steam vessel hearing, apparently forward of her beam, the fog signal of a vessel the position of which is not ascertained, shall, as far as the circumstances of the case admit, stop her engines, and then navigate with caution until the danger is over.

118. In thick and foggy weather, vessels will not be allowed to enter the Canal or leave the locks or mooring station, until the weather has cleared. Vessels in transit, when overtaken by thick or foggy weather, must immediately take every precaution and make preparation to anchor or moor at the first available place, and so remain until the weather clears. Vessels equipped with radio, when overtaken by thick or foggy weather, should immediately so report, in order that the proper fog signal may be made at the mooring stations on the approach of such vessels.

119. In order further to assure safe navigation in thick or foggy weather, masters of vessels shall have prepared accurate tables showing their compass error, before they will be allowed to enter the Canal. The general direction of the Canal and its reaches is southeasterly and northwesterly, and it would be well, if an opportunity offers, for vessels to obtain an accurate deviation table on these courses, while in the approximate latitude and vicinity of the Canal.

120. Upon the first approach of thick weather of any kind, the position of the ship must be accurately checked and the closest possible reckoning be kept until the weather clears, or she shall have been moored or anchored.

121. Unnecessary sounding of the steam whistle, except as a danger signal, or in case of fire or emergency, is prohibited within the waters of the Canal Zone, and any licensed officer in charge of a steamer who authorizes or permits such unnecessary whistling shall, upon conviction thereof before the Board of Local Inspectors having jurisdiction, be suspended from acting under his license, if the inspectors trying the case so decide.

122. The word "Visible" in these rules, when applied to lights, shall mean visible on a dark night with a clear atmosphere.

123. The rules concerning lights shall be complied with in all weathers from sunset to sunrise, and during such time no other lights which may be mistaken for the prescribed lights shall be exhibited.

124. A steam vessel when under way shall carry:

(*a*) On or in front of the foremast, or, if a vessel without a foremast, then in the fore part of the vessel, a bright white light so constructed as to show an unbroken light over an arc of the horizon of 20 points of the compass, so fixed as to throw the light 10 points on each side of the vessel, namely, from right ahead to two points abaft the beam on the starboard side, and of such a character as to be visible at a distance of at least five miles.

(*b*) On the starboard side, a green light so constructed as to show an unbroken light over an arc of the horizon of 10 points of the compass, so fixed as to throw the light from right ahead to two points abaft the beam on the starboard side, and of such a character as to be visible at a distance of at least two miles.

(*c*) On the port side, a red light so constructed as to show an unbroken light over an arc of the horizon of 10 points of the compass, so fixed as to throw the light from right ahead to two points abaft the beam on the port side, and of such a character as to be visible at a distance of at least two miles.

(*d*) The said green and red side lights shall be fitted with inboard screens projecting at least three feet forward from the light, so as to prevent these lights from being seen across the bow.

(*e*) A seagoing steam vessel shall carry an additional white light similar in construction to the light mentioned in subdivision (*a*). These two lights shall be so placed in line with the keel that one shall be at least 15 feet higher than the other, and in such a position with reference to each other that the lower light shall be forward of the upper one. The vertical distance of these lights shall be less than the horizontal distance.

125. A steam vessel, when towing another vessel shall, in addition to her side lights, carry two white bright lights in a vertical line, one over the other, not less than three feet apart, and when towing more than one vessel, shall carry an additional bright white light three feet above or below such lights, if the length of the tow measuring from the stern of the towing vessel to the stern of the last vessel towed exceeds 600 feet. Each of the lights shall be of the same construction and character, and shall be carried in the same position as the white light (*a*), previously mentioned for steamers.

126. Such steam vessel may carry a small white light abaft the funnel, aftermast, or at the stern, for the vessel towed to steer by, but such light shall not be visible forward of the beam.

127. A sailing vessel under way or being towed shall carry the same lights (*b*) and (*c*) as are prescribed for a steam vessel under way, with the exception of the white lights mentioned, which they shall never carry.

128. Whenever, as in the case of vessels of less than 10 gross tons under way during bad weather, the green and red side lights cannot be fixed, these lights shall be kept at hand lighted and ready for use, and shall, on the approach of or to other vessels, be exhibited on their respective sides in sufficient time to prevent collision, in such manner as to make them most visible, and so that the green light shall not be seen on the port side, nor the red light on the starboard side, nor, if practicable, more than two points abaft the beam on their respective sides. To make the use of these portable lights more certain and easy, the lanterns containing them should each be painted outside with the color of the light when they respectively contain, and shall be provided with proper screens.

129. Pilot vessels, when engaged on their station on pilotage duty, shall not show the lights required for other vessels, but shall carry a white light at the masthead, visible all around the horizon, and shall also exhibit a flare-up light or flare-up lights at short intervals, which shall never exceed 15 minutes.

130. A steam pilot vessel, when engaged on pilotage duty and not at anchor, shall, in addition to the lights required for all pilot vessels carry at a distance of eight feet below her white masthead light, a red light visible all around the horizon and of such a character as to be visible on a dark night with a clear atmosphere at a distance of at least two miles, and also the colored side lights required to be carried by vessels when under way.

131. When engaged on her station on pilotage duty and at anchor, she shall carry, in addition to the lights required for all pilot boats, the red light abovementioned, but not the colored side lights.

132. Fishing vessels less than 10 gross tons, when under way, and not having their nets, dredges, or lines in the water, shall carry the usual white light eight feet above the deck and shall have ready at hand a lantern with a green glass on one side and a red glass on the other side, and on approaching or being approached by another vessel, such lantern shall be exhibited in sufficient time to prevent collision, so that the green light shall not be seen on the port side, nor the red light on the starboard side.

133. All fishing vessels and fishing boats of 10 gross tons or upward, when under way and not having their nets, trawls, dredges, or lines in the water, shall carry and show the same lights as other vessels under way.

134. All vessels, when trawling, dredging, or fishing with any kind of dragnets or lines, shall exhibit, from some part of the vessel where they can be best seen, two lights. One of these lights shall be red, and the other shall be white. The red light shall be above the white light, and shall be at a vertical distance from it of not less than six feet and not more than 12 feet; and the horizontal distance between them, if any, shall not be

more than 10 feet. These two lights shall be of such a character and contained in lanterns of such construction as to be visible all around the horizon, the white light at a distance not less than three miles, and the red light not less than two miles.

135. A vessel which is being overtaken by another shall show from her stern to such last-mentioned vessel a white light or a flare-up light.

136. A vessel under 150 feet in length, when at anchor, shall carry forward, where it can best be seen, but at a height not exceeding 20 feet above the hull, a white light, in a lantern constructed, so as to show a clear, uniform, and unbroken light visible all around the horizon at a distance of at least one mile.

137. A vessel of 150 feet or upward in length, when at anchor, shall carry in the forward part of the vessel, at a height of not less than 20 feet and not exceeding 40 feet above the hull, one such light, and at or near the stern of the vessel, and at such a height that it shall not be less than 15 feet lower than the forward light, another such light.

138. The length of the vessel shall be deemed to be the length appearing in her certificate of registry.

139. Every vessel may, if necessary, in order to attract attention, in addition to the lights which she is by these rules required to carry, use a flare-up light or use any detonating signal that cannot be mistaken for a distress signal.

140. Every barge, lighter, Canal boat, or scow, that is moored alongside of any ship or another barge, or to the side of the Canal, or to any wharf, or lying at anchor on the navigable waters of the Canal Zone, shall show, between the hours of sunset and sunrise, a white light on the bow and stern, at least three feet above the deck of said vessel, and not less than eight feet from the bow and stern thereof.

141. Nothing in these rules shall interfere with the operation of any special rules made by the Government of any nation with respect to additional station and signal lights for two or more ships of war, or for vessels sailing under convoy, or with the exhibition of recognition signals adopted by shipowners, which have been authorized by their respective Governments, and duly registered and published, unless specific instructions are given by the Canal authorities to discontinue the use of such lights while in transit through the Canal.

142. A steam vessel proceeding under sail only, but having her funnel up, may carry in daytime, forward, where it can best be seen, one black ball, or shape, two feet in diameter.

143. Seagoing suction dredges, when under way and dredging, shall carry, beside the lights prescribed for steamers under way, between the two masts where they can best be seen, two red lights, approximately the same height as the masthead light of a steamer, in a vertical line one over the other, not less than six feet apart, and of such a character as to be visible all around the horizon at a distance of at least two miles; and they shall, by day, carry between the two masts, where they can best be seen, in a vertical line, one over the other, not less than six feet apart, two black balls, or shapes, each two feet in diameter.

144. Seagoing suction dredges, when dredging is stopped and the dredge is proceeding either to or from her dumping ground, either loaded or light, shall, at night, extinguish the two red lights and, by day, lower the black balls.

145. Seagoing suction dredges, while actually engaged in dredging, as shown by the black balls or red lights, above, shall have the right-of-way over all other vessels, but in the narrower reaches and the Culebra Cut shall give way to seagoing ships, but when not dredging, as shown by the absence of the black balls or red lights, shall observe all the rules, and have no special privilege.

146. Ferry boats, propelled by machinery and navigating the waters of the Canal Zone, shall carry the range lights and the side lights required by law to be carried on steam vessels.

147. Barges, Canal boats, scows, and lighters being towed astern of steam vessels, when towing singly or what is known as tandem towing, shall each carry a white light on the bow and a white light on the stern.

148. When towed with a hawser two or more abreast, when in one tier, they shall a white light on the bow and a white light on the stern of each of the outside boats; when in more than one tier, each of the outside boats shall carry a white light on its bow; and the outside boats in the last tier shall each carry, in addition, a white light on the outer after part of the stern.

149. Barges, etc., towed alongside a steam vessel, if on the starboard side of said steam vessel, shall display a white light on her own starboard bow, and if on the port side of said steam vessel, shall display a white light on her own port bow; and if there be more than one barge or Canal boat alongside, the white light shall be displayed from the outboard side of the outside barge or Canal boat.

150. When barges, etc., are in tiers and towed at a hawser, there shall be carried on the forward port side of each tier a white light, and on the forward starboard side of the starboard boat in each tier a white light, and on the after port side of the port boat in the stern tier a white light, and on the after starboard side of the starboard tier a white light.

151. Rafts propelled by hand power, or by the current of the river or tide, or which shall be anchored in or near the channel or fairway, or proceeding in tow of a steam vessel, shall carry one white light on each outside corner of the raft, making four lights in all.

152. Row boats and cayucas, whether under oars or sail, shall carry a white light, visible all around the horizon, at an elevation above the surface of the water of at least three feet.

153. The white light required by these rules for rafts and other water craft shall be carrried from sunset to sunrise, in a lantern so constructed as to show a clear, uniform, and unbroken light, visible all around the horizon, and of such intensity as to be visible on a dark night with a clear atmosphere at a distance of at least one mile. The light for rafts shall be suspended, so that the lights shall not be less than eight feet above the surface of the water.

154. Any piece of plant, whether dredge, rock breaker, or drill barge, that is operated by means of fore, aft, and side chains, shall carry, when said fore, aft, and side chains are taut, a black ball on each side of the dredge, in some conspicuous place at least eight feet above the deck, and near the position of the side chains; at night, these balls shall be replaced by a red light and which shall show all around the horizon and be plainly visible at a distance of one mile.

155. When a steamer wishes to pass the dredge, drill boat, or rock breaker, at a point where it might foul its side chains, it should ask permission to pass, by using the signal for port or starboard, as provided in the foregoing rules, and the dredge, drill boat, or rock breaker shall immediately lower its chain on the side asked for by the steamer, indicating its fulfillment of this by, in the daytime, lowering the ball; in the night, putting out the red light.

156. If the dredge, drill boat, or rock breaker is unable to lower its side chain, or should consider it dangerous for the steamer to pass on the side asked for, the dredge, drill boat, or rock breaker will blow the danger signal, when the steamer will stop until the ball or light signal given above shall be shown.

157. Any master or pilot of any steam vessel who shall flash, or cause to be flashed, the rays of the searchlight into the pilot house of a passing vessel shall be deemed guilty of misconduct and shall be liable to have his license suspended or revoked; in general, searchlights shall not be used for navigation purposes in transit through the Canal, since the aids to navigation are sufficiently abundant to obviate any danger, or necessity for using them.

158. When a vessel is in distress and requires assistance from other vessels, or from the shore, the following shall be the signals to be used or displayed by her, either together or separately, namely:

First—Flames on a vessel, as from a burning tar barrel, oil barrel, etc.

Second—A continuous sounding with any fog signal apparatus, or firing a gun.

Third—Rockets or shells showing stars, fired one at a time, at short intervals.

159. In connection with these, vessels may use the international code and special signals with shapes, hereafter described.

160. When lighters, barges, scows, or Canal boats are tied or moored along any wharf, or along the shore in the channel in the navigable waters of the Canal Zone, including the Canal and approaches thereto, it shall be unlawful to moor them more than two deep, thereby obstructing the channel.

161. Except in the terminal harbors or the authorized anchorages, vessels shall not moor alongside one another in any part of the Panama Canal. In the terminal harbors and authorized anchorages, more than two vessels shall not be moored alongside each other, except that additional power hoists may be moored alongside two vessels so connected, while actually engaged in transshipping cargo.

162. Nothing in this rule shall be construed as affecting the right of The Panama Canal to moor barges used by Canal construction and maintenance in any manner that may be deemed proper.

163. Every piece of plant, except seagoing suction dredges, whether dredge, rock breaker, or drill barge, that is engaged in excavating or preparing to excavate the Canal, whose position is stationary, or moving from time to time over the face of the shoal that it is working on or removing, shall have the prior right to such position, and it shall be unlawful for any person or persons, navigating a ship or otherwise, to foul abovenamed plant or its moorings in any way whatever.

164. All barges moved from berth to berth along wharves or banks of the Canal shall be moved by being handled by proper towboat for same, and it shall be unlawful to move barges by hand power in the navigable fairways of the Canal, unless to preserve life or property in peril.

GENERAL REGULATIONS.

165. While in a terminal port or in transit through the Canal, no vessel will be allowed to throw overboard any ashes, cinders, ballast, solid matter of any kind, boxes, paper, or anything that will float, heavy slops, or anything that will tend to deface or make the waters of the Canal unsanitary. This does not apply to water closet chutes, nor to the water used in cooking or in cleaning tableware, but does prohibit the throwing overboard of bones, pieces of meat, vegetable and fruit parings, or any heavy slops that can be carried until the open water of the sea can be reached.

166. No vessel shall make fast or run any lines to any marking buoy, beacon, or aid to navigation; this does not prohibit the use of mooring buoys for the purpose for which they were intended; vessels must use every precaution to guard against injury to any of the aids to navigation in Canal waters; should any damage or injury be inflicted, it shall be immediately reported to the captain of the port.

167. Any vessel arriving at the ports with gunpowder or other explosives on board will not be admitted to the wharves or allowed to land the same until a report is made to the proper authority, and an arrangement entered into for the immediate disposal of the explosives.

168. Vessels are not allowed to anchor in the channel of the Canal or its approaches, unless in case of distress, when assistance should at once be requested.

169. If for any reason not an emergency, a vessel must anchor, she must do so in such a location that it will not interfere with the navigation of the channels.

170. All vessels upon entering port will be assigned to anchorage or wharves by the captain of the port.

171. Vessels must not anchor on the range line of any range lights.

172. Vessels will be held liable for all damage done to the Canal or any part of its plant or equipment, of any character or description whatsoever, whether the damage be done to the floating equipment, wharves, locks, or banks of the Canal; and in the case of the sinking of any floating or other equipment belonging to private persons or corporations in the channel of the Canal, or its approaches, side channels, or along its wharves, that create or tend to create an obstruction in the Canal or its approaches, side channels, or along its wharves, the person or company owning the sunken equipment may be given 30 days to remove the same. Should he or they fail to do so, the Canal authorities may remove the obstruction and the person or corporation owning the same shall pay all the expense of the removal of the obstruction, to be collected by a civil suit in the Zone courts and a levy and sale of any property of the persons or corporations, found in the Canal Zone or its harbors.

173. The Canal authorities may order the removal of the obstruction at once, or remove it without waiting for action by the owners, and the cost of such removal shall be taxed and collected as mentioned above.

174. Should a vessel go aground, collide, be in immediate danger, or meet with any serious accident while in Canal waters, the Canal authorities shall have the right to supervise and direct all operations in relation thereto, that may be necessary to float her or clear the wreckage, but the master and all others under him, as well as every appliance on board the ship which may be of use, shall be placed at the disposal of the Canal authorities without additional charge or claim against the Canal.

175. Vessels wishing to unload or load ballast, will be assigned anchorage by the captain of the port, and must have a proper chute, so arranged as to prevent ballast from falling overboard.

176. No warp or line shall be passed across any channel or dock, so as to obstruct the passage of vessels or cause any interference with the discharging of cargoes.

177. If any damages shall be caused by vessels or their mooring cables to the works of any harbor, the parties responsible for same shall pay the costs for necessary repairs, and the same may be recovered in the courts of the Canal Zone.

178. If a vessel occupying a berth at a wharf or pier, with or without the consent of the captain of the port, fails to vacate such berth when ordered by him, or, when not loading or unloading, fails to make way for another vessel that wishes to load or unload, the captain of the port shall then cause such vessel to be moved to some other berth, or be anchored in the stream, and the expense of such removal shall be paid by the master, agents, or owners of such vessel, and, in case of their neglect or refusal to pay such expense upon demand, it may be recovered in an action before any court having jurisdiction.

179. No vessel shall be entitled to a berth until application has been made by the master, owner, or consignee of the vessel to the captain of the port, and such application must state the length, draft, and kind of cargo. No one but the captain of the port has authority to assign berths to vessels. No vessel, whether at anchor or lying at a wharf, shall shift its berth, without permission from the captain of the port.

180. All goods, merchandise, and material of every kind, landed or placed on any pier, bulkhead, or other wharf property, or upon reclaimed land, must be removed therefrom within 36 hours; provided, that the captain of the port for good cause may extend the time. All goods, merchandise, and materials of every kind encumbering any pier, bulkhead, or other wharf structure, or reclaimed land, after the time designated for the removal thereof shall have expired, will be liable to be removed by the captain of the port to any warehouse or yard, at the sole risk and expense of the owner of such goods, merchandise, or materials, and all expense incurred for such removal and storage, or otherwise, shall be and become a lien thereon, and such goods, merchandise, and materials will not be delivered to the owner until the expense of such removal and storage has been paid.

181. It shall not be lawful for the owners, lessees, or occupants of any pier, wharf, or bulkhead, which has been covered with a shed to use such shedded pier, wharf, or bulkhead for the permanent storage of goods, merchandise, cargo, or material of any kind which may be discharged or placed thereon.

182. Piers, wharves, and bulkheads thus shedded are designated for the protection of merchandise and cargo, in transit, and such merchandise and cargo must be removed therefrom within 36 hours; provided, that the captain of the port may for good cause extend the time.

183. No accumulation of material upon the piers, wharves, bulkheads, and reclaimed land will be allowed, and whenever any pier, wharf, bulkhead, or reclaimed land shall be encumbered or obstructed in its free use by any vessel, merchandise, or material, or by any structure, encumbrance, or obstruction not authorized or permitted, the captain of the port may require the owner, agent, consignee, or person occupying, or in charge of such merchandise or obstruction, to remove the same without delay. Upon receiving said order the owner, agent, consignee, or person in charge of the vessel, merchandise, material, structure, encumbrance, or obstruction, in reference to which said order or direction was given, shall comply with the same without delay, and upon his refusal or failure to do so, shall be punished by a fine or imprisonment, as hereinbefore provided.

184. No fishing nets will be allowed in any place in the Canal, along its wharves, or in its channels, whenever, in the opinion of the Superintendent of Transportation, such nets interfere or might interfere with navigation, and it shall be the duty of the owner thereof, upon notification, to remove them immediately.

185. Any one finding any buoy out of position, or lights not working properly, should immediately report the same to the captain of the port.

186. Steamers, while within a harbor, must take all precautions to avoid the issue of sparks; any vessels will be held liable for all damage resulting from neglect of this rule.

187. No pitch, tar, turpentine, or other combustible, shall be boiled on any wharf, or on board any vessel without permission from the captain of the port.

188. In case of fire on board a vessel, all masters of other vessels shall render such assistance as may be in their power.

189. A vessel, anchored or moored in the harbor or lying at a dock, must at all times, night or day, have on board a sufficient number of men to take care of the vessel.

190. No vessel shall unload lumber, timber, or piles in the waters of a harbor without permission of the captain of the port, who shall designate where such lumber shall be rafted, so as to avoid obstructing or hindering the movements of vessels.

191. Lighters, barges, scows, and other vessels belonging to persons or corporations of any and all descriptions, shall be anchored in such places as the captain of the port may direct, and shall be at all times under his supervision and direction.

192. The captain of the port shall keep in his office records of all his proceedings, with statements of the result of all examinations and inquiries made by him, which records may be inspected by interested parties.

193. All notifications and requests to the captain of the port shall be made at his office, in writing, and shall be duly entered and filed by him.

194. It shall be unlawful for any person, without first having secured a pilot's license from the Government of the Canal Zone, to navigate any steam vessel with a net tonnage of more than 15 tons burden in Canal Zone waters.

195. All privately owned boats of every description must be registered and numbered, and the number must be obtained before they will be allowed to operate in any part of the Canal waters.

196. When numbers have been assigned, they shall be displayed in a conspicuous place, in the prescribed form.

197. All vessels moored to wharves, whether loading or unloading cargo or in the ordinary way of business, shall be moored to the wharves with rope hawsers only, and it shall be unlawful for any chain or wire hawsers to be used on any public wharf in the Canal Zone without the specific permission of the captain of the port.

198. All vessels, whether commercial or otherwise, moored to wharves in the Canal Zone, shall be compelled to keep watch at night and to have suitable firefighting apparatus on hand.

199. Whenever it shall become necessary to remove any especially inflammable cargo from commercial ships or ships, at public wharves of the Canal Zone, such as oils, gasoline, naptha, petroleum, etc., it shall be necessary for notice to be given to the captain of the port at least two hours before such cargo shall be discharged upon the wharf, so that proper means can be provided to dispose of this class of material at the earliest possible moment.

200. It shall be unlawful for any person or persons, whether navigating a vessel or otherwise, to take possession of or use for any purpose, to make fast to or build upon, to alter, deface, destroy, move, or injure any part of the plant or equipment, whether floating or otherwise, belonging to the Canal.

201. These rules shall apply to and govern the navigation and use of the waters of the Panama Canal, as the Canal is now or may hereafter be constituted, as well as all Canal channels, lakes, harbors, and other auxiliary waters, as may now or hereafter be deemed necessary for Canal purposes, or which may now or hereafter be under the jurisdiction of the Canal Zone Government.

WOODROW WILSON.

THE WHITE HOUSE,
July 9, 1914.
[No. 1990.]

◆

Postal Savings Transactions for June.

A statement of postal savings transactions at Canal Zone post-offices for the month of June, follows:

OFFICE.	Amount Issued.	Amount Paid.
Ancon	$17,051.00	$18,917.00
Balboa	19,583.00	29,148.00
Corozal	23,003.00	30,097.00
Cristobal	20,004.00	17,796.00
Culebra	7,640.00	12,239.00
Empire	4,241.00	10,070.00
Gatun	9,505.00	12,094.00
Las Cascadas	2,358.00	1,876.00
Paraiso	13,096.00	13,755.00
Pedro Miguel	6,119.00	6,488.00
	$122,600.00	$152,480.00
Balance on hand June 1	$528,361.00	
Deposited during June	122,600.00	
Withdrawn during June		$152,480.00
Balance on hand July 1		498,481.00
	$650,961.00	$650,961.00

◆

Amusement Avenue at San Francisco Exposition Named "The Zone."

The exposition committee of the Panama-Pacific Exposition at San Francisco has adopted the title "The Zone" for the main amusement avenue. The name was chosen as the result of a prize offer issued in 1913, Mrs. J. Cortissoz of San Francisco being the winner. In 1911, the name was suggested by Mr. C. B. Sexton, then in the employ of the Isthmian Canal Commission, and was published in a San Francisco paper on March 15, 1911. In response to the prize offer for suggestions for names issued by the committee in 1913, about 30,000 replies were received. Of this number, six submitted the name "The Zone." The reply of Mrs. Cortissoz was the first to be opened, and the prize was accordingly awarded to her.

◆

Sale of Scrap and Retired Material.

Report of sales of scrap and retired material shows a heavy increase during June. Approximately 6,000 tons of scrap were delivered to Mr. M. Rovetta. Sale of over $30,000 worth of material was made to the Venezuelan Government, and sale of approximately 60,000 pounds of scrap copper and brass was made in the United States. For the first time in many months the Chicago House Wrecking Company made some shipments on their French scrap contract, approximately $2,000 being collected from them.

◆

Value of Canal Supplies Received in June.

The total value of material received during the month of June was $1,010,808.03, distributed, as follows:

Mount Hope (stock)	$347,867.13
Division of Erection	*348,087.82
Division of Terminal Construction	36,114.72
Dredging Division	26,007.33
Mechanical Division	72,484.18
Health Department	1,792.82
Panama railroad	23,611.34
Division of Municipal Engineering	19,555.22
Executive Secretary	857.05
Fortifications Division	52,538.90
Auditor, The Panama Canal	417.80
Permanent buildings	79,034.06
Division of Canal Transportation	2,045.75
Electrical Division	389.91
Total	$1,010,808.03

*Includes $249,870 for substation material settled in June.

The material came forward in 40 steamers, total weight of cargo, exclusive of lumber, ties and piling, being 11,130 tons.

LABOR FORCE AND QUARTERS IN JUNE.

The force report for June 24 shows the actual working force of The Panama Canal on that date to have been 25,289; of the Panama railroad, 4,343, and of the contractors, 41, a total effective working force of 29,673. This is a decrease of 1,377, as compared with the statement of May 27, and a decrease of 16,273, as compared with the report for June, 1913. The gold force on the Canal work, composed almost exclusively of white Americans, was 4,257, divided, as follows: The Panama Canal, 3,790; Panama railroad, 442; contractors, 25, a decrease in the total gold force of 109, as compared with the statement for May. Detailed figures of the total force employed on the Isthmus, by departments and divisions, are given below:

DEPARTMENT OR DIVISION.	SILVER EMPLOYES*												Total silver	Total gold.	Grand total.
	Artisans.						European labor.		Laborers.						
	Monthly.	Special.	22 cents.	18 cents.	15 cents.	12 cents.	Special.	16 cents.	13 cents.	10 cents.	7 cents.	5 cents.			
Terminal construct'n	544	...	22	148	418	196	.....	532	358	434	23	27	2,702	289	2,991
Erection	92	7	52	225	574	215	.....	2	150	222	...	10	1,549	305	1,854
Electrical	58	13	18	30	62	97	.....	.....	46	114	...	...	438	192	630
Municipal Eng.	256	...	67	232	352	.....	.....	76	88	738	6	14	2,120	103	2,223
Engr of Maintenance	34	1	.....	1	.....	.....	.....	.....	.....	.....	...	...	36	26	62
Dredging	1,760	5	4	12	41	.....	1	39	132	.....	1	3	1,998	284	2,282
Mechanical	179	16	61	146	604	691	.....	12	230	187	10	18	2,154	878	3,032
Canal Transporta'on	35	...	.....	.....	.....	.....	.....	.....	.....	.....	...	...	35	24	59
Fortifications	158	4	57	126	417	80	.....	19	500	109	1	7	1,478	106	1,584
General construction	42	5	4	14	16	.....	.....	150	62	167	...	9	469	23	492
Total	3,158	51	285	934	2,484	1,570	1	830	1,566	1,971	41	88	12,979	2,230	15,209
Supply: (Main office	4	...	.....	.....	.....	.....	.....	.....	.....	.....	...	...	4	37	41
Commissary	701	1	1	.....	11	10	.....	.....	.....	130	85	...	939	190	1,129
Subsistence	595	...	2	1	.....	.....	.....	.....	.....	.....	21	...	619	24	643
Quartermaster	959	463	222	518	1,021	208	48	68	1,037	1,307	2	26	5,879	540	6,419
Accounting	12	...	...	.....	.....	.....	.....	.....	.....	.....	...	...	12	140	152
Health	495	...	...	1	4	.....	.....	.....	13	331	3	39	886	211	1,097
Executive	178	2	...	1	.....	.....	.....	.....	.....	.....	...	...	181	418	599
Panama railroad	452	145	101	236	264	.....	1,153	350	365	789	26	20	3,901	442	4,343
Contractors	16	...	.....	.....	.....	.....	.....	.....	.....	.....	...	...	16	25	41
Total	6,570	662	611	1,691	3,784	1,788	1,202	1,248	2,981	4,528	178	17	25,416	4,257	29,673
Previous report	6,344	722	1,038	1,583	3,850	1,947	1,164	1,638	2,921	4,523	152	17	26,057	4,111	30,168
Changes	−226	+60	427	−8	+66	+159	− 38	+290	−60	−5	−26	+	+641	−146	+495

*The wages are stated in United States currency.

QUARTERS.

A report of Canal and Panama railroad quarters occupied on June 30, follows:

PLACE.	Gold.			Europeans.			West Indians.		
	Men	*Women*	*Children*	*Men*	*Women*	*Children*	*Men*	*Women*	*Children*
Ancon[2]	800	325	267	......	......	......	644	39	4
Balboa	560	38	31	403[1]	15	23	1,561	433	523
Corozal[3]	779	201	243	222	......	......	701[4]	39	37
Cristobal[7]	899	365	398	186	......	......	1,404[8]	159	356
Culebra[5]	551	316	306	67	30	47	657	301	408
Gatun	366	173	173	245	5	16	422[6]	37	47
Paraiso	275	65	83	124	6	18	318	92	151
Pedro Miguel	191	106	116	71	......	......	193	......	......
Toro Point	11	......	......	......	......	......	296	......	......
Total	4,432	1,589	1,617	1,318	56	104	6,196	1,100	1,526

(1) Includes 12 Asiatics. (2) Includes Sabanas police station, Taboga Island, Naos Island, Culebra Island, and Palo Seco. (3) Includes Miraflores. (4) Includes 53 Panamanians. (5) Includes Empire, Las Cascadas, and Bas Obispo. (6) Includes eight American negroes. (7) Includes Colon Beach and Colon Hospital. (8) Includes 18 East Indians, nine American citizens, and 236 Panamanians. Gold force of contractors (included above), 30 bachelors.

RECORDING TIME CLOCKS.

Various Departments at Balboa Shops to be Supplied With These Devices.

New recording time clocks are being placed in service in the machine shop, forge, pipe, tin, and copper shop, boiler and shipfitter shop, paint shop, car shop, planing mill, office, and roundhouse at Balboa shops. Fifteen clocks will be installed, two in each of the above-named buildings, except the paint shop, roundhouse, and office, in which one clock will suffice for both gold and silver employes. All are electrically synchronized by a master clock in the office of the superintendent of the Mechanical Division.

The times at which employes check in and out are recorded by the clocks on ruled cards, one to each employe. At the top of the card are written the employe's name, shop roll number, designation, and rate of pay. Below are spaces for 15 days in the first half of the month, and on the back of the card are 16 spaces for the second half. Each of the day spaces is divided, horizontally, into spaces for the first and second periods of the day (or night) and for overtime. Each of these spaces is subdivided for checking in and out. The cards fit closely in a slot in the base of the clock, and guides and stops in the interior are automatically adjusted with the passage of each day and period to make the recording numerals strike the proper space on the card.

The cards are filed, in the order of roll numbers, in a rack beside the clock. Each employe, on coming to work, takes his card from the rack, inserts it in a slot in the clock, and presses a lever. This causes the recording numerals to register on the card through an inked ribbon, an act indicated by the sounding of a small bell. The employe then withdraws the card and places it in a rack on the other side of the clock. When he checks out, a similar operation takes place, the stamped card being then replaced in the first rack, ready for use at the checking in for the next period. The clock records on the basis of a 24-hour day, in tenths of an hour. Calculation of time worked and pay due is thus done entirely by the decimal system.

The printing ribbon is in two colors and shifts automatically at the beginning and end of each period. In other than regular working hours the clock stamps in red; during the regular working hours, in blue. Thus, if an employe is late in reporting, or checks out before the close of the period, the red numerals draw the timekeeper's attention to the fact.

On account of the irregular conditions under which overtime work is performed, all overtime is to be recorded at one clock, placed in building No. 1, the machine shop. When an employe is to work overtime, his shop timekeeper is notified, and immediately after the employe has checked out from regular work the timekeeper sends his card to the checking-in rack at the clock in building No. 1. As soon as the employe checks out from overtime work, the timekeeper in charge of the clock at building No. 1 returns his card to the checking-in rack in the building in which the employe works regularly.

The new system of clocks is being adopted gradually, the former system being maintained as a check on its accuracy. It possesses considerable advantages in accuracy and simplicity.

Civil Service Examinations.

Examinations for the following-named positions are scheduled to be held, probably on September 13: Clerk, Panama Canal Service; copyist topographic draftsman, topographic draftsman, nonapportioned Departmental Service; junior engineer draftsman, Engineer Department at Large; kindergarten teacher; local inspector of boilers, local inspector of hulls, assistant inspector of boilers, assistant inspector of hulls, Steamboat Inspection Service (not for appointment in Canal Zone); matron, Indian Service; pharmacist; physician, all services except Philippine; postal clerk, Panama Canal Service; telegraph operator; veterinarian.

The fall edition of the Manual of Examinations has not been received as yet; announcement will be made immediately upon receipt of a supply.

Announcement will be made later of the examinations to be held in October.

Applications should be secured from and filed with this office. Applications will not be received after August 21; this date may be changed if necessary. The place and date of examination should be omitted in application forms. A card of admission will be sent to those found eligible to be admitted, just before the examination.

In answer to questions as to residence, applicants must show residence in a State or Territory of the United States, and county thereof, up to the time of filing application.

ISTHMIAN CIVIL SERVICE BOARD.

Culebra, C. Z., August 1, 1914.

The residents of Panama, who have been ordered to make sanitary improvements to their property, can now obtain gravel at the rate of $1, United States currency, per cubic yard, by making application to the Panama Railroad Company. All orders will be filled upon receipt of same bearing stamped approval of the Health Department. Gravel will be furnished under this arrangement only to those property owners who are required by the Health Officer to place their premises in a sanitary condition.

Church Bazaar.

The Woman's Altar Guild of Christ Church, Colon Beach, will hold a bazaar at the Cristobal clubhouse, on Saturday afternoon and evening, August 8. Fancy needlework articles, as well as practical pieces, will be on sale. There will be ice cream and home made cakes and candies. Tea and sandwiches will be served during the afternoon.

Future of Ancon Study Club to be Determined.

A meeting of the Ancon Study Club will be held at the Hotel Tivoli on Thursday afternoon, August 6, when the future of the club will be determined upon. Any members who may be on the Isthmus, but have removed from Ancon, are asked to be present.

Blind Student Returns to the Isthmus.

The native blind boy, Elysius James, who, for two years, was a student at Perkins Institute for the Blind, Boston Mass., as the ward and protégé of the Canal Zone Federation of Women's Clubs, has returned to Colon. Efforts are being made to procure proper work for him to do. The boy has been trained in chair caning and manual work; he has also had some training in music in which he is said to be especially gifted.

Cristobal Dancing Club.

The Cristobal Dancing Club will hold a shirt waist dance on Saturday evening, August 8, 1914, at the Cristobal clubhouse.

W. H. MARSH, *Secretary.*

Cristobal, C. Z., August 3, 1914.

Missing Persons.

Any one having information regarding the whereabouts of James McScott, who is supposed to be on the Isthmus of Panama, is requested to communicate with S. J. Berman, 7709 Linwood avenue, Cleveland, Ohio.

THE CANAL RECORD is in receipt of an inquiry for the address of Miss Mildred Bignon, formerly of Atlanta, Georgia, whose last address was given as Ancon, C. Z.

Eggs for Hatching.

Eggs for hatching, from white Leghorn chickens, can be had from the Corozal farm at $1.50 for 14 eggs.

CLASSIFIED EXPENDITURES—THE PANAMA CANAL.

A statement of classified expenditures of the The Panama Canal to April 30, 1914, follows:

PERIODS.	Department of Civil Administration.	Department of Law.	Department of Sanitation.	Department of Construction and Engineering.	General Items.	Fortifications.	Total.
Total to June 30, 1909	3,427,090.29	....	9,673,539.28	69,622,561.42	78,022,606.10	....	160,745,797.09
Total—Fiscal year, 1910	709,351.37	....	1,803,040.95	26,300,167.05	2,863,088.83	....	31,675,648.20
Total—Fiscal year, 1911	755,079.44	....	1,717,792.62	27,477,776.19	3,097,959.72	....	33,048,607.97
Total—Fiscal year, 1912	820,398.57	24,729.16	1,620,391.12	28,897,738.10	2,819,926.53	1,212,881.66	35,396,065.14
Total—Fiscal year, 1913	681,389.06	20,253.11	1,435,400.96	33,017,852.99	1,063,322.52	1,901,475.86	38,119,694.50
July, 1913	61,472.81	1,597.91	121,487.47	2,138,540.39	237,534.13	131,333.71	2,691,966.42
August, 1913	57,950.95	1,469.10	112,802.29	2,299,554.75	244,860.32	150,364.19	2,867,001.60
September, 1913	63,469.40	1,835.57	106,731.16	2,276,467.78	242,779.94	149,735.89	2,841,019.74
October, 1913	66,063.85	1,502.47	107,280.12	2,154,953.40	413,883.08	147,589.32	2,891,272.24
November, 1913	58,728.48	1,387.60	85,696.96	1,774,974.81	160,575.73	113,307.35	2,194,670.93
December, 1913	63,433.93	1,781.65	91,197.00	1,787,820.21	136,525.07	174,216.04	2,254,973.90
January, 1914	69,525.61	1,835.50	86,263.15	2,188,791.94	155,386.12	168,495.83	2,670,298.15
February, 1914	68,084.57	2,229.37	89,936.86	1,937,064.36	170,676.88	173,784.79	2,441,776.83
March, 1914	70,083.76	1,488.29	54,753.28	2,212,862.73	318,230.02	162,791.71	2,820,209.79
April, 1914	72,562.60	....	101,841.17	2,030,705.66	220,211.74	1,714,528.66	4,139,849.83
Grand total	7,044,684.69	60,109.73	17,208,154.39	206,117,831.78	90,167,566.73	6,200,505.01	326,798,852.33

OFFICIAL CIRCULARS.

Electric Current Furnished Employes.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., July 21, 1914.

CIRCULAR No. 676:

1. Effective August 1, 1914, and until further notice, the following rules and regulations will govern the use of electric current by employes in quarters:

2. Electric current will be supplied in quarters, without charge to the employe, as follows:

(*a*) Current for standard lamps installed by the electrical division in the original outlets provided.

(*b*) Current for a table lamp or reading lamp, the property of the employe, consuming a total of not more than 80 watts, which is attached to original outlet provided by means of an approved extension cord and plug, and which is used in place of the standard lamp provided for said outlet. Not more than one such installation, using more current than the standard lamp which it supplants, will be allowed in one apartment.

(*c*) Current for extra lights installed by the electrical division for use in pianos to keep out moisture.

3. Electric current for additional lamps, or for lamps to be used in original outlets provided, in place of the standard lamps supplied (except as provided in Paragraph 2, Sections *B* and *C*), will be sold to employes at the following monthly rates:

(*a*) Current for each lamp consuming not more than 60 watts.................. $0.50

(*b*) Current for each lamp consuming more than 60 watts and not more than 100 watts 1.00

4. Electric current for the operation of each electric appliance and electric heating apparatus, excepting lamps, will be sold to employes at the following monthly rates:

Consumption.	*Rate.*
100 watts, or less	$0.50
Over 100 to 550 watts	.75
Over 550 to 1,000 watts	1.00
Over 1,000 to 1,500 watts	1 50
Over 1,500 watts	Special rate will be fixed.

5. No charge will be made for less than a full month. Charges will accrue until the end of the month in which written notice is received by the electrical engineer that applicant desires that the service be discontinued. No deduction will be made for vacation periods. Bills will not be rendered. Monthly charges must be paid to the collector within 15 days after the end of the month. If not so paid, charges will be increased 25 per cent and service discontinued, not to be resumed, except with the authority of the Governor. Deposits may be made with the collector to cover charges for not less than six months against which monthly charges will be applied.

6. Suitable outlets for all additional lights, and for each electric appliance or heating apparatus consuming more than 100 watts, will be provided in wooden quarters upon approved application from employes. No additional outlets, however, can be provided in the permanent quarters.

7. Any employe occupying quarters not connected with the 24- hour circuit, desiring continuous service, shall pay the expense of providing same.

8. A permanent deposit in amount fixed by the Auditor to cover two months' charges increased by any additional charges which may accrue through failure to pay must be made with the collector, before any installation is made. This deposit, after deducting any unpaid charges, will be refunded on discontinuance of service. Application for refund should be made to the Auditor.

9. The Panama Canal reserves the right to discontinue the service at any time and disclaims any obligation, expressed or implied, on account of interruption or discontinuance of service after installation has been made, and the applicant waives all claim for loss or damage by reason of such interruption or discontinuance.

10. Application for the above service should be made by the employe to the Governor on Form PC 350-2, provided for that purpose.

GEO. W. GOETHALS,
Governor.

Leave Regulations.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., July 27, 1914.

ALL CONCERNED:

1. Cases are continually arising where heads of departments and divisions are granting permission to employes to absent themselves from duty prior to leave of absence already authorized and shown on leave order. As no restrictions are placed on the localities in which leave may be spent, this practice should be discontinued at once, and, if any time off is desired prior to the time of sailing, the leave of absence must be made effective on the initial date the employe goes off duty.

2. In the case of an employe whose service terminates by resignation, or who is discharged on account of reduction of force and is granted a leave of absence with pay, the last day of his leave for which he receives pay is the date on which his service terminates, and termination papers should be prepared accordingly.

3. Attention is called to Paragraph 5 of Circular 602, which reads:

> "Employes must report from leaves of absence and sick leave at the beginning of the forenoon or afternoon period of their working days, and will not be permitted to report during working hours. Time will begin only after reporting for duty."

In a number of instances, reports of return to duty show that employes are not reporting in accordance with this rule, and heads of departments and divisions are directed to strictly conform to the requirements thereof.

GEO. W. GOETHALS,
Governor.

List of Employes for Jury Service.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., July 29, 1914.

HEADS OF DEPARTMENTS AND DIVISIONS:

I am advised by the district attorney that there have recently been a number of instances in which heads of departments and divisions have requested that employes summoned for jury duty be excused on the ground that their services could not be spared, and it has sometimes been difficult, therefore, to obtain a full jury from the panel summoned.

I desire that you furnish this office a list of the employes of your department or division, who are qualified to serve as jurors, and whose services can be spared for duty without serious inconvenience to the work. The qualifications of a juror are:

1. Citizen of the United States.
2. Between the ages of 21 and 65.
3. In good standing and in full possession of ordinary faculties.
4. Resident of the Canal Zone for three months.
5. Able to read, write, and understand the English language.

The following persons are exempt from jury duty, and their names should not be included in the list furnished:

1. Attorneys at law.
2. Physicians.
3. Ministers of an established religion.
4. Members of the military, naval, and police forces.
5. Officers of The Panama Canal, of the rank and above the rank of resident engineer.

The list should give the name, age, residence, and occupation of each employe.

GEO. W. GOETHALS,
Governor.

Accountable Official.

EMPIRE, C. Z., July 24, 1914.

CIRCULAR No. 68:

Effective July 25, 1914, Mr. W. R. Holloway, supervisor, Division of Operation and Maintenance, will cease to be an accountable official, and will transfer his property to Mr. F. C. Clark, Superintendent of Pacific Locks, who is hereby designated an accountable official of The Panama Canal.

H. A. A. SMITH,
Auditor, The Panama Canal.

Approved:
GEO. W. GOETHALS,
Governor.

New Form of Transfer Slip.

THE PANAMA CANAL.
EXECUTIVE OFFICE.
CULEBRA, C. Z., July 28, 1914.

HEADS OF DEPARTMENTS AND DIVISIONS:

New form of transfer slip, No. PC 277, is now in stock at Mount Hope. Please destroy your supply of old Form CE 277, and make requisition on Mount Hope for a supply of the new form at once.

C. A. McILVAINE,
Executive Secretary.

Estimates of Cost on Work Requests.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., July 25, 1914.

HEADS OF DEPARTMENTS AND DIVISIONS:

Attention is called to the fact that estimates of probable cost are not being made on work requests. The Governor directs that this estimate must be made in all cases, and work requests submitted without it will be returned.

C. A. McILVAINE,
Executive Secretary.

Examinations by Board of Local Inspectors.

THE PANAMA CANAL,
BOARD OF LOCAL INSPECTORS.
ANCON, C. Z., August 4, 1914.

The Board of Local Inspectors will conduct examinations at the administration building, Ancon, on Wednesday, August 12, 1914, beginning promptly at 2 p. m., for persons desiring the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for license must procure from the office of the board, Ancon, forms of application and information respecting the filling out of the same, not later than the day previous to the examination.

All persons desiring chauffeurs' licenses must provide themselves with automobiles with which to demonstrate their ability properly to operate the same. The demonstration test for applicants for chauffeurs' licenses will be given on Tuesday, the day preceding the regular examination, at 2 p. m., at the administration building, Ancon; on Wednesday, the day of the regular examination for out-of-town applicants, at 2 p. m., at the administration building, Ancon.

Applicants for licenses as navigators of motor boats, will be required to give a demonstration of their ability properly to operate such boats, and will be obliged to provide themselves with boats for this purpose. This test will be given on Thursday, the day following the written examination, as follows: At Cristobal, upon arrangement with the captain of the port; at Gamboa, at 8 a. m.; and at Balboa, at 2 p. m. Applicants for the test at Cristobal or Balboa should present themselves at the office of the captain of the port; at Gamboa, the deputy inspector will be present at the Panama railroad station at the hour abovementioned.

By direction of the chairman of the board.

W. H. HYDE,
Clerk of the Board.

Appointments.

THE PANAMA CANAL,
THE PANAMA RAILROAD COMPANY,
FREIGHT AND PASSENGER DEPARTMENT,
COLON, R. P., July 30, 1914.

CIRCULAR No. 112:

Effective August 1, 1914, Mr. C. J. King, acting local agent, at Colon, is appointed local agent, vice Mr. J. C. Warren, deceased.

Mr. E. G. Booth, acting steamship ticket agent, Colon, is appointed steamship ticket agent, vice Mr. C. J. King.

J. C. ANGEL,
Freight and Passenger Agent.

Approved:
C. H. MOTSETT,
Superintendent.

Misdirected Letters.

ANCON, C. Z., August 3, 1914.

The following insufficiently addressed letters, originating in the United States and its possession, have been received at the office of the Director of Posts, and may be secured upon the request of the addressees:

Brown, Roscoe
Brooks, Jos. E.
Clausel, Albert
Conneely, W. J.
Dehn, George
Dehn, George
Flanders, Miss Anna
Fortsman, Capt. E. P.
Fotheringham, Alex. Y.
Gourtney, G.
Hassapis, Tom Christ
Holberg, O.
Lane, J. A.
Lenich, Joe
Morgan, Tom
Robinson, C. S.
Sloan, Mrs. S.
Tingle. Geo. E.
Tharp, Robbie
Wright, Geo.
Wago, M.
Wharton, A. T.

LETTERS UNCALLED FOR JULY 29.

Blackett, Miss Emma
Berwanger, Michael (2)
Brownell, Oscar L.
Buzby, Chas. E. Jr. (2)
Butts, Chas. M.
Barenther, Adolph A.
Bartlett, Lieut.
Cantrell, James R.
Cave, Edward S. Jr.
Core or Cose, H. E.
Clardy, Mrs. A. B.
Cralgwell, Clarence A.
Cooper, Hugh T. (L)
Downing, Robert B.
Dipner, Frank J.
Duncan, Arthur
Evans, Joe H.
Exther, Tholop
Fagerlund, Walter A.
Foran, Thomas
Field, Harry T.
Flavelle, Mrs. K. H.
Garcia, L.
Galloway, Mrs. W. J.
Hyland, John
Heimer, Floyde B.
Jones, Chas. E.
Kelber, Charlie
Kerrnish, Ward A.
Keenan, Mrs. William
Lewis, S.
Lurpin, Arthur
Lindo, J. J.
Morgan, Esq., William A.
Myers, Mr. and Mrs. Bert
Miller, Howard A.
Moran, Joseph P.
Masters, Owen
Marklein, Geo.
Neal, Clark E.
Niemeyer, H. H.
Owyarg, Earl Chioh
Page, Ray M.
Pettersen, C. E.
Perkins, Ben
Phillips, Walter
Powers, Annie D.
Page, Elma J.
Stepferd, Oscar F.
Seigler, D. P.
Sheehan, P. J.
Taylor, Jack
Vandever, Fred
Williams, R. D.
Watson, David
Willson, John

Hotel Aspinwall Launch Service.

The launch *Louise* will sail from the dredge landing at Balboa for the Hotel Aspinwall on Taboga island at 9.10 a. m., on Monday, Thursday, and Saturday of each week. The time of sailing permits connection to be made with train No. 3, which arrives at Panama from Colon at 8.35 a. m., daily.

COMMISSARY DEPARTMENT.

European Agents for Commissary Supplies Unable to Fill Orders.

The Commissary Branch has received a cable from agents in Hamburg, Germany, advising that they are unable to make shipments during the present political conditions in Europe. This same condition will probably obtain with other European agents. The commissary has been purchasing many articles in the European market that could be purchased there with greater economy than in the United States. It will now become necessary to purchase most of these supplies in the United States, and as the prices of food supplies there may advance as a result of the European war, there may result an increase in cost of commissary supplies.

Special Sales.

The following sales are announced:

SHOES.

At Pedro Miguel commissary until August 11, 1914, inclusive.

At Cristobal commissary, beginning August 13, 1914.

HATS.

At Ancon commissary until August 11, 1914, inclusive.

At Pedro Miguel commissary, beginning August 13, 1914.

MEN'S AND WOMEN'S FURNISHINGS.

At Balboa commissary, beginning August 10, 1914.

Commissary Hours.

The commissary stores are open during the following hours: From 8 a. m., to 12.30 p. m., and 3 to 6.30 p. m.

The gold departments of the Cristobal store will open at 2 p. m., on Saturdays and sailing days of Panama railroad vessels.

In rush periods, all stores will remain open until 7 p. m.

Cold Storage Prices.

Retail prices of cold storage provisions for the week beginning August 6, 1914:

FRESH MEATS.	Price.
Mutton—Stewing, per pound	8
Shoulder, trimmed, per pound	12
Leg (8 to 10 pounds), per pound	19
Cutlets, per pound	20
Short cut chops, per pound	23
Shoulder, chops, per pound	14
Lamb—Stewing, per pound	10
Shoulder trimmed, per pound	15
Leg (5 to 8 pounds), per pound	24
Chops, per pound	29
Shoulders, chops, per pound	18
Cutlets, per pound	29
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	18
Chops, per pound	27
Loin, for roasting, per pound	27
Cutlets, per pound	31
Beef—Suet, per pound	3
Soup, per pound	7
Stew, per pound	11
Plate, per pound	12
Corned, No. 1, per pound	18
Corned, No. 2, per pound	15
Chuck roast, 3 lbs., and over, special, per pound	12
Chuck roast, 3 lbs., and over, choice, per pound	15
Rib roast, second cut (not under 3½ pounds), special, per pound	16
Rib roast, second cut (not under 3½ pounds), choice, per gouud	21
Rib roast, first cut, (not under 3 pounds), special, per pound	19
Rib roast, first cut (not under 3 pounds). choice, per pound	24
Pot roast, special, per pound	20
choice, per pound	25
Rump roast, special, per pound	20
choice, per pound	25
Porterhouse roast, special, per pound	22
choice, per pound	27
Steak, chuck, special, per pound	13
choice, per pound	16
Round, bottom, special, per pound	13
choice, per pound	17
Round, top, special, per pound	15
choice, per pound	19
Rib, special, per pound	20
choice, per pound	24
Sirloin, special, per pouud	20
Sirloin, choice, per pound	25
Sirloin, choice cut, special, per pound	23
Sirloin, choice cut, choice, per pound	28
Rump, special, per pound	20
choice, per pound	25
Porterhouse (not less than 1½ pounds), special, per pound	23
Porterhouse (not less than 1½ pounds), choice, per pound	30
Porterhouse, short, Delmonico, special, per pound	20
Porterhouse, short, Delmonico, choice, per pound	25
Tenderloin, Western, special, per pound	35
Tenderloin, Western, choice, per pound	40
Pork—Hams, fresh, per pound	§23
Shoulders, fresh, per pound	§19
Spare ribs, per pound	18
Loin, chops or roast, per pound	20
Backbones, per pound	15
Pigs' feet, each	7
Pigs' head, whole	83
Pigs' head, ½-head	42
Sausage, home made, per pound	23
MISCELLANEOUS.	
Livers—Beef, per pound	12
Calf, each	62
Half, each	31
Steak, Hamburger, package	17
Hamburger, 20-pound containers, per pound	14
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	12
Pure pork, 1-lb. carton, per pound	17
Sweetbread, beef, per pound	26
Eggs, fresh, per dozen	35
per ½-dozen	18
Bluefish, per pound	09
Halibut, fresh, per pound	05
Salmon, per pound	07
Yeast, per pound	31
per cake	2
POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, per pound.	28
Fancy roasting, corn fed, per pound.	25
Fowls, per pound	24
Fowls, light, per pound	20
Ducks, Western, per pound	22
Capons, per pound	33
Broilers, milk fed, per pound	25
Broilers, corn fed, per pound	21
Turkeys, per pound	29
Squabs, each	42
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30
CURED AND PICKLED MEATS.	
Ham—Real York and Cumberland, per pound	43
Genuine Westphalia, per pound	50
Sugar cured, per pound	23
Sliced, per pound	30
Half, for boiling, per pound	25
Boiled, per pound	32
Hocks, per pound	09
Butt end, about 1½ pounds to butt, per pound	11
Bacon—Breakfast, whole piece, per pound	26
Sliced, per pound	27
Ham, lunch, per pound	40
Port, salt, family, per pound	14
Ox tongues, each	1.35
Pigs' feet, per pound	7
Tongues, per pound	23
DAIRY PRODUCTS.	
Butter—Creamery, special, per pound	39
Sheffield Farms, extra fancy, per lb	54
Cheese—Philadelphia cream, cake	09
Roquefort, per pound	35
Young America, per pound	22
Swiss, per pound	27
Edam, each	72
Edam, tin	29
Parmesan, per pound	38
Gouda, per pound	26
Snappy, per cake	9
Milk (certified), bottle	**24
Fer-mil-lac, bottle	**25
Ice cream, quart	‡25
½-gallon	‡50
Cream, Sheffield Farms, quart	**33
VEGETABLES.	
Beets, per pound	4
Celery, per head	†5
Cabbage, per pound	*4
Carrots, per pound	4½
Cucumbers, per pound	†2
Lettuce, per pound	†9
Peas, green, per pound	9
Onions, per pound	†6
Peppers, per pound	8
Potatoes, white, per pound	†3½
sweet, tropical, per pound	2
sweet, American, per pound	3½
Yams—Tropical, per pound	3
Parsley, per bunch	†2½
Eggplant, per pound	6
Rhubarb, per pound	2½
Turnips, per pound	3
Tomatoes, per pound	6
Spinach, per pound	7
Squash, per pound	†2
Kale, per pound	5
FRUITS.	
Apples, per pound	7
Apricots, per pound	13
Canteloupes, each	7
Cherries, per pound	28
Grape fruit—American, each	6
Tropical, each	4½
Lemons, per dozen	†13
Limes, per 100	†50
Oranges—American, each	2½
Jamaican, per dozen	18
Peaches, per pound	6
Plums, per pound	7
Watermelons, each	43
Bananas, per bunch	38
Bananas, each	0½
Apples, evaporated, per pound	16
Apricots, evaporated, per pound	23
Pears, evaporated, per pound	23

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* Indicates advance from preceding list.

§ Indicates reduction from preceding list.

**Indicates 5 cents allowed for return of bottle.

‡Sold only from commissaries; no orders taken for delivery.

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Rainfall, July 1 to July 31, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	Ins.		Ins.
Ancon	1.76	28	4 32
Balboa	1.42	28	5.00
*Miraflores	1.70	28	4 81
Pedro Miguel	1.63	23	7.15
Rio Grande	1.77	27	5.80
Central Section—			
Culebra	1.36	27	5.28
*Camacho	1.25	28	4 94
Empire	1.96	15	5.02
Gamboa	.96	28	3.91
*Juan Mina	2.02	27	9.72
Alhajuela	1 63	27	7.21
*El Vigia	2.35	4	8 23
Frijoles	1.07	27	4 06
*Monte Lirio	.60	23 & 27	3.54
Atlantic Section—			
Gatun	.81	23 & 27	4 28
*Brazos Brook	2.40	12	10.30
Colon	2.64	23	10 74
Porto Bello	3.26	28	7.90

*Standard rain gage—readings at 5 p. m. daily. Automatic rain gage at unstarred stations—values midnight to midnight.

◆

Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes for the week ending midnight, Saturday, August 1, 1914. All heights are in feet above mean sealevel:

DAY AND DATE	STATIONS.				
	Vigia.	Alhajuela	Gamboa.	Gatun Lake.	Miraflores Lake.
Sun., July 26	125.40	91.80	84.76	84.73	53.85
Mon., July 27	125.35	91.80	84.76	84.74	53.90
Tues., July 28	138 50	101.55	85.00	84.86	54.14
Wed., July 29	129.20	95.68	84.90	84.86	53.90
Thurs., July 30	126.50	92.80	84.88	84.85	53.89
Fri., July 31	126.10	92.39	84.86	84.85	53.78
Sat., Aug. 1	125.85	92.12	84.91	84.89	53.81
Height of low water to nearest foot	125.0	91.0			

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Tide Table.

The following table shows the time of high and low tides at Panama for the week ending August 15, 1914:

DATE.	Low	High	Low	High
	A.M.	A.M.	P.M.	P.M.
August 9	......	5.48	12.03	6.06
August 10	12.19	6.23	12.42	6.42
August 11	12.56	6.58	1.21	7.16
August 12	1.33	7.32	2.00	7.48
August 13	2.10	8.05	2.40	8.24
August 14	2.48	8.42	3.24	9.08
August 15	3.34	9.28	4.20	10.06

75th meridian time.

CANAL CLUBHOUSES.

Activities of the Young Men's Christian Association.

BALBOA.

The first "Smoker" at the local clubhouse was held on Friday night, July 31. Over 300 men were present. The program included sketches by Messrs. Woolf and Stoger; Corporal Baker in monologue, and the Downe Company with their song numbers. Prof. Aguirre, with his company of three, presented a program of magical tricks, hypnotizing, and fancy bicycle riding. Willoughby and Jordan, two local wrestlers, gave an exhibition of wrestling, Willoughby securing the first fall in 12 minutes. Music for the occasion was furnished by the Guatemalan orchestra. The last number on the program was a tug-of-war between the pipefitters team, composed of W. Jordan, T. Clark, J. McKenzie, John Freeland, and W. West; and the athletic team, composed of T. Conners, M. Ludeck, W. Scott, E. Cristoff, and F. W. Hoff. The athletic team won the contest after a pull of three minutes.

Balboa won the series of games in the checker meet between Culebra and Balboa last Saturday night at Balboa, by the score of 40 to 30, thus winning the meet, Balboa having defeated Culebra in the series played at Culebra by the score of 20 to 17. Arrangements are being made to play the Cristobal team a series of games in the near future.

COROZAL.

Physical Director P. T. Woolworth is planning a trip up the Chagres River with a party of Corozal boys on Saturday, August 8.

High scores for the past week in bowling were made, as follows: *Tenpins*—White, 234, 212, 204, 201; Territtier, 231, 216, 205, 202; Parkis, 214; Boesen, 203; *Duckpins*—Harper, 118; Thirsk, 107; Barlow, 107; Parkis, 105; Clanges, 104; Gustavson, 104; Davis, 100.

Gymnasium classes have been started by Physical Director Woolworth; the men's classes are held on Tuesday and Friday nights, and the boys' classes on Tuesdays, Thursdays, and Fridays, from 9.30 to 11 a. m. These days will be adhered to as strictly as possible.

Corozal defeated the Cristobal indoor baseball team on Saturday night by a score of 12 to 2. The result of the game was in doubt uutil the ninth inning. The lineup follows:

Corozal—Sims, pitcher; L. Ridge, catcher; E. Roberts, short stop; R. Caruthers, first base; C. B. Conant, second base; T. Brehaney, third base; Whiston, field.

Cristobal—G. Duer, pitcher; J. Raymond, catcher; C. Garlington, short stop; W. Mathues, first base; D. Raymond, Fraser, second base; Hennan, third base; E. Roberts, Ashton, field.

PEDRO MIGUEL.

The high scores made in bowling during the past week were: *Tenpins*—S. Farrar, 211. *Duckpins*—Margeson, 104; Piper, 101; Whiston, 121.

Over 90 bachelors from Pedro Miguel and Paraiso attended the dinner prepared for them by the ladies of both towns, on Friday evening. After the serving of turkey and other home cooked articles, a program of songs, toasts, and speeches was given. In return for their entertainment, the bachelors are to give a social for all the townspeople of both places, later in the month.

The boys' department from Gatun visited the local clubhouse on Saturday, and played a match game of indoor baseball with the local boys. The Pedro Miguel boys won the game by a score of 23 to 17. Later, the boys bowled two other games, and the Pedro Miguel team won again.

The membership of the local clubhouse has reached the highest point since the building was opened. The membership, in July, consisted of 146 civilians, 165 soldiers, and 20 boys.

CULEBRA.

On Sunday night, August 2, the last song service was held in the schoolhouse. These services have been held regularly since July, 1913.

The last moving picture show was held in the schoolhouse on Monday night, August 3. The building will be torn down this week. Special entertainers were engaged for the occasion, but owing to their missing the train, this feature was cancelled. Mrs. Crook gave several solos. Mrs. Koperski played the piano during the entertainment.

A "Smoker" was held on Thursday night, July 23, at which 160 men were present. The program was, as follows: Bass solo, Louis Cantor; mandolin solos, Mr. Geo. W. Ramsey; soprano solos, Mrs. Laura Crook; Violin solos, Dr. E. Hill; Flying ring work and balancing acts, Mr. R. L. DeFeet; monologues, Mr. L. A. Thompson. Four moving picture reels were shown between acts, and Gray's orchestra furnished music during the evening. Refreshments of home made cake, sandwiches, and ice cream were served; also, cigars.

At the moving picture exhibition on Saturday night, July 25, Mrs. Laura Crook sang four solos, accompanied by Mrs. Randolph.

Messrs. Horgan, Harris, and Wallerstedt, representing the Balboa Y. M. C. A. checker club visited Culebra, and played two games with each member of the local checker club. Balboa won 20 games, and Culebra 17 games. Eleven games were drawn. The high score for Balboa was made by Harris, who played 16 games and won nine. The high score for Culebra was made by Dr. Dunn, who played six games and won six. The members of the Culebra club are Dr. Dunn, Messrs. Fox, McColley, McClure, Armstrong, Warner, Wilson, and Rattiner. More challenges are welcomed.

GATUN.

A game of indoor baseball was played between two teams from the Tenth Infantry on Saturday evening, August 1. The "Blues" won from the "Reds," the score being 29 to 26. Mr Kjellander acted as referee.

A vaudeville entertainment was given on Monday, evening, July 27. The program follows: Motion pictures, Pathe's weekly; magic, Prof. Aguirre of Ecuador-motion pictures, "The pirates" (Part 1); hypnotism, Prof. Aguirre; trick bicycle riding, Louis Pacheco; motion pictures, "The pirates" (Part 2); trunk mystery, Prof. Aguirre and Señora Aguirre; motion pictures, "The way to Arizona."

The following will receive medals as prizes in recent bowling tournaments: H. H. Hodges, W. J. Humphrey, P. R. Kiger, L. A. Schandler, Edward Walsh, and Mrs. J. J. Walsh.

The song service continues to draw about 175 people each Sunday evening. On August 2, Mrs. Allen played a piano solo, the children of the Gatun Sunday school gave several selections, and Mrs. Stillwell sang a soprano solo.

The Gatun boys enjoyed a trip to Pedro Miguel on Saturday, August 1, under the care of Mr. Arvid Kjellander.

The Tenth Infantry band gave a concert on Tuesday evening in the band stand in front of the clubhouse.

CRISTOBAL.

A concert was given by the orchestra of the *Prinz August Wilhelm*, on Monday night, July 27.

Mr. W. L. Scheid and Miss Maud Sutherland won the single folks duck pin tournament on Tuesday, July 28. The scores follow:

Mr. Scheid and Miss Sutherland	504
Mr. D. V. Raymond and Miss Lillian Cotton	475
Mr. A. Gibson and Miss Foestrom	472
Mr. Kerrington and Miss Butler	472
Mr. Ashton and Miss Corri	469
Mr. Levy and Miss Ragsdale	449
Mr. Drew and Miss Bevington	449
Mr. Gill and Miss Butler	448
Mr. Steele and Miss Cox	447
Mr. Russell and Miss Stevens	445
Mr. Smith and Miss A. Gibson	428

High duckpin scores for the week were: Scheid, 104; Smith, 104; Gill, 100.

High tenpin scores for the week were: Pinney, 222; Barte, 220; Buser, 220; Collins, 216; Russell, 211; and Peterson, 203.

Over 200 people attended the stereopticon lecture given by Dr. Henry Pittier on the forests of Panama, on Thursday, July 30. After giving the reasons for the nature of soils and climatic conditions on the Isthmus of Panama, Dr. Pittier described its forests. He stated that there is no reason why the lumber industry in Panama should not be profitable as many species of trees here are very good for lumber. Following the lecture, colored slides were shown of the forests and native peoples of Panama. Mr. Philippe Bunau-Varilla, the French engineer, was to have addressed the discussion club on August 6, but as there had arisen some doubt as to his being on the Isthmus later than August 4, he consented to make a short address following Dr. Pittier's lecture. Mr. Bunau-Varilla commended the United States for its treatment of all nations interested in the building of the Canal. He favored equal tolls to all nations, and believed that within a very few years the Canal will be financially selfsustaining, and eventually, very profitable.

There will be an all-Isthmian chess tournament at Cristobal on Saturday, August 8. Following the tournament, an hour of good fellowship is planned. All men interested in chess are invited to attend.

Prof. Gomez has started another class in Spanish for beginners, with 10 enrolled. There has been some inquiry regarding starting a class for boys. Prof. Gomez is willing to start such a class, if enough boys enroll, the class to be held during the day, at a convenient hour.

Two local pool tournaments are under way, one 100-point straight pool, the other French pool.

Movements of Vessels at Port of Balboa.

The arrivals and departures of steamships at the port of Balboa during the week ending at noon, August 1, were, as follows:

Arrivals—July 26, *Lyra*, from San Francisco; July 27, *Acajutla*, from Salina Cruz; July 28, *Limari*, from Valparaiso; July 29, *Mantaro*, from Callao; July 30, *Isthmian*, from San Francisco; *Elsinore*, oil vessel, from Port San Luis.

Departures—July 25, *Quito*, to Colombian ports; July 26, *Peru*, (P. S. N.), to Callao; July 27, *Ucayali*, to Callao; July 31, *City of Para*, to San Francisco; August 1, *Damara*, to San Francisco.

MOVEMENTS OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and the United Fruit Company's Line:

		Sails.	Arrives.
NEW YORK TO CRISTOBAL.			
*Panama	P. R. R.	Aug. 4	Aug. 10
*Allianca	P. R. R.	Aug. 10	Aug. 16
*Colon	P. R. R.	Aug. 15	Aug. 21
*Advance	P. R. R.	Aug. 22	Aug. 29
*Panama	P. R. R.	Aug. 28	Sept. 3
*Allianca	P. R. R.	Sept. 3	Sept. 9
*Colon	P. R. R.	Sept. 9	Sept. 15
CRISTOBAL TO NEW YORK.			
†Advance	P. R. R.	Aug. 10	Aug. 17
†Panama	P. R. R.	Aug. 16	Aug. 22
†Allianca	P. R. R.	Aug. 22	Aug. 28
†Colon	P. R. R.	Aug. 27	Sept. 2
†Advance	P. R. R.	Sept. 3	Sept. 10
†Panama	P. R. R.	Sept. 9	Sept. 15
NEW YORK TO COLON.			
Almirante	U. F. C.	July 29	Aug. 5
*Pastores	U. F. C.	Aug. 1	Aug. 7
Orotava	R. M.	Aug. 1	Aug. 9
Prinz Joachim	H.-A.	Aug. 1	Aug. 10
*Santa Marta	U. F. C.	Aug. 5	Aug. 12
*Tenadores	U. F. C.	Aug. 8	Aug. 14
Prinz Eitel Friedrich	H.-A.	Aug. 8	Aug. 18
*Metapan	U. F. C.	Aug. 12	Aug 19
Calamares	U. F. C.	Aug. 15	Aug 21
Danube	R. M.	Aug. 15	Aug. 23
Pr. August Wilhelm	H -A.	Aug. 15	Aug. 24
*Zacapa	U. F. C.	Aug. 19	Aug. 26
*Calamares	U. F. C.	Aug. 22	Aug. 28
Prinz Sigismund	H.-A.	Aug. 22	Sept. 1
*Almirante	U. F. C.	Aug. 26	Sept. 2
*Tenadores	U. F. C.	Aug. 29	Sept. 4
Tagus	R. M.	Aug. 29	Sept. 6
Prinz Joachim	H.-A.	Aug. 29	Sept. 7
*Santa Marta	U. F. C.	Sept. 2	Sept. 9
*Calamares	U. F. C.	Sept. 5	Sept. 11
COLON TO NEW YORK.			
†Calamares	U. F. C.	Aug. 5	Aug. 11
Zacapa	U. F. C.	Aug. 6	Aug. 13
Prinz Sigismund	H.-A.	Aug. 9	Aug. 18
†Pastores	U. F. C.	Aug. 12	Augl 18
Almirante	U. F. C.	Aug. 13	Aug. 20
Tagus	R. M.	Aug. 18	Aug. 26
Prinz Joachim	H.-A.	Aug. 18	Aug. 26
†Tenadores	U. F. C.	Aug. 19	Aug. 25
Santa Marta	U. F. C.	Aug. 20	Aug. 27
Prinz Eitel Friedrich	H.-A.	Aug. 23	Sept. 1
†Calamares	U. F. C.	Aug. 26	Sept. 1
Metapan	U. F. C.	Aug. 27	Sept. 3
Oruba	R. M.	Sept. 1	Sept. 9
Prinz August Wilhelm	H.-A.	Sept. 1	Sept. 9
†Pastores	U. F. C.	Sept. 2	Spet. 8
Zacapa	U. F. C.	Sept. 3	Sept. 10
Prinz Sigismund	H.-A.	Sept. 6	Sept. 15
NEW ORLEANS TO COLON.			
Parismina	U. F. C.	July 29	Aug. 5
*Atenas	U. F. C.	Aug. 1	Aug. 6
Cartago	U. F. C.	Aug. 5	Aug. 12
*Turrialba	U. F. C.	Aug. 8	Aug. 13
Heredia	U. F. C.	Aug. 12	Aug. 19
*Abangarez	U. F. C.	Aug. 15	Aug. 20
COLON TO NEW ORLEANS.			
‡Heredia	U. F. C.	Aug. 6	Aug. 11
Parismina	U. F. C.	Aug. 6	Aug. 13
‡Atenas	U. F. C.	Aug. 13	Aug. 18
Parismina	U. F. C.	Aug. 13	Aug. 20
‡Turrialba	U. F. C.	Aug. 20	Aug. 25
Cartago	U. F. C.	Aug. 20	Aug. 27

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

Legal Notice.

United States of America
Canal Zone } In the District Court.

The following named American citizens died intestate leaving personal property within the Canal Zone to the amount stated:

	U.S.C.
Nelson Wheeler	$ 28.99
George Wagner	179.09

The Administrator of Estates has filed a petition for the escheat of the abovenamed estates, in accordance with Section 779 of the Code of Civil Procedure.

Notice is hereby given to all heirs or creditors of the above estates to appear before this Court in the courthouse at Ancon, on September 26, 1914, at 9 o'clock, a. m., to establish their claims, or to show cause why the said estates should not escheat to the Government of the Canal Zone.

E. M. Goolsby,
Clerk of District Court.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, AUGUST 12, 1914. No. 51.

The Canal Record

Official publication of The Panama Canal.

The Canal Record is published weekly free of charge, one copy each, to all employes of The Panama Canal and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,
THE CANAL RECORD,
Ancon, Canal Zone,
Isthmus of Panama.

No communication either for publication or requesting information will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

Hydraulic Grader Ready to Begin Work.

The hydraulic grader, *No. 1*, which is to be used in sloping the banks of Culebra Cut, and in sluicing material down from slides, was removed from dry dock at Mount Hope on Thursday, August 6, and returned to Paraiso for final adjustments. The work performed at the dry dock was principally in the installation of the 16-inch suctions through which the pumps are to draw water from the channel in which the grader is floating, and to deliver it at high pressure for sluicing.

With the exception of the work below the water line, performed at the dry dock, the grader has been assembled alongside the wharf at Paraiso. The hull of a retired double-end clamshell dredge, *No. 3*, formerly the hull of an old French suction dredge, rebuilt at the dry dock shops in 1908, was overhauled and rebraced for the installation of the new machinery. This hull is of iron, 114 feet long by 30 feet wide, and 10 feet six inches deep. The machinery, described in THE CANAL RECORD of April 15, 1914, was purchased and installed according to plans furnished by the Mississippi River Commission, and a superstructure was erected, similar to those on pipeline suction dredges and the new dipper dredges, to contain quarters for the crew and an office for the master. The work is now practically completed and it is expected to begin operating tests about the middle of this week.

Information Sent Broadcast from Canal Radio Stations.

For the benefit of shipping in waters contiguous to the Canal, the radio stations at Colon and Balboa send broadcast at 4 a. m., 12 noon, 4 p. m., and 8 p. m., any notices to mariners which may be supplied by the port captains for the respective ends of the Canal. For instance, the Colon station has been broadcasting the information that the light on the outer end of the Toro Point breakwater has been temporarily out of service.

An unofficial service for the benefit of people at sea is being carried on by the Colon station, which each day at 3.30 p. m. sends broadcast about 200 words of news made up of extracts from the Panama morning papers. The service is generally popular, and the Government vessels *Hannibal and Leonidas* which are working up and down the coast from Colon, on survey duty, have become so accustomed to it that their radio operators call for the day's report, if there should be a delay in sending it out.

Lock Entrance Caisson Launched at San Francisco.

The floating lock entrance caisson which is being built for The Panama Canal by the Union Iron Works Company in San Francisco, was launched on July 25, according to advices received from Mr. L. A. Mason, the assistant engineer in charge of its construction. It has since been towed to the contractor's dry dock, about three miles from the ways, and subjected to a general examination and water test. Anticorrosive and antifouling compositions are being applied to the exterior surfaces from the keel up to the light draft line, at the 32-foot level.

At the time of launching, a little more than 1,350 tons of structural steel, or about 90 per cent of the total required to complete the caisson, had been erected on the keel blocks. Practically all of the main pumping system, exclusive of the pumps, had been installed. Of the permanent ballast, 580 tons, slightly more than 70 per cent of the total, had been laid. The purpose in launching the caisson without all of the parts completed was to lighten the draft sufficiently to allow it to be taken over the sill of the dry dock, which is 29 feet below the surface at high tide.

After the completion of work in the dry dock, the caisson will be towed back to the shipyards and the remainder of the structural parts, permanent ballast, pumps, electric motors, deck fittings, etc., will be installed. It is expected that this work will be finished early in September, after which the caisson will be towed to Balboa. The final acceptance test will be made at the lower end of Miraflores Locks.

Contract for the caisson complete was let in September, 1913, calling for delivery within 12 months. Erection has been rapid, considering that all of the steel was ordered from the East and inspected before shipment, over four months elapsing before the arrival of the material at the shipyards. The interval was devoted to work on the shop drawings and on a number of castings and fittings required for the main pumping system. The keel was laid on February 5, 1914.

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The Governor has appointed Col. H. F. Hodges as his representative to act with the Board of Directors of the Panama National Exposition on matters connected with it and The Panama Canal.

TERMINAL RADIO STATIONS.

Plants of Greater Capacity Under Construction at Colon and Balboa.

As a part of the equipment of the Canal, new and larger radio stations are being constructed at Colon and Balboa to supplant the present stations in communicating with ships of the Army and Navy and commercial vessels within a normal operating radius of 500 miles from the Canal. Their service will be similar to that of the present stations, but will exceed in area the present 300-mile daytime reach of the present station at Colon, and the 200-mile daytime range of the Balboa station. The Colon station will be equipped with two interchangeable sets, the smaller to be used regularly for local work, and the larger to be switched in for farther communication when desired. The large set will be capable of communicating as far as Key West, and may thus be substituted for the Darien high power station in communicating with the United States, if the need arises. The larger set at Colon will use the equipment of the present station.

The Colon and Balboa radio services, while primarily for naval and military work in connection with the Panama Canal, and secondarily for shipping, will be used for all official communication with ships approaching or departing from the Canal, or in transit through the Canal. They will be opened, as the present stations are, to commercial service, under restrictions subordinating this use to Government needs and under the further restrictions imposed by international convention, such as, for example, the ruling that Government radio services may not be used for commercial messages between points in connection with privately owned submarine cable or overland wire service. The Colon and Balboa services will, further, be distinct from the service of the high power station at Darien, which will be used, except in case of emergency, for official business, communicating direct with the Arlington station near Washington and relaying messages to Government ships within a nominal radius of 3,000 miles of the Isthmus.

The new stations at the ends of the Canal will be practically identical in form, except that the Colon station will have a slightly larger power house, to accommodate the two sets of sending apparatus. At each the antennæ will be stretched between two 300-foot steel towers, 600 feet apart. Each tower will be selfsupporting, resting on three footings, arranged in an equilateral triangle, 60 feet on the side. The footings, which have been completed, with anchor girders, are blocks of concrete, nine feet square in plan, resting on piles driven through fill to rock. At Colon, where the piling is below sealevel, timber piles were used, but at Balboa, on account of higher elevation, reinforced concrete piles were driven.

The power houses, alike, except for the slight greater size of the one at Colon, are adjoined by identical operating rooms, with an office beyond, all built of reinforced concrete, and one story in height. Suitable underground duct will be laid for the connecting wires; the high potential wires connecting with the antennæ will pass through the center of a plate glass window. The power house and the operating room are in separate buildings, 15 feet apart, but connected by a covered portico, so that there may be no difficulty in passing from one to the other during a storm.

New quarters for the operators are part of the construction. At each station a 1-story 2-family frame house, and a 2-story frame barracks, or bachelors' quarters with mess and room accommodations for six men, are under construction. All of the quarters at both stations are under roof, and the interior finishing is in progress. The walls and roofs of the power houses and operating buildings have been built, and finishing off the walls and making ready the interiors is under way.

The new station at Colon is to occupy the present station grounds, between the Colon Hospital grounds and the quarantine house for steerage passengers. The area devoted to the station will probably be enlarged in the future by the removal of the quarantine house and the incorporation of its grounds in a Naval reservation. Such reservation has been made for the new radio station at Balboa, which occupies a site on the Balboa dump, about 4,000 feet out from the present commissary store, 6,500 feet inland from the land end of Naos Island breakwater, and approximately 1,500 feet west of Gabilan Rock, which is off shore from Punta Mala. The buildings overlook the Bay of Panama, east of the dump and the breakwater, and are visible from parts of the city of Panama.

Both stations will receive power from the Canal transisthmian electric system, developing it through transformers to the potential required for operation. They will use a different system of radiation from that proposed for the Darien station, so that there will be no interference. They will conform to the international convention using a wave length of 600 meters for communication with commercial ships, and from 1,000 to 2,500 meters for naval work.

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Motor Busses for Ancon and Balboa.

In view of the fact that no tracks for railroad or street cars will be permitted to pass through the town of Balboa, or any closer to the new Administration Building than at present, the superintendent of the Panama railroad has been directed to requisition three motor busses suitable for carrying passengers. These busses will probably be similar in general design to those in use on Fifth avenue, New York City, and will be operated on a regular schedule, making trips between the entrance to the Ancon Hospital grounds and Hotel Tivoli; and various points in Balboa and Balboa Heights. They will be solely for the use of gold employes and their families.

◆

Lecture on Hygiene Postponed to August 19.

The lecture on hygiene which was to have been given at Ancon hall by Dr. M. E. Connor before the junior auxiliary of St. Luke's hospital chapel, on Wednesday afternooon, August 5, was unavoidably postponed, and will take place at Ancon hall on Wednesday afternoon, August 19, beginning at 3.45 o'clock. Other meetings for August are the physical culture and folk dancing class, at Ancon hall on Wednesday afternoons, August 12 and 26, from 3.45 to 4.45.

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Further Passages of Vessels between Entrance Channels.

Since the passage of the steamship *Cristobal* from Cristobal to Balboa on August 3, and its return to Cristobal on August 4, test voyages between the terminal ports have been made with all of the Panama railroad vessels available. The successive voyages have resulted in greater smoothness of handling through the locks and in a reduced time of transit.

The *Advance* was taken from Cristobal to and through Miraflores Locks, on Sunday, August 9, and returned on the same day as far as Gatun, being locked through to the ocean the following morning; and the *Panama*, which arrived from New York on August 10, made a similar trip on August 11. On both of these trips, as on the passage of the *Cristobal*, old employes, with members of their families, were carried by invitation of the Governor.

On Saturday, August 15, the *Ancon* will pass from deep water in the Atlantic to deep water in the Pacific, and will officially open the Canal to commerce between the oceans. It will carry cargo to be transferred at Balboa for shipment to north and south Pacific ports.

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PERSONAL.

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Mr. William Penn Cresson has been appointed Secretary of the American Legation in Panama, and took charge of the duties of the position on August 1. He is a Pennsylvanian, born at Claymont, and received his education at the Delancey School in Philadelphia, at the University of Pennsylvania, and the Ecole des Beaux Arts, Paris. He traveled extensively in Persia and Kurdistan in 1900, has contributed a number of articles on the Middle Eastern question to geographical magazines, and is the author of a work on Persia. He studied at the Ecole des Sciences Politiques in Paris in 1902, and from 1903 to 1907 engaged in architecture in the City of Washington. Afterward he took up ranching in Nevada, where he remained until he received his appointment, after examination, to the diplomatic service. He was appointed Secretary of the American Legation at Lima, Peru, on August 4 1909; to the post of Second Secretary of the Embassy at London on February 1, 1912, and Secretary to the American Legation at Quito on August 15, 1913. During the latter year, he was detailed to attend the White Slave Traffic Conference, held in London, and to report the proceedings thereof.

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Raising Funds for Educating an Ecuadorean Girl.

Efforts are being made through the principal of the Methodist College in Panama City to raise money through the church and Sunday school for the education of a young Ecuadorean girl in the United States. Miss Arboleda, who will be the beneficiary, has arrived on the Isthmus from Quito, and was presented to the congregation at the seawall church at the service on Sunday morning, August 9.

◆

Christian Science Meetings.

Permission has been granted by Judge William H. Jackson to the Christian Science Society of Ancon to hold meetings in the district courtroom, Ancon, until other arrangements can be made for its accommodation. The society has a membership of about 45, including residents of Ancon and Balboa. There is also a society of Christian Scientists in Cristobal, which has about 45 members. These organizations, which are independent of each other, are both branches of the Christian Science Church in Boston, the head of the movement in the United States.

Deceased Employes.

Name.	*Check No.*	*Native of*	*Isthmian residence.*	*Employed by*	*Date of commitment.*
Cumberbatch, Joshua	51593	Barbados	Gatun	Term. Con.	Aug. 8, 1914.
Hall, Samuel	85166	Barbados	Gatun	P. R. R.	Aug. 5, 1914.
Jones, Reuben A.	30384	Jamaica	Panama	Mechanical Dep.	Aug. 3, 1914.
Roake, James H.	4502	United States	Corozal	Perm. buildings.	Aug. 3, 1914.
Simon, Ross	50883	Grenada	Colon	Term. Con.	Aug. 2, 1914.
Guillaime, Dublin (alias Augustus Brown)	86609	Hayti	Colon	P. R. R.	July 29, 1914.
Todd, Samuel	177882	Demerara	Gatun	Atlantic Div.	July 22, 1914.
Francis, Joseph	207601	Martinique	Corozal	First Division	July 31, 1914.
Lynch, James	24680	Barbados	Panama	Second Division.	July 22, 1914.
Guiterrez, José Carmen	54300	Colombia	Panama	Fortifications	July 22, 1914.
Miller, Samuel	160270	Barbados	Panama	Fortifications	July 26, 1914.
Moore, Cephas	20977	Jamaica	Camp Bierd	Health Dept.	July 29, 1914.

Insane Employes.

Name.	*Check No.*	*Native of*	*Isthmian residence.*	*Employed by*	*Date of commitment.*
Lambelton, Daniel, alias Daniel Lambletin Modeste	37000	Guadeloupe	Paraiso	Q. M. D.	Aug. 3, 1914.

The estates of these insane employes of the Panama Canal or the Panama Railroad Company are now in process of settlement, and any claims against these estates, or any information which might lead to the finding of heirs or to the recovery of property, bank deposits, postal savings or postal money order deposits, or any other moneys due them, should be presented at once to the Administrator of Estates, Ancon, C. Z. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once.

JOHN K. BAXTER,
Administrator of Estates.

SOCIAL LIFE OF THE ZONE.

Ancon Study Club to Disband.

At the called meeting of the Ancon Study Club, held at the Hotel Tivoli on Thursday afternoon, August 6, it was decided, in view of the fact that nearly all the active members of the club have removed from Ancon, to dissolve the organization. With the exception of the library, the properties of the club will be held until later in the year, when, if there is a sufficient interest for a reorganization, they will be ready for use. The pictures and art library will revert to the Cristobal Woman's Club, now the only existing general club on the Isthmus, when that organization convenes in October. The general library will be turned over to the Woman's Altar Guild of St. Luke's Hospital chapel. It will be placed in the little room, opposite the vestry room, and the books will be distributed from that place at regular hours to be announced later.

The Ancon Study Club, which was the only club in the Canal Zone affiliated with the General Federation of Woman's Clubs, was organized in January, 1912. Its sole object was the pursuit of some study. During the three and one-half years of its activity the members covered a wide field of work including the study of the history of Panama and the Panama Canal, the stories of the operas currently sung in America and the capitals of Europe, United States history, astronomy, observations of the constellations, and modern drama. Entertainments were given on several occasions, and special programs were prepared for the anniversary meetings.

Although not affiliated with the Canal Zone Federation of Woman's Clubs, the Ancon Study Club contributed to the philanthropic efforts of that organization, and carried on private charity until it was disbanded. The presidents of the club have been Mrs. H. C. Shick, Mrs. Wonson, Mrs. Darrell, and Miss Beattie. The permanent librarian was Mrs. Mark White, at whose house the club held its meetings until her departure from the Isthmus in March, 1914. Mrs. Edwin L. Luce, now of Pedro Miguel, was the secretary. At the time of the dissolution the club had about 12 members.

Empire Church Notes.

The Empire missionary auxiliary to the Union Church of the Canal Zone will hold its regular monthly meeting at the home of Mrs. Helmer, on Friday, August 7. The auxiliary intends to continue its meetings as long as any number of its members remains in Empire, when the headquarters will remove to Balboa, where the society will work as an auxiliary to the Union Church of the Canal Zone.

The Fidelity Bible class, in connection with the Union church work in Empire, has suspended meetings, owing to the removal of members from the village. The meetings will be resumed in January at Balboa.

The Sunday school at Empire will continue for the present, there being enough encouragement in the membership and average attendance to warrant its continuance. Forty-eight children and adults were present at the session the last Sunday in July.

Parish activities in connection with St. Ferdinand's Church, Empire, will continue indefinitely, notwithstanding the removals of communicants from the village and the unsettled condition of the community. Events held in the parish house in July were an entertainment by the soldiers of Camp Otis, aided by the woman's altar society and the men's Catholic club, which took place on the 14th; and the usual card party, under the auspices of the two societies, held on the 25th, at which 14 tables were occupied by the players.

The Rev. H. R. Carson, chaplain of Ancon Hospital and rector of St. Luke's hospital chapel, has removed from St. Mary's rectory in Empire to house No. 226, Ancon hospital grounds.

New Meeting Place for Culebra Sunday School.

The removal of the Culebra schoolhouse leaves the Union Sunday school for the fourth time without a meeting place. On account of the large membership, 60, and to the fact that the work is in an excellent condition, it has been decided to continue the school as long as enough members remain in the village to make it practicable. The classes will hereafter meet in the small building, formerly occupied by a news stand and barber shop, located just north of the Government hotel.

Changes in Local Salvation Army Staff.

Adjutant E. E. Grimes, who has been temporarily in charge of the Salvation Army in the Canal Zone, with headquarters at the institute in Cristobal, has been relieved from duty and sailed for Kingston, on the Royal Mail steamship *Danube* on Monday, August 4. He will be attached to territorial headquarters at Kingston, which has jurisdiction over the British West Indies, the Isthmus of Panama, and Costa Rica. Adjutant Grimes is succeeded by Adjutant Peter Terrace, who has arrived from London to take charge of the work in the Canal Zone and Panama.

Pythian Sisters Install Officers.

The semiannual installation of officers of Canal Zone Temple, No. 1, Pythian Sisters, Gatun, was held in the lodge hall on Thursday afternoon, July 30. The officers are: Most excellent chief, Theresa Blake; excellent senior, Elizabeth Bradbury; excellent junior, Mary B. Wagner; manager of the temple, Ida Hollowell; mistress of finance, Mary B. Watkins; mistress of records and correspondence, Marian L. Stanner; protector of the temple, Margaret Williams; outer guard, Lettie Peterson; past chief, Susie P. Reese. The installing officer was Susie P. Reese. The temple will hold regular meetings on the first Thursday afternoon and the fourth Tuesday evening in each month. It is expected to have a social meeting following the business and routine work at each evening session, when the Knights of Pythias, who are members of the temple, will be present. These meetings have the further object of affording an opportunity for new members to become acquainted with their associates in the order.

Ancon-Balboa Dancing Club.

A new dancing club has been formed in Ancon under the title of the Ancon-Balboa Dancing Club. Its object is to hold semimonthly dances at Ancon lodge hall, on the first and second Wednesday evenings in each month. The officers are: President, Roy R. Watson; vice-president, David Moffatt; secretary-treasurer, F. A. Lenow. These officers, together with two members of the club, J. A. Hanson and Burton A. Trips, constitute the board of governing directors. Messrs. Arthur Hanson, William Murtagh, and William Van Fleet compose a committee of three to arrange the details of membership, entertainment, dances, music, and refreshments. The first dance is scheduled to take place on September 2. The charter for the enrollment of members will remain open until that date.

Any one having information regarding the whereabouts of Mr. William J. Shannon, a steamshovel machinist, who left the service of The Panama Canal on February 10, 1913, and who is supposed to be on the Isthmus, is requested to communicate with the American Legation, Panama.

ASSIGNMENT OF CHURCH SITES AT BALBOA AND LA BOCA.

The committee, consisting of Maj. P. M. Ashburn, representing Lieutenant-Colonel Mason, Capt. R. E. Wood, D. E. Wright, and W. L. Phillips, appointed by the Governor to consider the applications for church sites at the La Boca silver settlement, and the new Balboa townsite, held a meeting on July 15. It was found that the requirements of certain of the applicants were such that a maximum area of 10,000 square feet for each church site at Balboa, and 7,500 square feet for each site at La Boca would not accommodate the buildings the organizations desired to put up, and at the same time conform to the Canal Zone building regulations. Further, on account of the irregularity of the blocks, an orderly arrangement of lot lines designed to give suitable street frontage has produced in certain cases a slight increase in area over a rectangular lot of equal frontage. The committee, therefore, recommended that no fixed limit of lot area be adopted. The applications reported as having been received up to the date of the July 15 meeting, were, as follows:

BALBOA.

Organization.	*Representative.*	*Buildings.*	*Lot No.*	*Area Sq. feet*	*Date work begins.*
Baptist	Rev. John Wise	Church and parsonage	3	11,000	At once.
Catholic	Father McDonald	Church, parsonage, and school hall	4	37,000	Fall, 1914.
Union	James. Stokoe, and others	Church and parsonage	6	20,000	At once.
Methodist	Rev. H. Compton	Church and parsonage	7	15,000	July, 1915.

LA BOCA.

Organization.	*Representative.*	*Buildings.*	*Lot No.*	*Area Sq. feet*	*Date work begins.*
Catholic	Father McDonald	Church	4	6,200	Fall, 1914.
Salvation Army		Hall	6	8,750	January, 1915
Wesleyan Methodist	Rev. C. Hardwick	Church	3	7,000	At once.
Protestant Episcopal	Bishop Knight	Church vestry, and parish house	1	12,500	At once.
Baptist, (National)	Rev. Thorbourne	Church	7	7,000	November, 1914
Baptist (Southern)	Rev. Loveridge	Church	2	6,400	September, 1914
Methodist	Rev. Compton	Church and parsonage	5	7,560	October, 1914.

ANCON-BALBOA QUARTERS.

Status of Family Quarters and of Public Buildings in Pacific Terminal Town.

The third completed 4-family concrete house, of the new quarters being erected in Balboa and on the toes of Ancon Hill, on its northwest side, adjoining the new Administration Building, was turned over to the district quartermaster for assignment on Monday, August 3. This makes 26 houses, quartering 68 families, added to the Ancon-Balboa district since March; six of them were completed prior to May 1. The total number of new or transferred houses authorized in the district at present is 78, quartering 166 families. On March 1, there were 246 family quarters, in 138 houses, occupied in this district, exclusive of Ancon Hospital. The new buildings will, accordingly, increase the family houses by over one-half, and the number of family quarters by approximately two-thirds. No new bachelors' quarters have been authorized. On August 1st, 272 bachelors' rooms in Ancon were occupied by 409 men and 88 women, and 280 rooms in Balboa were occupied by 586 men.

The status of work on the several types of family quarters under construction in the district is now, as follows:

Concrete houses, 4-family—Work on 20 4-family concrete quarters was begun on January 5, 1914; work on 10 more was begun on March 16, but on June 27 it was decided, on account of a shortage of funds, to build only eight of the second group.

Of the first group, three houses have been completed and assigned. For all the rest of the group, the exterior walls have been completed and the roof cover has been laid; the finished tile roof has been laid on 12. The interior partitions have been completed in all but eight of them, in which the work is delayed by the plumbing; the plumbing has been finished in 13 of the group. All of the work on the 20 houses is now about 70 per cent complete.

Of the second group of the 4-family concrete quarters, now numbering eight houses, the walls have been carried almost to the eave level for six, and to almost the second floor level for the other two.

Concrete houses, 2-family—Thirty houses of this type were planned for, but the authorized construction has been reduced to nine. Excavation for the foundations was begun in April, and the foundations were completed in June. To August 1, the walls for six of the group have been carried up to and including the first floor slab.

Frame houses—All the new frame houses are those transferred from other villages, notably Culebra, Gatun, and Empire, and being re-erected on the slopes of Ancon Hill, to the rear and southeasterly of the new Administration Building. The authorized frame construction includes:

Eighteen 1-family houses, of which 15 are completed and occupied; five 2-family houses, three now occupied; three Type-6 houses for one family each, two of which are completed, and work on one of which has not been begun; and 15 houses of various types for officials, of which five are occupied, nine are under construction, and one is yet to be moved.

MUNICIPAL BUILDINGS.

In addition to the quarters, a fire station, a schoolhouse, and a commissary store are under construction on the flat between the Administration Building and Sosa Hill. The work of demolishing the Canal clubhouse at Empire was begun on July 30, and the building will be reerected at the west end of Balboa Prado, at the foot of Sosa Hill and directly facing the Administration Building at the east end of the Prado.

Fire station—Excavation for the permanent concrete fire station to be situated below the Administration Building, north of the east end of the Prado, was begun and completed in June. A retaining wall, three feet in height, was built around the excavation and rock fill was placed in the hole to the level which permitted a concrete mattress to be set firmly on it. The mattress has been laid, and the foundation work is completed.

Schoolhouse—A temporary schoolhouse, to consist of four Type-5 bachelors' quarters placed together, forming a 2-story building with a plan roughly resembling the letter "H," is to be constructed across the Prado from the fire station. It will contain 14 class rooms, a laboratory, principal's office, and retiring room for teachers. As part of the site, raised by dry fill, was originally about nine feet higher than the approach, it was found advisable to sink first the concrete footings in the lower part and then to distribute over this area the spoil from the excavation for footings in the higher part, thus giving the site a more nearly even grade. Concrete is now being poured for the last of the footings.

Commissary store—The permanent commissary store, to be situated on the north side of the plaza at the Sosa Hill end of the Prado, will have plan dimensions approximately the same as the new concrete commissary at Ancon, but will be two stories in height. On account of the weight of the building, it will be supported on reinforced concrete columns, built up from bedrock. The rock lies from 15 to 30 feet below the surface of the fill, and excavation for the footings is being done by the open sheathed caisson method, aided by six power well drills. Ten of the required 65 columns have been completed.

Work on the proposed hotel, courthouse, post-office, sanitary inspector's office, district physician's office, permanent schoolhouse, and railroad station has not been begun. Work on the Administration Building, as recently reviewed, includes a variety of finishing operations.

American Institute of Electrical Engineers.

The August meeting of the Panama Section, American Institute of Electrical Engineers, will be held in the new administration building, Balboa, on August 23, at 9 a. m. Mr. W. F. Kleene will present a paper entitled "The distribution system of permanent townsites." Mr. Wm. R. Holloway will give a short talk on "The practical side of duct line construction." After the meeting, there will be plenty of time for a trip through the new administration building and the shops. Visitors are welcome.

C. J. Embree,
Secretary-Treasurer.

Culebra, C. Z., August 8, 1914.

Society of the Chagres.

Announcement was made in the Panama newspapers that the Society of the Chagres would go through the Canal on or about the 16th inst. It has been necessary to postpone this trip. It is requested that members of the society who would like to make it, send in their names to the undersigned, if they have not already done so. They will be notified of any arrangements which may finally be made.

John K. Baxter,
Secretary-Treasurer.

Ancon, C. Z., August 11, 1914.

Order of Railroad Telegraphers.

A regular meeting of Panama Railroad Division, No. 158, Order of Railroad Telegraphers will be held in Moose Hall, Hotel Normandie, Panama, on Saturday, August 15. Telegraphers requested to attend.

J. F. Stahl,
Secretary-Treasurer.

Girls' Athletic Club.

A girls' athletic club has been formed in Ancon by Miss Marion Blake, one of the 1914 graduates of the Canal Zone high school, with the object of encouraging the members in such athletic exercises as swimming, walking, and tennis playing. The girls have already walked from Ancon to Corozal and return, and are now contemplating a walk to Pedro Miguel and return.

CLASSIFIED EXPENDITURES—THE PANAMA CANAL.

A statement of classified expenditures of the The Panama Canal to May 31, 1914, follows:

Periods.	Department of Civil Administration.	Department of Law.	Department of Sanitation.	Department of Construction and Engineering.	General Items.	Fortifications.	Total.
Total to June 30, 1909	3,427,090.29	....	9,673,539.28	69,622,561.42	78,022,606.10	....	160,745,797.09
Total—Fiscal year, 1910	709,351.37	....	1,8030,40.95	26,300,167.05	2,863,088.83	....	31,675,648.20
Total—Fiscal year, 1911	755,079.44	....	1,717,792.62	27,477,776.19	3,097,959.72	....	33,048,607.97
Total—Fiscal year, 1912	820,398.57	24,729.16	1,620,391.12	28,897,738.10	2,819,926.53	1,212,881.66	35,396,065.14
Total—Fiscal year, 1913	681,389.06	20,253.11	1,435,400.96	33,017,852.99	1,063,322.52	1,901,475.86	38,119,694.50
July, 1913	61,472.81	1,597.91	121,487.47	2,138,540.39	237,534.13	131,333.71	2,691,966.42
August, 1913	57,950.95	1,469.10	112,802.29	2,299,554.75	244,860.32	150,364.19	2,867,001.60
September, 1913	63,469.40	1,835.57	106,731.16	2,276,467.78	242,779.94	149,735.89	2,841,019.74
October, 1913	66,063.85	1,502.47	107,280.12	2,154,953.40	413,883.08	147,589.32	2,891,272.24
November, 1913	58,728 48	1,387.60	85,696.96	1,774,974.81	160,575.73	113,307.35	2,194,670.93
December, 1913	63.433.93	1,781.65	91,197.00	1,787,820.21	136,525.07	174,216 04	2,254,973 90
January, 1914	69,525 61	1,835.50	86,263.15	2,188,791.94	155,386.12	168,495.83	2,670,298 15
February, 1914	68,084.57	2,229.37	89,936.86	1,937,064.36	170,676.88	173,784.79	2,441,776.83
March, 1914	70,083.76	1,488.29	54,753.28	2,212,862.73	318,230.02	162,791.71	2,820.209 79
April, 1914	72,562.60	....	101,841 17	2,030,705.66	220,211.74	1,714,528.66	4,139,849.83
May, 1914	65,553.24	....	91,383.57	2,340,858.71	163,030.52	216,379.74	2,877,205.78
Grand total	7,110,237.93	60,109.73	17,299,537.96	208,458,690.49	90,330,597.25	6,416,884.75	329,676,058.11

WORK ON EAST BREAKWATER.

Change in Plan to Reduce Cost.—Progress of Construction.

Following a change in plan for the construction of the east breakwater in Limon Bay, the dumping of rock from Sosa Hill quarry, which was to have begun on Monday, August 10, will not be started until early in September. The change consists in beginning the fill for the breakwater 1,800 feet further from shore than was at first decided upon. The trestle is not sufficiently advanced to allow dumping at this time in accordance with the new plan.

The primary purpose of the west, or Toro Point breakwater, was to protect shipping from the effect of the "Northers", which drive from a northwesterly direction, approximately at right angles to the axis of the breakwater. After the visit of the Atlantic Fleet during the dry season of 1913, the General Board of the Navy called attention to the fact that the trade winds at times caused such a sea as to make small boat service to ships anchoring under the lee of the west breakwater, dangerous, and also will render coaling difficult under these conditions. The construction of an east breakwater was advocated, and it was undertaken at the request of the Navy. It juts out from Coco Solo Point at approximately right angles to the northeasterly seas and reaching to a point 2,000 feet from the outer end of the west breakwater. Consideration of the topography and cost led to the decision to make the breakwater a detached structure, 7,200 feet long, with its inner end 4,126 feet from the east shore of Manzanillo Bay. It has now been decided to shorten the breakwater by 1,800 feet, making its outer end the original 2,000 feet from the Toro Point breakwater, but its inner end 5,925 feet from shore. If it is found after construction that seas sweeping through the opening between the breakwater and the shore will be objectionable to shipping in the harbor, the breakwater will be extended toward the shore as far as is deemed advisable. As the completed breakwater will cost about $475 per foot, the change in plan offers the possibility of a considerable saving.

At the close of work on Saturday, August 8, the double-track trestle had been driven a distance of 5,398 feet from the shore, the last bent completed being No. 326. The bents are 16 feet apart and during the past week the two piledrivers, working 12 hours a day, with "Split" shifts, have driven 24 bents every 24 hours. Under the revised plan, dumping will begin at bent No. 358, instead of at No. 246, as previously planned.

It was originally intended to have the connecting trestle, leading from the shore to the breakwater proper, built single-track, and it was so built for approximately 1,000 feet. It was found, however, that the material overlying the rock bottom was so soft as to make a single-track trestle unsafe in rough weather, and, beginning with bent No. 63, a double-track trestle has been constructed. For further safety and to facilitate operations, a second single-track trestle was started from the shore to parallel the first trestle to bent No. 63. This has been almost completed; it has been used as time work when operations at the outer end of the double-track trestle were held up. The trestle is being built with the tracks 14.5 feet above the surface of the water. The water is about 42 feet deep at the present outer end of the trestle, and in some parts spliced piles as long as 130 feet have been driven.

Rail connection with Coco Solo Point is afforded by a turnoff from the previously constructed road to Margarita Point. The fact that the site of operations is only a 10 to 15-minute run from Mount Hope and Cristobal has considerably simplified field operations, especially with respect to repairs to equipment and quartering and subsisting the force, as compared with the Toro Point breakwater work. The only quarters constructed is a bunkhouse for watchmen. A machine shop and a sawmill shed are well equipped for repair work of a minor nature, but on account of the availability of the dry dock shops at Mount Hope, extensive equipment is not necessary. The only other buildings required were an office and a small store shed.

In connection with the work, an area of 34.4 acres adjoining the root of the trestle has been cleared and reclaimed from the swamp by filling. A total of 5.8 miles of new track has been laid, including connection from the Margarita Point road, a half-way siding along it, the trestle track, and storage yards. Dry spoil was received from a borrow pit at Mount Hope for extending the storage yards. A wharf, 16 by 100 feet, with trestle connection, has been built, and a harbor has been dredged, the *Sandpiper* having removed 58,562 cubic yards of material. A 6-inch water main has been laid from the Margarita Point main, and a 50,000-gallon tank has recently been installed in the yards. A 3-inch main is being laid along the breakwater trestle for fire protection and for supplying the piledrivers. The force now employed numbers 23 gold and about 300 silver men.

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European Money Orders.

The Post-Office Department at Washington has advised that money orders on Europe are not to be issued in favor of any one person for more than $100, and that the service is continued solely for the benefit of Americans who desire to return to the United States. Money orders are not to be issued in unusually large amounts, or where the purpose is speculative. The department announces that money order business with Belgium and Egypt has been suspended.

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Emigration of Laborers Continues.

The report of quarantine operations at the ports of Colon and Cristobal for the month of July shows an excess of emigration over immigration of 405 persons, as compared with a net emigration during June of 283. The total net emigration from the Atlantic and Pacific terminal ports during the twelve months ending July 31, 1914, amounted to 15,571 persons, the greater part of whom consisted of Canal laborers returning to their homes.

The total number of steamship passengers embarking at the ports of Colon and Cristobal from foreign ports during the month was 3,608, consisting of 1,779 cabin, and 1,829 steerage passengers. The number of persons landing from foreign ports at these points was 3,271, consisting of 1,920 cabin, and 1,351 steerage passengers. The excess of those who embarked over those who landed was 337. Only 33 steerage passengers came from the whole of Europe; the West India islands contributed 925, Colombia, 121; Cuba, 46; Costa Rica, 113; Venezuela, 17; and the United States, 18. The number of persons arriving "In transit" was 1,482, as compared with 1,355 in June.

The number of persons arriving at the ports of Panama and Balboa from foreign ports during June was 475, consisting of 351 cabin, and 124 steerage passengers. The number of persons who embarked for foreign ports was 543, consisting of 348 cabin, and 195 steerage passengers. The excess of those who embarked over those who landed was 68.

The number of vessels arriving at Colon and Cristobal in June was 100; at Balboa, 27.

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Order of Isthmian Conductors.

The next meeting of the Order of Isthmian Conductors will be held in Ancon lodge hall at 9.30 a. m., on Sunday, August 16.

PANAMA RAILROAD COMPANY.

PANAMA-BALBOA LABOR TRAIN SERVICE—IN EFFECT AUGUST 2, 1914.

NORTHWARD.

Stations.	80	82	84	86	88	90	92	94	96	98	100	102		
	A. M.	A. M.	A. M.	A.M.	A. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.		
Arr.														
Balboa dock	6.15	6.40	8.05	9.15	10.55	......	12.45	12.50	1.55	4.45	5.50	7.45	.....	.....
Machine shop	6.13	6.38	8.03	9.13	10.53	......	12.43	12.48	1.53	4.43	5.48	7.43	.....	.....
Balboa	6.08	6.33	7.55	9.08	10.48	12.03	12.38	12.43	1.48	4.38	5.43	7.38	.....	.....
Panama...... Lv.	6.00	6.25	7.48	9.00	10.40	11.55	12.30	12.35	1.40	4.30	5.35	7.30	.....	.....
	A. M.	A. M.	A. M.	A. M.	A. M.	A. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.		
	80	82	84	86	88	90	92	94	96	98	100	102		

SOUTHWARD.

Stations.	81	83	85	87	89	91	93	95	97	99	101	103	105
	A. M.	A. M.	A. M.	A. M.	A. M.	A. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.
Arr.													
Panama	5.25	7.15	8.25	10.35	11.25	11.30	12.18	1.25	2.35	5.25	5.30	6.25	8.35
Balboa.	5.17	7.07	8.17	10.27	11.20	11.22	12.10	1.17	2.27	5.20	5.23	6.17	.....
Machine shop ...	5.12	7.02	8.12	10.22	11.15	11.17	......	1.12	2.22	5.15	5.17	6.12	.....
Balboa dock ..Lv.	5.10	7.00	8.10	10.20	......	11.15	......	1.10	2.20	......	5.15	6.10	8.20
	A. M.	A. M.	A. M.	A. M.	A. M.	A. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.	P. M.
	81	83	85	87	89	91	93	95	97	99	101	103	105

Southward trains will have preference over northward trains.

Trains stop at all stations, except No. 105.

Baggage for Balboa steamship connections will be handled as far as possible by trains Nos. 86. 83, and 96.

A labor train will leave Panama at 10.50 p. m., arrive Balboa dock 11.05 p. m., returning, leave Balboa dock 11.15 p. m., arrive at Panama 11.30 p. m., on nights when there is work at Balboa dock.

All trains daily, except 82, 89, 90, 93, and 99, which are discontinued Sundays.

Trains Nos. 83, 84, 85, 87, 88, 90, 93, 95, 96, 97, and 105 carry passengers holding transportation only.

OFFICIAL CIRCULARS.

Accounting for Property of The Panama Canal and the Panama Railroad.

THE PANAMA CANAL,
THE PANAMA RAILROAD COMPANY,
EXECUTIVE OFFICE,
CULEBRA, C. Z., April 1, 1914.

CIRCULAR No. 656-1:

By virtue of the authority contained in Executive Order of January 27, 1914, the following regulations relating to the responsibility for and the accounting for property are hereby prescribed:

1. The term "Property" includes all equipment, tools, and property, such as machinery, rolling stock, floating equipment, hand tools, animals, furniture, vehicles, etc., that neither enter into permanent construction nor are consumed, except by wear and tear, and are of a unit value sufficient to require the maintenance of a record thereof and an accounting therefor after issue from storehouses. The term "Equipment" shall include all items of comparatively long life, bulky nature, or considerable value which are designated by the letter E on the appended list of nonexpendable property. The term "Tools" shall include all other items of nonexpendable property. The Auditor of The Panama Canal, with the approval of the Governor, shall publish periodically any additions to or corrections of the list of nonexpendable property.

2. A permanent record shall be made of all property on hand April 1, 1914, and shall be added to as additional property is purchased or put into use. The record of equipment shall be maintained on Forms A-12, A-37, A-38, A-43, and A-44, showing names, complete descriptions, costs, appraised values or standard prices, the quantities received, transferred, surveyed, and on hand, and the value thereof; and any additional information that may be required. The record of tools shall be kept on P. C. 935 and shall be a physical record only, without detail as to sizes or prices, and shall show quantities received, issued, surveyed, transferred, and on hand.

3. General accounts classified as "Equipment accounts" and "Tool accounts" shall be opened on the books of The Panama Canal for the value of all property of The Panama Canal. Subaccounts, classified according to departments and divisions accountable for property, shall he maintained. The equipment accounts shall be further subclassified by classes of equipment, such as locomotives, cars, machines, tools, dredges, etc. Until a standard classification of equipment is issued, the card records of equipment shall be filed alphabetically; thereafter, they shall be filed alphabetically under each class, so that adding machine lists of the card balances may be taken for comparison with the balances shown on the equipment accounts of the Auditor's office. The detail accounts will represent the book value of tools in the custody of accountable officials and will be adjusted by inventories taken annually, or as required, the adjustment being handled by survey. Credits to these accounts on the Auditor's books will be from accomplished transfers and approved survey papers, and other documents authorized by the Governor.

4. The records of property shall be kept up-to-date in every particular and shall constitute perpetual inventories of the equipment and continuous accounts of the tools for which the various officials are accountable. The records shall be kept by the Auditor of The Panama Canal, or by the division having the custody of the property, as circumstances, in the opinion of the Governor, may require. The Auditor of The Panama Canal, through his Inspection force, shall at intervals check the property records to determine whether they are being accurately maintained, and whether the detailed records of equipment agree with the controlling account; and as conditions may require, he shall make test inventories or complete inventories of property and check same against the property records.

5. All accountable officials shall protect their accountability for property by taking a memorandum receipt from any officer or employe who may rightfully have the immediate custody or use of the property.

6. If articles of public property are embezzled, lost, or damaged through the neglect or fault of the employe, the value of the property or amount of the damage shall be paid by the employe or deducted from any pay due him.

7. An inventory shall be taken of all property of the Panama railroad as of April 1, 1914, and the property of that company shall be accounted for thereafter to the local auditor of the company, under the same rules and regulations as apply to property of The Panama Canal.

8. When tools in serviceable condition are transferred from one accountable official to another or returned to stores, the invoicing officials shall pepare invoices showing unit prices and extensions, make entries on credit side of Form P. C. 935, and forward one copy of the invoice direct to the Auditor of The Panama Canal and send necessary copies to the receiving officer for his record and accomplishment. The receiving official shall, on receipt of the property, sign the original and two copies and forward the original and one copy to the Auditor, and one copy to the invoicing official. Receiving officials, except storekeepers, shall enter items in the debit column of Form P. C. 935. Storekeepers receiving property from divisions will show the stores classification on the copies of invoices which are sent to the Auditor for debit to stores accounts.

9. When items of equipment for which individual cards are not maintained are transferred, invoices will be prepared and handled in the same manner as items of tools, except the debits and credits will be entered by accountable officials on Form A-12.

10. When large items of equipment, for which separate property card records are maintained, are transferred, invoices will be prepared and forwarded as in the case of tools. If the transfer is from one accountable official to another, a copy of the property card will be forwarded to the receiving official with copies of invoices and will be filed with his property records. If property of this class is returned to store, a copy of the property card will be forwarded with copy of invoices direct to the Auditor of The Panama Canal, or the local auditor of the Panama railroad.

11. All property transferred from one division to another or to storehouses, or issued by storehouses, except on foremen's orders, shall be invoiced on Form P. C. 924-1. No invoice shall include both equipment and tools. Expendable material shall not be included on an invoice with nonexpendable property.

12. Foremen's orders for nonexpendable property will be made only by persons authorized to order such property, and the number of persons so authorized in each department and division will be limited to as few as possible. Accountable officials will furnish all storekeepers and the Auditor with a list of the names of all employes authorized to draw nonexpendable property. Storekeepers will not honor foremen's orders signed by unauthorized persons.

13. Four copies of foremen's orders for nonexpendable property will be sent to the storekeeper, who will enter prices and complete description of articles delivered, and send the original and two copies to the Auditor, retaining one copy for his file. The Auditor will transmit priced and extended copies to the accountable official, from which entries will be made on the property records.

14. All items of nonexpendable property purchased either locally or in the United States, which are not taken into stock, shall be invoiced by the purchasing agent on the Isthmus to the division concerned. The Auditor will maintain a record of all such items as bills are certified, and check the invoices issued by the purchasing agent against that record, to determine if all items are invoiced promptly.

15. All property purchased or otherwise acquired will be charged to the proper equipment account at the original price, plus the cost of erection, and will be made by the Auditor from transfer invoices, foremen's orders, etc., to which will be added the cost of erection as reported by cost accountant. The only charges for equipment and its use to expenditure accounts, work for outsiders, etc., will be the estimated depreciation, the amount of which will be reported to the cost accountants by the Auditor. Small items of equipment on which it is not considered advisable to fix depreciation rates will be carried in the property account at original cost until worn out or destroyed, when they will be surveyed and their original cost charged to expenditure accounts and credited to the property account. The amount of such surveys will be reported by the Auditor to cost accountants monthly.

16. Tools or equipment in need of repairs, which are returned to stock under proper authority, will be invoiced to stores at original prices, the equipment or tool accounts credited with their value, and a corresponding charge made to the stores account. The cost of repairs will be invoiced to divisions turning in the equipment and charged to expenditure accounts. When the identity or ownership of repaired tools cannot be fixed, the cost of repairs will be charged to a suspense account and prorated to departments and divisions.

17. All forms shall be prescribed and any additional rules and regulations necessary to carry out the provisions of this order, shall be issued by the Auditor of The Panama Canal with the approval of the Governor.

GEO. W. GOETHALS,
Governor, The Panama Canal.
President, The Panama Railroad Company.

LIST OF NONEXPENDABLE PROPERTY, APRIL 1, 1914, TO ACCOMPANY CIRCULAR 656-1.

(*All items of equipment designated by letter E.*)

E Accumulators, gas, complete
Adzes
Adjusters, clock, pinion
E Agitators, concrete tile
E Agitators, sieve, tier
Aguajects
E Alarm, fire, automatic
Aligners, Underwood
E Alleys, bowling
E Ambulances
Ammeters, portable
E Anchors, marine
Anemometers
E Anemoscopes
Angles, lettering
E Animals
E Anvils
E Apparatus, alum mixing
E Apparatus, Boyle's law
Apparatus, distilling, glass
Apparatus, filtering, glass
E Apparatus, fire alarm system, electric
E Apparatus, gas analyzing
E Apparatus, lineal expansion
E Apparatus, medical
E Apparatus, oil testing
E Apparatus, pumping, odorless
Apparatus, saw-setting and filing
Apparatus, "Seven in one"
E Apparatus, surgical
Apparatus, whirling
Aprons, apparel
Atomizers
Attachments, freezing, (for microtome)
E Attachments, solar, transit
Augers
Awls
Axes
Backs, automatic, hair
Badges
Bags, canvas
E Bags, cement
Bags, leather
E Balances, beam
Balances, demonstration
Balances, test
Baler, screw
Ball and ring
Balls, basket
Balls, billiard and pool
Balls, bowling
Balls, cue
Balls, foot
Balls, hand
Balls, indoor baseball
Balls, iron
Balls, medicine
Balls, tally
Balls, tea
Balls, volley
Bands, leather, hat
E Barges
E Barographs
E Barometers
Barrels, oxygen washer
E Bars, back, barber
Bars, claw
Bars, horizontal
Bars, lining
Bars, mosquito
Bars, parallel
Bars, punch
Bars, shackle
Bars, silver, police insignia
Bars, tamping
Bases, indoor baseball
Basins, confectionery
Basins, egg
Basins, wash
Baskets
Baths, blotter
Baths, paraffine
Baths, steam
Baths, water
Baths, water tube
Bats, baseball
Bats, indoor baseball
E Batteries, blasting
Batteries, storage, portable
Beakers
Beaters, egg
E Beds
Bellows
Bells, bar
Bells, desk
Bells, dinner
Bells, dumb
Bells, hand
Bells, ship
Belts, diver's
Belts, lineman's
Belts, lineman's safety, strap for
Belts, revolver
Belts, safety
Belts, shell, canvas
Belts, tool
Belts, tumbling
Belts, turning
E Benches, chapel
E Benches, carpenter
E Benches, locker room
E Benches, recitation
E Benches, witness
E Benches, workshop
E Benders
Bevel, "T" and sliding
E Bicycles
Binders, magazine, key
E Binoculars
Bistouries
Bits, auger
Bits, countersink
Bits, drill
Bits, expansion
Blades, foil
Blades, scythe
Blankets
Blocks, bench
Blocks, butcher
E Blocks, chain
Blocks, cone
Blocks, snatch
E Blocks, swage, blacksmith
Blocks, tackle
Blocks, "V," machinist's
Blowers, hand
E Blowers, power
Boards, checker and chess
Boards, cribbage
Boards, drafting
Boards, ironing
Boards, jump
Boards, meat cutting
Boards, Parchesi
Boards, pinochle, counting
Boards, score, bowling
Boards, shuffle
Boards, spring
Boards, stadia
Boards, tailor, pressing
Boards, trimming
Boards, vaulting, indoor
E Boats, (floating equipment)
Boats, gravy, china
Bobs, plumb
Boilers, bunk
Boilers, cooking
E Boilers, steam
Boilers, wash
Books, library
Books, miscellaneous
Books, professional
Books, reference
Books, school
Books, scientific
Boots
Borers
Bottles, aspirators
Bottles, barber's
Bottles, pool, leather
Bottles, vinegar
Bottles, water, glass
Bowls
Box, mitre, metal
Box, resistance
Box, specimen
Boxes, bread
E Boxes, card index
Boxes, cartridge, leather
Boxes, cash
Boxes, copper, for oiling instruments
Boxes, electric, test
E Boxes, filing
Boxes, fixing, photo
Boxes, for pipettes
Boxes, for steam table
E Boxes, ice
E Boxes, mail
E Boxes, messenger
Boxes, salt
Boxes, shoe shining
Boxes, spice
Boxes, sugar
Boxes, tool
Boxes, twine
Braces, carpenter
Braces, ratchet
Braces, trench
Brands
Braziers, charcoal
E Breakers, casting
E Breakers, rock
Breakers, water
Bridges, cue
Bridles, harness
Broaches, joint
Broaches, pivot
E Brooders, chicken
Brushes, bed, bowling alley
Brushes, card and file
Brushes, crumb
Brushes, gutter
Brushes, hair
Brushes, horse
Brushes, pool table
Brushes, shaving
Buckets, ash, hois
Buckets, boat, wood
E Buckets, Brown hoist
Buckets, chamber, with cover
E Buckets, clamshell
E Buckets, concrete
Buckets, ganvanized iron
E Buckets, orange peel
E Buckets, spill
E Bunks, standee, bottoms for
E Bunk, standee, frames for
E Bunks, standee, uprights for
E Buoys, marine
E Bureaus
Burettes, glass

Burners, Bunsen, for acetylene gas
Burners, hot plate
E Burnishers, china
Burnishers, shoemaker's
E Buster, rivet, pneumatic
Buttons, brass, Fire Department
Buttons, brass, Zone police
E Cabinets
E Cabinets, parts for
Calcumeters
Calipers
Calorimeters
E Cameras
E Candellabra
Candlesticks
Canisters
E Canoes
Cans, garbage
Cans, ice cream
Cans, oil
Cans, sprinkling
Canteens
Canteens, covers for
Caps, cooks'
Caps, uniforms
E Carbines
Carboys
Cards, eye test type
E Carpets, floor
E Cars, box
E Cars, dump
E Cars, flat
E Cars, hand
E Cars, inspector's
E Cars, motor
E Cars, push
E Carriages, food and ward
Carriers, pipe
Carriers, timber
E Carts, dump
E Carts, garbage cans
E Carts, hand, push
E Carts, horse
E Carts, pick up
E Carts, water
Carvers, sets
E Cases, blue print
E Cases, book
E Cases, camera, leather
E Cases, card index
Cases, chemical
E Cases, cigar
E Cases, coin
E Cases, diagraph
E Cases, field
E Cases, file
E Cases, galley
Cases, leather, for instruments
E Cases, letter
E Cases, pigeon hole
Cases, pillow
E Cases, record, phonograph
E Cases, sample, water
E Cases, stationery
E Cases, suit, leather
E Cases, time clock
E Cases, type
E Cashiers, automatic
Casseroles
Castors, culinary
Catheters
E Cayucas
Cellars, salt and pepper
Centerpieces
Centers, drill press
Centrifuge, hand
Chains, grab, sling
Chains, sounding
Chains, surveyor's
Chains, switch
E Chairs
Chambers
Channelers, harnessmaker's
E Channelers, rock
Chartometers
Charts, school (Aldine phonic)
Charts, school, primary
Checkers, sets
Chess, sets
E Chests, arm (wooden for revolvers)
Chests, boat
E Chests, ice
E Chests, medicine
Chests, tool
Chevrons, police insignia
E Chiffoniers
Chips, butter
Chisels, carpenters'
Chisels, copper
Chisels, ice
Chisels, lathe
Chisels, wood, for machines
Choppers, food
Chronometers
Chucks, drill
Chucks, lathe
Churners, ice cream
Chutes, cargo
Chutes, concrete
Chutes, unloading
Clamps, belt and rod
Clamps, cabinetmaker, C
Clamps, carpenter's
Clamps, carpet, bench, vise
Clamps, carriagemaker's
Clamps, cue
Clamps, electrician's, grips and splicers
Clamps, key, slot
Clamps, laboratory
Clamps, machinist and boilermaker's
Clamps, Mohr's, medium
Clamps, saw
Clamps, screw
Clamps, tape
Clamps, tension
Clamps, wire splicing
Clamps, wire stretching
Claws, nail
Cleaners, flue
E Cleaners, knife, rotary
Cleaners, pot, chain
E Cleaners, tube, pneumatic
Cleavers, butcher
Climbers, lineman's
E Clinometers
Clippers, barber's, hair
Clippers, boat
Clippers, horse
E Clocks
E Closets, china
Clothing
Cloths, barber, hair cutting
Cloths, billiard table
Cloths, pool table
Cloths, saddle, Z. P.
Cloths, table
Clubs, Indian
Clubs, police
Coats, rain
Coats, waiter's
Codes, telegraph and cable
Colanders
Collars, animal
Combs, curry
Combs, hair
Comforters
Compasses, machinist's
E Compasses, marine and surveyor's
Compasses, pocket
E Compressors, acetylene
E Compressors, air
E Compressors, air tank, for
E Compressors, bonding, Webb
E Compressors, oxygen
Compressors, screw, small
E Comptometers
Condensers, glass
E Condensers, steam
Conductometer
Cone, platinum
Containers, oil
E Converters, steel
Cookers, starch
Coolers, champagne
Coolers, water
Coppers, soldering
Corkpullers, automatic
Corkscrews
E Cots
E Couches, wicker
Counterborers
Counterpanes, bed
Counters, auto tally
Counters, billiard, sets
Counters, hand
Counters, revolution
Counters, speed
Counters, stroke
Countersinks
Controllers, alum
Controllers, effluent
Covers, bed
Covers, hot cake, china
Covers, mattress
Covers, pan
Covers, piano
Covers, platter
Covers, pool and billiard table
Covers, saddle
Covers, table
Covers, wrestling mat
Crackers, nut
E Cradles, bed, body
E Cranes, berm and chamber
E Cranes, electric
E Cranes, jib, shop
E Cranes, locomotive
E Cranes, portable
E Cranes, selfpropelling
E Cranes, train, shop
E Cranes, traveling, hand
E Cranes, traveling, shop
E Cranes, unloading, hand
E Cranes, wrecking
Creamers
Creasers, harnessmakers'
Creasers, layer, vet
E Cribs, baby, iron
Crimpers, cap
E Crucibles
Cruets
Crumbs, set
E Crushers, rock
E Crutches
Cues, billiard
E Cupboards
E Cupolas, foundry
Cups, alcohol
Cups, bullion
Cups, coffee
Cups, custard
Cups, demitasse
Cups, drinking
Cups, egg
Cups, foster (flash point tester)
Cups, mess kit
Cups, pin
Cups, sponge
E Curtains, bamboo
E Curtains, head
E Curtains, bed or berth
E Curtains, Madras
E Curtains, stage, draw
Curtains, stage, drop
E Curtains, velour
E Curtains, window
Curves, adjustable
Curves, draftsman's
Curves, irregular
Curves, railroad
Cushions, caboose
Cushions, cozy corner
Cushions, pneumatic
Cushions, seat
Cushions, sofa
Cuspidors
Cutters, bar and type
Cutters, belt
Cutters, bolt
Cutters, bone
Cutters, bread
Cutters, cake
Cutters, clinch
Cutters, clock, circular, glass
Cutters, cue
Cutters, double angle
Cutters, doughnut
Cutters, emery wheel
Cutters, end mill spiral
Cutters, feed
Cutters, French fry
Cutters, gasket
Cutters, gauge glass
Cutters, gear
Cutters, glass
Cutters, hoof, fire
Cutters, hy-rib
Cutters, interlocking
Cutters, M. O. B., postal
Cutters, mill end, straight shank
Cutters, milling
Cutters, mills, straight shell
E Cutters, paper
Cutters, pipe
Cutters, side milling
Cutters, slaw
Cutters, tube
Cutters, washers
Cutters, wire
E Cylinder, ammonia
Cylinders, glass, graduated
E Cylinders, steel, oxygen and acetylene
E Dampeners, seam
Daters, expert
Decanters
Deeps, baker's
Demijohns
E Derricks
E Desks
Dessicators
Detectors, ground
Device, alum measuring
Device, glass cutting
Device, line adjusting
Device, plumb bob, adjusting
E Device, pouring, foundry
Device, striking horse
Diagraphs
E Diamonds, black
E Diamonds, chip, black
Diamonds, glazier's
Dies, steel
Diggers, post hole
Diggers, potato
Dipper, drinking
Discs, color, cardboard
Discs, Crova's (metal)
Discs, optical, Harte
Discs, punching bag
Discus, Olympic
Dishers, ice cream
Dishes
Dishes, evaporating, T.D
Dishes, platinum, T. D.
E Disinfectors
Dispensers, soap, liquid
Dissenting, sets, school
Dividers
Doilies
Dollies, Ajax drill sharpener
Dollies, blacksmith
Dollies, timber
Dominoes, sets
Drawers (apparel)
Drawing sets, Atlas, blackboard
E Dredges
Dressers, emery wheel
E Dressers (furniture)
Dressers, grindstone
Dressers, tool
E Drills, air
E Drills, blacksmith's
E Drills, breast
E Drills, electric
Drills, pivot
E Drills, pneumatic
E Drills, post
E Drills, power
E Drills, rock, submarine
E Drills, rock, tripod
E Drills, track
E Drills, well
E Drums
E Dryers, sand
E Duplicators, office
E Dusters, neck, barber's
Dusters, woolen
Dynometers
Easels, paint shop
Edgers, concrete
Edgers, mason's
Electroscopes
E Elevators, for foundry cupola
E Engines
Erasers, steel
Eyeglasses
Evaporameters
Exciter, sets
Expanders, hose
Expanders, rollers, flue
E Extinguishers, fire
Extractor, solid curb
E Fans, blast
E Fans, electric
Fasteners, paper, Hotchkiss
Feelers, machinist
Fenders, cork
Fids
Figures, brass
Figures, steel
E Filers, power, saw
Files, arch
Files, clip-board
Files, desk
E Files, Macy, dollar
Files, newspaper
Files, stick
Fillers, oil
E Filters, oil
E Filters, water
Flags, code signal
E Flags, U. S., ensign
Flasks, foundry
Flats, dishes
Flatters, blacksmith's
Floats, plasterer's
E Fluviographs
Foils, fencing
Forceps
E Forges
Forks
Forms, concrete, pipe
Forms, steel
E Fountains, soda
Frames, emery wheel
Frames, grindstone
Frames, hacksaw
Frames, printing
Frames, triangle, pool
Frames, vibrator for snap flasks
E Freezers, ice cream
Frogs, rerailing
Fullers, B. S., top and bottom
Funnels
Furnace, blast, plumber's
Furnaces, charcoal
E Furnaces, foundry
E Furnaces gasoline, portable
E Furnaces, oilburning, miscellaneous
E Furnaces, rivet heating
E Furnaces, tilting, brass foundry
Galleys, printing
E Galvanometers
Galvanoscope
Gasometers, for oxygen and acetylene
Gavels
Gauges, axles
Gauges, caliper
Gauges, carpenter, wood
Gauges, car wheel, circumference
Gauges, chemical
Gauges, core drill, in sets
Gauges, coupler limit
Gauges, coupler. limit wheel defect
Gauges, cylindrical, in sets
Gauges, decimal
Gauges, drill
Gauges, fillet radius
Gauges, fire plug coupling
Gauges, harnessmaker's
Gauges, hydrostatic, mercury
Gauges, mortise
Gauges, panel
Gauges, plug
Gauges, recording, portable
Gauges, ring
Gauges, saddler's
Gauges, soldering
Gauges, spring depth
Gauges, steel sheet
Gauges, surface
Gauges, taper
Gauges, test pressure, measuring
Gauges, thickness
Gauges, thread, or screw pitch
Gauges, tool setting
Gauges, track
Gauges, U. S., thread, external and internal
Gauges, wheel defect
Gauges, wheel mounting
Gauges, wire
Gauges, worn coupler
Gauntlets, fencing
E Generators, acetylene
E Generators, automatic McCoy's
E Generators, electric
Glasses, drinking
E Glasses, field
Glasses, magnifying
E Glasses, marine
Glasses, medicine
Glasses, punch
Glasses, reading
E Globes, geographical
Gloves, engineer's
Gloves, fencing
Gloves, foil
Gloves, leather
Gloves, rubber
Goals, basketball
Goggles
Gouges, blacksmith
Gouges, carpenter's
Gouges, veterinary
Graduates, glass
E Graphophones
Grapnels
Graters
Griddles
E Grinders, drill
E Grinders, electric, portable
Grinders, emery wheel
Grinders, meat
E Grinders, tool, pneumatic
E Grinders, water, tool
Grindstones, frames for
Grindstones, with frames
Grindstones, without frames
Grips, linemen's, "Buffalo"
Groovers, cement
Groovers, tinner's
E Guns, air
E Guns, cement
Guns, grease
E Guns, Lyle
Guns, squirt
Hafts, sewings
Halters
Hammers
E Hammers, pneumatic
E Hammers, power machine
Hampers, clothes
Handcuffs
Handles, tension
Hangers, coat
Hangers, harness
Hardies, blacksmith
E Harness
E Harrows, farm
Hatchets
E Headlights, electric
Headrests, barber
E Headstalls, bridle
E Hearses
E Heaters, electric
E Heaters, ladles, in foundry
E Heaters, plate
E Heaters, tire, gasoline
E Heaters, water, barber's
E Helmets, diver's
Helmets, fire
Helmets, police
Hods, coal
Hoes, garden
Hoes, grub
Hoes, mortar
Hoes, plasterer's
E Hoists, chain
E Hoists, motor driven car
E Hoists, pneumatic
Holders, calendar pad
Holders, copy
Holders, cue tip
Holders, drill and reamer
Holders, file
Holders, ginger ale bottle
Holders, glass, metal
Holders, hand blotter
Holders, inkwell
Holders, leather, police club
Holders, match box
Holders, menu
Holders, music
Holders, plate
Holders, spoon
Holders, test tube
Holders, tool
Holders, toothpick
Holders, umbrella
Holders, watch movement
E Holders-on, pneumatic
Holders, carbine and revolver
Hones
Hooks, boat
Hooks, box
Hooks, cant
Hooks, cotton
Hooks, for lifting sheet iron
Hooks, grappling
Hooks, grass
Hooks, packing
Hooks, potato
Hooks, sham top, fire
Hoops, centrifugal
E Horizons, reflecting
E Horns, fog, portable
Horns, "Klaxon" automobile
Horns, signal
Horses, drafting board
Horses, stitching
Horses, tray
E Horses, vaulting
Hose
E Hounds, blood
E Hydrographs
Hydrometers
Hydrometers and thermometers (combined)
Hypsometer
E Incinerators
E Incubators
Indicators, alum measuring device
Indicators, baseball
Indicators, complete with tool post
Indicators, frequency
Indicators, power factors, (portable)
Indicators, speed
E Indicators, steam engine
E Indicators, vacuum, recording
Inflators
Inkstands
Inkstands and pen rack (combined)
Inkwells
E Instrument, azimuth
Instruments, drawing
E Instruments, electrrical interruptor and motor
Instruments, medical, laboratory, surgical, and dental
E Instruments, meteorological and river hydraulic
Instruments, post mortem
E Instruments, telephone
E Instruments, testing electrical explores
E Instruments, testing electrical, Megger-Evershed
E Instruments testing, electrical, Millivoltmeter
E Instruments testing, electrical, Shunts alloy
E Ironer, electric, neckband
E Ironer, steam
Irons and hooks, packing
Irons, bending
Irons, branding
Irons, caulking
Irons, clenching
Irons, clothes
Irons, curling
E Irons, electric
Irons, flat and pressing
Irons, leg
Irons, sealing
Irons, shackles
Irons, soldering
Irons, waffle
Irons, yams
Irrigators
E Jacks
Jacks, screw, student's demonstration
Jacks, wagon
Jardinieres
Jars, butter
Jars, slop
Jars, stone

Jars, straw
Jars, umbrella
Javelins
Jerseys, sleeveless
Jointers, concrete
Jointers, pipe
E Jointers, woodworking machine
Jugs
Kettles
Kits, repair
Knives
Knurls
Ladders
Ladles
Lamps
Lanterns
Laps, polishers, pivot
Lasts, shoemaker's
E Lathes
E Launches
Leads, sounding
Leaves, police insignia
E Lenses
Letters, brass
Letters, steel
Levels
E Levels, engineer's and surveyor's
Lifters, tack
E Lighters
Lighters, cigar
E Lights, 20-mile
Lights, acetylene
Lights, anchor
Lights, binnacle
Lights, bow
E Lights, Buckeye
Lights, flash
Lights, marine signal
Lights, masthead
E Lights, Milburn
E Lights, search
Lights, side
Lights, stake
E Lights, wells
Liners, blackboard
Lines, life
E Litters, hospital
E Lockers, gymnasium, steel
E Lockers, instrument
E Lockers, linen, movable
Lockers, rotary, mail
E Lockers, sheet iron for oil and waste
Locks, launch
Locks, switch
E Locomotives
Logs, ship
E Lounges
Machetes
E Machines, adding
E Machines, automatic for scales
E Machines, babbitting
E Machines, band saw
E Machines, beaders, tinsmith
E Machines, belt lacing
E Machines, bending, beam and angle
E Machines, bending pipe
E Machines, bending, "U" bolt
E Machines, billing
E Machines, blind wiring
E Machines, bolt cutting, threading, and forging
E Machines, borer and mortiser, blind style, automatic
E Machines, boring, hand
E Machines, boring, metal worker
E Machines, boring, wood
E Machines, bread crumbing
E Machines, button hole
E Machines, calculating
E Machines, cancelling, electric
E Machines, cement testing
E Machines, centering
E Machines, circular saw
E Machines, clamp, sash and door
E Machines, clipping, horse
E Machines, computing
E Machines, concrete tile
E Machines, core, tinsmith
E Machines, counting
E Machines, creasing iron
E Machines, crimpers
E Machines, cut-off, automatic
E Machines, cutter, bar
E Machines, cutter, sprue
E Machines, cutter, washer
E Machines, diamond drill
E Machines, dishwashing
E Machines, drafting
E Machines, drill press
E Machines, drill press and post
E Machines, drill sharpening
E Machines, drop
E Machines, elbow closing, tinsmith
E Machines, electric blue print
E Machines, electric shirt
E Machines, eyelet
E Machines, facing, cylinder, portable.
E Machines, flue
E Machines, flue rattler and cleaner
E Machines, folder and brake, tinsmith
E Machines, forging
E Machines, former, funnel
E Machines, former, slip-roll, tinsmith
E Machines, gaining car woodworker
E Machines, grinder, coffee
E Machines, grinder, paint
E Machines, grinder, tool
E Machines, grinding, bench
E Machines, grinding 2-wheel emery
E Machines, groove
E Machines, harness
E Machines, heater, glue
E Machines, ice crushing
E Machines, ice cube cutting
E Machines, joiner
E Machines, key seater
E Machines, lacing, belt
E Machines, lathe
E Machines, lathe, wood turning
E Machines, laundry, all kinds
E Machines, law of moments
E Machines, leather, splitting
E Machines, massage
E Machines, metal worker's
E Machines, milling
E Machines, mortising
E Machines, moulding (foundry workers)
E Machines, moving picture
E Machines, mowing
E Machines, numbering
E Machines, paint grinder
E Machines, paint spraying
E Machines, pipe
E Machines, pipe threading
E Machines, planer and matcher, woodworker's
E Machines, punch and shear
E Machines, radial drill
E Machines, rail saw, portable, Q. & C.
E Machines, reamer, complete
E Machines, rowing
E Machines, rubber tire, setting
E Machines, sand papering (sander)
E Machines, sash, sticker
E Machines, saw hack power
E Machines, scale indexing
E Machines, setter, for band saws
E Machines, setting down
E Machines, sewing
E Machines, shaper
E Machines, shop, all kinds
E Machines, stencil cutting
E Machines, talking
E Machines, taper, nut
E Machines, tapping
E Machines, tenoning
E Machines, testing
E Machines, testing for gauges, all kinds
E Machines, tile
E Machines, tire bending
E Machines, turning, tinsmith
E Machines, twist drill, grinder
E Machines, validating
E Machines, valve, facing
E Machines, valve, reseating
E Machines, valve, seating, rotary, planer
E Machines, valve, setting
E Machines, vegetable peeling
E Machines, viscosity, T. D.
E Machines, welder, pneumatic
E Machines, whitewashing
E Machines, wire and motor
E Machines, wire reel and motor
E Machines, wire splicing
E Machines, wiring, tinsmith
E Machines, wiring universal
E Machines, wood boring
E Machines, woodworker's, universal
E Machines, yard testing outfits
E Magnetors, testing
Magnets
Mallets
Mandrels, blacksmith
E Mangles
E Manometers
Maps, geographical
Markers, concrete
Mashers, potato
E Mashers, potato, plunger
Masks, catcher's, baseball
Masks, fencing
E Mats, bedroom
Mats, bowling, cocoa
Mats, chair, rubber
Mats, door
E Mats, gymnasium
Mattocks
E Mattresses
Mauls, spike
Measures, dry
Measures, glass, graduate
Measures, liquid
Megaphones
E Meters, portable
Micrometers
Micrometers, caliper
E Microscopes
E Microtome
E Millivoltmeters
Mills, coffee
E Mills, fanning
E Mimeographs
Mincers, meat
E Mirrors, 90° angle
Mirrors, hand
E Mirrors, wall
Mittens, asbestos
Mitts, catcher's, baseball
Mitts, striking, bag
Mixers, bread
E Mixers, concrete
E Mixers, sand
E Models, lock
Molars, for typewriter, repair work
Mortars
E Motors and dynamo, combined
E Motors, electrical
E Motors, pneumatic
Moulds, ice cream
Moulds, jelly
Moulds, or forms for making packing
Movers, car
E Mowers, lawn
Mugs, shaving
E Multigraphs
E Multipliers, electrical instrument
Napkins, linen
Nappies
Needles, magnetic
Nets, tennis
Nets, volley ball
Nippers, cutting
Nippers, horseshoe
Nippers, police, automatic
Nozzles, hose
Oars
Odondograph
Oilers
Old-man
Openers, can
Openers, envelope
Openers, jewel
E Organs
Outfits, belt repairing
E Outfits, boiler testing apparatus
E Outfits, charging, soda fountain
E Outfits, oil pump
Outfits, tape repairing
E Outfits, triple valve testing
E Outfits, vacuum
E Outfits, wash drill
E Ovens, dishwarming
E Ovens, drying
E Ovens, Dutch
E Ovens, portable, bake
Paddles, boat
Padlocks
Pads, desk, blotter
Pads, flannel
Pads, hand, blotter
Pads, saddle
Pads, sweat collar
Pails
Palms, sailmaker's
E Pangas
Pans
E Pantographs
Pants
E Parallels, vaulting, gymnasium
Parasols, Japanese
Parers, hoof
Patterns, clothing
Peavies
Pedometers
Peelers, vegetable
Peels, baker's
Peisometers
Pennants
Percolator, coffee
Perforators, cabinet
Pestle
E Phones, desk stand
E Phones, hand test, sets
E Phones, wall
E Phonographs
E Photometers
E Pianos
Pickers, nut
Picks
Pictures, wall
E Piledrivers
Pillows
Pincers
Pins, bowling
Pins, rolling
Pins, turn
Pipes, pitch
Pipettes
E Pistols
Pitchers
Plane
E Planetable with tripod
E Planimeters
E Plants, sawing, portable
Plastrons, fencing
Plates, colony, counting
Plates, dining room and kitchen
E Plates, face
Plates, for laying off valves
Plates, machinist, screw
Plates, mess kit
Plates, set screw
Platters
Platters, for steam table
Pliers
E Plows
Plugs, testing
Plumb bobs
Pointers, spoke
Pokers, fire, stoker
E Polares
Poles, pike
Poles, tent
Poles, vaulting
Ponchos
E Pontoons
Portieres
E Posts, drilling
Pots
Pouches
Pounders, steak
E Preservers, life, belt
E Preservers, life, ring
Pressers, cork
E Presses, arbor (machinist)
Presses, C. Z., customs
Presses, Challenge, eyelet
E Presses, drill, machines
E Presses, hydraulic
E Presses, hydrostatic
E Presses, letter copying
Presses, McGill
E Presses, menu (printer's)
E Presses, printing
Presses, seal
E Presses, sheet iron, straightener for car aprons
E Presses, wheel
E Presses, wooden
Pritchels, blacksmith
Probes, silver, veterinary
Probes, surgical
Prongs, for use in typewriting work
E Protectographs
Protectors, cement dust
Protectors, chest, baseball
Protectors, smoke
Protractors, metal and celluloid
Pruners
Psychrometers
Pull-down, hook and chain (fire)
Pullers, cork
Pullers, nail
Pullers, spike
Pullers, spring
Pullers, tire
Pullers, track
Pullers, "U" bolt
E Pumps
Punches
E Punches, hydraulic press screw
E Punts
Pyrometers, for oven
Quilts
Quoits
Racks, bath tub, soap
Racks, battery for cells
Racks, billiard and pool, ball
Racks, billiard and pool, cue
Racks, blue print filing
E Racks, book
Racks, coat and hat
Racks, drying
Racks, for insulators
E Racks, hat stand
Racks, key
Racks, mail pouch
Racks, pen and pencil
Racks, pouch
Racks, slide.
Racks, stamp
Racks, stationery
Racks, tally, billiard
Racks, test tube
Racks, towel
Racks, triangular, pool table
E Racks, umbrella
Rack, wooden bath
Radiators, Leslie's, cube
E Rafts, life
Rakes, garden
E Rakes, hay, horse
Rammers, concrete
E Rammers, pneumatic
E Rams, battering, door (fire)
E Ranges, cooking
Ratchets
E Ratchets, steamboat
Razors
Reamers
Receivers, air
Receivers, head, telephone instrument
Receptacles, acid, copper
Receptacles, oil, copper
E Recorders, sunshine
Reductors, Jone's
E Reels, cable
Reels, hose
Reels, take-up, linemen's
Reels, wire
Reflectors, bowling alley
E Refrigerators
Registers, time and punch, automatic
Removers, hair spring
Removers, Imperial
E Renovators, cutlery
E Repeaters, automatic
Reservoir, soap
Respirators
Rests, arm
Rests, compound, slide
Retorts, glass
E Retorts, oxy-acetylene plant
E Revolvers
E Rheostats, portable
Riddles, moulder's
E Rifles
Rings, flying
Rings, muffin
Rings, pastry, sets
E Riveters
Rods, cleaning, rifle, hickory
E Rods, surveyor's
Rollers, cement walk,
Rollers, indentation
Rollers, lawn
E Rollers, road
Rollers, towel
E Rooms, dry, 2-section
E Rotators
Rounders, rein
E Rugs
Rulers
Rules, measuring
Runners, joint pope
E Saddles, riding
E Safes
Salinometers
E Satchels, leather
Saucers, table
Saws
Scabbards
Scales, draftsmen's
Scales, engineer's
E Scales, platform and track
Scales, weighing, except above
Scalpel
Scarfs
Scissors
Scoops
E Scows
E Scrapers, wheel and drag
Screens, bamboo
Screens, dissolving
E Screens, portable (furniture)
Screwdrivers
Screws, bench
Screws, hand, clamp
Screws, rigging
Scythes, blades for
Scythes, snaths for
Seals, district court, metal
Seals, wax, brass
E Seamers, tinner's
E Searchlights
E Seats, school desk
E Seismographs
E Separator, centrifugal
Sets, comb, bevel, square, and protractor
Sets, Gormmett
Sets, hand
E Sets, magneto
Sets, nail
Sets, rivet
Sets, saw
Sets, testing electrical
E Settees
Setter, ruby pin
E Sextants
Shakers and sifters, sand (foundry)
Shakers, bar
Shakers, milk and lemonade
Shakers, pepper and salt
E Shapers, electric
E Shapers, hot tube
E Shapers, (machine) wood and metal working
Sharpeners, pencil
Shavers, ice
Shaves, spoke
Shears
E Shears, power
Sheets, baker's
Sheets bed
Shells, augratin
Shells, brass, shotgun
E Shifters, track
Shirts
E Shoes, diver's
E Shotguns
Shoes, athletic
Shovels
E Shovels, steam
Shredders
E Shrinker, tire
Shunts, precision
Siamese "Y" fire
E Sideboards
Sieves, sand and cement
Sieves, purée
Sifters, floor
E Sizers, machine, woodworking
Skillets
Skimmers
E Skips, rock
Slabs, baker's, marble
Slabs, water color
Sleeves, drill
Slickers, food
E Slings, horse
Slings, litter
Slings, wire, rope
Slips, pillow
E Slotters, machine
Snips, tinner's
Sockets, drill
Socks
E Sofas
Solids, and surface, geometric
E Somnoes, stands, bedside
Sonometer
Sounders, telephone
Spades
Spatulas
Spectacles
Speculum
Speedometers
Spike, marlin
Spoons
Splicers, clamp
Splines, drafting
Splitters, belt
Sprayers, automatic
Sprayers, insect exterminator
E Sprayers, knapsack
E Sprayers, paint machine
Sprays, rubber
E Spreaders, dirt
Spreads, bed
E Springs, bed
Springs, bending
E Sprinkler, water wagon
Spurs, riding
Squares, bevel
Squares, carpenter's, steel
Squares, drafting
Squares, steel, combination, machinist
Squares, tailor's, wooden
Squares, test, B. & S. steel
Squares, try
Squeezers, lemon
Staffheads, cross
Staffs, Jacob's
E Stages, portable
E Stamps, automatic and time dating
Stamps, metal, post marking
Stamps, metal, receiving
Stamps, multiform, line
Stamps, selfinking
Stamps, steel
Standardizing sets (electrical)
Standards, jumping
E Stands, adding machine
E Stands, barber, with mirrors
E Stands, bedside
E Stands, book, revolving
E Stands, bootblack
Stands, Burette

Stands, cake
Stands, calendar pad
E Stands, coat and hat
E Stands, dictionary
E Stands, for multigraph machine
Stands, fruit
E Stands, jardiniere
E Stands, mirror
E Stands, office, asst.
Stands, pipette
Stands, retort
E Stands, revolving for typewriting repair work
E Stands, safe
E Stands, sewing machine
Stands, shoemaker for lasts
E Stands, typewriter
E Stands, umbrella, rack
Stands, vaulting
E Stands, water cooler
E Stands, witness
Staplers, pin
E Starcher, shirt
Steels, sharpening
Steins, beer
Stencils
E Stereopticons
E Sterilizers
Stethoscopes
Sticks, meter
Sticks, single, fencing
Stockings, diver's
Stocks and dies, sets
Stocks, auger, universal
E Stocks, horse
Stocks, pipe
Stones, emery
Stones, oil
E Stools
Stoves, charcoal
E Stoves, cooking
E Stoves, electric
E Stoves, oil
Straightedges
Straightener, wire
Strainers, Chinese
Strainers, culinary
Straps, hone
Strops, razor
Stretchers, wire
E Stuffers, cushion
E Suits, diving
Supports, Burrette
Supports, funnel
E Surreys
Swages, blacksmith
Swages, saw
Sweepers, carpet
E Swings, porch
E Switchboard, telephone
Syringes, brass
Syringes, hypodermic
Syringes, metal
E Tables, furniture
E Tabourettes
E Tachometer
Tampers, concrete
E Tanks
Tapes, bronze
Tapes, linen
Tapes, metallic
Tapes, steel
Tapes, steel, with plumb bob
Taps, champagne
E Tarpaulins
E Telephones, desk and wall
E Telephones, test, sets
E Telescopes, field and marine
E Tenders, steam
E Tents
E Tent, flies
E Theodolites
Thermographs
Thermometers, except clinical
Thermophones, electric
Tills, money
Tins, muffin and sugar
Toasters, bread
Tongs, blacksmith
Tongs, crucible
Tongs, ice
Tongs, instrument
Tongs, pipe
Tongs, rail
Tongs, sugar
Tools, cupping
Tools, edging
Tools, gutter
Tools, harnessmaker's
Tools, heading
Tools, set for repairing Elliott-Fisher book typewriter
Tools, typewriter inspector's
Tools, wire splicing
Tops, table
Torches
Tormentors, hook and ladder
Tourniquet
Towels
Trammels
E Transformers, portable, testing
E Transits, engineer's
Transmitter, breast, telephone
Traps, animal
Trays
Trephines
Trestles, painter's
Triangles, drafting
Triangles, pool
Trimmers, roof
Trimmers, lamp
Trimmers, photo
Trocas and canula
Trowels
E Trucks, 4-wheel, eng. 1,000 rep. work
E Trucks, cargo
E Trucks, garbage, can
E Trucks, hook and ladder
E Trucks, warehouse
E Trunks
Tubes, pastry, sets
Tubs
E Tugs, steam and gasoline
Tumblers, drinking, all kinds
E Tumblers, foundry machine
Turbidimeter, candle
Turbines, water, demonstration
Tureens, soup
Turners, cake
Tweezers
Twisters, typewriter
Tyers, wire, "Curry"
E Typewriters
Umbrellas
Underwear
E Unloaders
Urns, coffee
Vases
E Vats
E Velocipedes
Vibrators
Vibrographs
E Victorias
Vises
E Voltmeters, portable
E Wagonettes
E Wagons
E Wardrobes
Washboards
E Washstands
E Watches
E Wattmeters, portable
Wheelbarrows
E Wheels, dip. starcher
Wheels, pricking, harnessmaker
Weights, caisson
Weights, chest, pulley
Weights, paper
Weights, scale extra
Weights, spline
Whips, driver's
Whips, egg
Whistles, gymnasium
Whistle, watchman's
E Winches
Wreathes, C. Z., customs
Wrenches
Wringers
Yardsticks

Old French Nonexpendable Property.

E Anvils
E Boilers, steam
Bellows
E Buckets, coal
E Buckets, dump
E Cars, Decauville
Chucks, shaper
E Clocks
Clamps, boilermaker
E Compasses, engineer's
E Crabs, hand
E Curves, Decauville
Cutters, washer
E Desks, office
E Engines, hoisting
E Engines, steam
E Frogs, Decauville
Heads, Jacob's, staff
E Locomotives, Decauville
E Machines, drilling
E Machines, grinding, 2-wheel
E Machines, lathe, wood turning
E Machines, wood boring
E Mixers, concrete
E Poles, ranging
E Pumps, centrifugal
E Pumps, duplex
E Pumps, simplex
E Safes, office
Scales, metric
E Scales, platform
E Switches, Decauville, double and single
E Tables, saw
E Tanks
E Tracks, Decauville
E Turntables, Decauville
Vises, blacksmith
E Winches

All containers, such as cylinders, tanks, drums, casks, barrels, jugs, carboys, demijohns, reels, bags, sacks, etc,, which remain the property of contractors, or for which a refund is secured when same are returned to contractors, are nonexpendable property, and must be accounted for by sizes and kinds.

This property list is published for the information and guidance of all concerned.

This list does not grant authority for the dropping of any property now carried on property accounts.

Any nonexpendable item of property which may be applied and made a part of another item of property which is accounted for, may be expended on certificate of the accountable officer at the time same loses its identity and becomes permanently a part of some other piece of property.

Accounting for Cement Bags and Other Containers.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., July 20, 1914.

CIRCULAR No. 656-3:

1. Effective July 1, cement bags and oil drums, which under agreement with contractors are returnable when in good condition at a fixed value, will be accounted for, as follows:

CEMENT BAGS.

2. When cement bags are invoiced to a division or to the Panama Railroad Company, the bags will be shown as a separate item on invoice or foreman's order.

3. The value of the bags will be charged financially to a stock account by the division, and accounted for on their property record.

4. When empty bags are turned in to store for return to contractor, the division returning bags will furnish a memorandum of count to the Depot Quartermaster or storekeeper with notice of shipment. No invoice will be made. Stock account will be credited and charge made to an account "Cement bags in transit" from report of property clerk. The Depot Quartermaster or storekeeper will issue a memorandum receipt unextended, to the division returning the bags, based on the field count. These receipts will be in triplicate if issued by the depot, and in quadruplicate if issued by storekeepers or district quartermasters. The division will be furnished one copy for property record, the store will retain one copy for file. If the bags are turned in at a line storehouse, the storekeeper will forward two copies of the receipt to Mount Hope depot when shipment is made to Depot Quartermaster.

5. When the Depot Quartermaster makes shipment to the United States, the receipts thus furnished will be the basis of the Isthmian count. A statement of each shipment will be furnished to the Auditor with copies of receipts attached.

6. The Depot Quartermaster will see that bundles are tagged with name of division, and report all cases of carelessness on the part of division in this respect to the Chief Quartermaster.

7. The General Purchasing Officer will furnish the Auditor with a report of the outturn of each steamer, showing bags received, accepted, and rejected. The Auditor will credit "Division stores" with credits deducted from United States bills for bags accepted on basis of General Purchasing Officer's report, and notify the divisions of rejections which will be charged to "Cement stock."

8. In the case of the Panama Railroad Company or contractors, the Auditor will notify them of bags accepted for their account, for which the Auditor will prepare voucher on receipt of bill.

OIL DRUMS AND OTHER EMPTY CONTAINERS RETURNABLE TO CONTRACTORS.

9. Where the contractor charges for containers allowing credit therefor when returned, the Depot Quartermaster will invoice against the various divisions financially for such containers as may be issued. These invoices should be made separately from those covering the contents, containers being nonexpendable. When the divisions return containers, they will invoice them to the Depot Quartermaster in the same manner as other material returned to stores.

10. Where the contractors furnished containers without charge, but under a contract providing for payment for those not returned, the Depot Quartermaster will accept a charge for all containers received at the rate for those not returned as fixed in the contract, and the Auditor will credit the amount on his books to the contractor.

11. When shipment in such containers is made by the Depot Quartermaster to storehouses or divisions, he will invoice the containers separately at the contract rate charged in case of failure to return. When empty the containers will be returned to the Depot Quartermaster at the same value. When containers are returned to the contractor, the Depot Quartermaster will be credited and the contractor's account debited with their value.

12. The Depot Quartermaster will forward to the Auditor at the end of each month a statement showing the number and kind of containers returned, name of contractor, and order number. The Auditor will credit the depot with the total value of the containers returned.

GEO. W. GOETHALS,
Governor.

Pilot Service.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., July 30, 1914.

CIRCULAR No. 681:

1. Attention is invited to the 13th, 14th, and 15th paragraphs of Executive Order of July 9, 1914, providing "Rules and regulations for the operation and navigation of the Panama Canal and approaches thereto, including all waters under its jurisdiction," reading, as follows:

> (13). Pilotage for vessels in transit through the Canal will be free, not will they be charged pilotage for entering or leaving a terminal port when it is for the sole purpose of passing through the Canal, but should such vessel, while in Canal waters, discharge or receive freight pr passengers, or take on board supplies, provisions, stores, or fuel, or remain for the purpose of effecting repairs, or make either terminal a port of call, she may be liable for entrance or departure pilotage, as the Canal authorities may direct.
>
> (14). Pilotage in and out of the Atlantic and Pacific terminals of the Canal is compulsory, and all vessels, unless otherwise exempted, will be compelled to take a regular Government pilot upon entering or leaving. The fact that the master or any officer of any vessel holds a pilot's license for any of the waters of the Canal Zone will not authorize the vessel to enter without taking a Government pilot.
>
> (15). No person, steamer, company or corporation will be allowed to maintain or employ pilots in Canal waters for the exclusive use of their own or any other vessels; all pilots, without exception, must be duly authorized and licensed by the Canal authorities and be in the employ of the Canal. This shall be interpreted to mean that the Canal authorities shall be prohibited from issuing restricted pilot licenses for small craft in Canal waters, or any other that they may see fit.

2. The charge for pilotage will be based upon the maximum draft of the vessel, and will be at the rate of $1 per foot or fraction thereof, but no fraction will be considered unless it equals or exceeds six inches, in which case, the full charge for one foot will be imposed for such fraction.

3. In case a pilot be taken outside the Atlantic breakwaters, an additional fee of $10 will be charged. Pilots will board vessels just inside the Atlantic breakwaters, and at the seaward end of the buoyed channel on the Pacific end.

4. The above charges will become effective August 1, 1914.

GEO. W. GOETHALS,
Governor.

Organization of Health Department.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., July 21, 1914.

CIRCULAR No. 660-19:

1. The Health Department, under the supervision and direction of the Chief Health Officer, is charged with all matters relating to maritime sanitation and quarantine in the ports and waters of the Canal Zone, and in the harbors of the cities of Panama and Colon, and with land sanitation in the Canal Zone, and sanitary matters in said cities, in conformity with the Canal Treaty between the United States and the Republic of Panama, and existing agreements between the two Governments thereunder, and all matters relating to hospitals and charities.

2. The Health Department is subdivided, as follows:
   (*a*) Division of Hospitals and Charities.
   (*b*) Division of Sanitation.
   (*c*) Division of Quarantine.

3. The Division of Hospitals and Charities is under the direct supervision of the Chief Health Officer. Included in its jurisdiction are such hospitals as may from time to time be established in the Canal Zone, the Santo Tomas Hospital in the city of Panama, such institutions as the Palo Seco leper asylum, the Corozal farm, and any other institutions that may be established by proper authority, and such dispensaries as are or may be found necessary.

4. The Division of Sanitation includes the Division of Zone Sanitation and the health offices of the cities of Panama and Colon:

(*a*) The Division of Zone Sanitation is under the direct charge of the General Inspector, who will perform the duties heretofore assigned to the Chief Sanitary Inspector and to the General Inspector. He shall have direct charge, management, and control of all work performed or entered upon within the Canal Zone for the prevention or suppression of diseases. He shall be charged with the duty of securing the enforcement of all sanitary regulations, and perform such other duties appertaining to his position as may be required by the Chief Health Officer or the Governor of The Panama Canal.

(*b*) The Health Officer of the city of Panama, under the supervision and control of the Chief Health Officer shall enforce the sanitary rules and regulations in force in said city, and shall perform such duties as may be prescribed by law, and also such other duties appertaining to his office as may be required of him by the Chief Health Officer or the Governor of The Panama Canal.

(*c*) The Health Officer of the city of Colon, under the supervision and control of the Chief Health Officer, shall enforce the sanitary rules and regulations in force in said city, and shall perform such other duties as may be prescribed by law, and also such other duties appertaining to his office as may be required of him by the Chief Health Officer or by the Governor of The Panama Canal. His territorial jurisdiction shall extend to and include the municipality of Cristobal, in the Canal Zone, and such areas in the vicinity thereof as may be assigned to him by the Chief Health Officer.

5. The Division of Quarantine shall include the quarantine stations of Balboa-Panama, Cristobal-Colon, and the quarantine inspection at Bocas del Toro. It shall be under the direct charge of the Chief Quarantine Officer, who shall have charge of the sanitation of the harbors and vessels lying therein, and shall see that such measures are enforced as are necessary for the proper hygiene of vessels, their cargoes and personnel, whether in port or *en route*, and to prevent the vessels from being a source of danger to other vessels or to the port; he is authorized to certify bills of health to vessels clearing from ports under his jurisdiction, setting forth in such bill of health the conditions of the port, vessel, cargo, passengers, and crew; he is authorized, at the request of the master of any vessel, to disinfect and otherwise place such vessel in a sanitary condition, so that it may leave the port in free *pratique*, and be able to make entry at the port of destination without further disinfection or detention in quarantine; he shall prevent the entry into the Canal Zone of any person whose presence would be a menace to the public health or welfare, or who would be liable to become a charge upon the public.

GEO. W. GOETHALS,
Governor.

No Gratuity Pay for Time off Account of Trip Through Canal.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., August 7, 1914.

HEADS OF DEPARTMENTS AND DIVISIONS:

There appears to be some misconception regarding the time taken off hy employes invited by me to make one of the trips through the Canal. There is no authority to carry this as gratuity time, and the day required for the trip will, therefore, be charged against the employe in every instance. Report of absence should be sent in on Form P. C. 484 for each employe absent.

GEO. W. GOETHALS,
Governor.

Accountable Officials.

EMPIRE, C. Z., August 7, 1914.

CIRCULAR No. 69:

Effective at once, Mr. C. H. Motsett, Superintendent of the Panama railroad, and Mr. F. R. Blunt, Superintendent of Railroad Transportation, are designated accountable officials of the Panama railroad.

Mr. Motsett will account for all nonexpendable property of the Panama railroad, except that in the custody of Mr. Blunt. The officials named in Circular 59, dated May 25, 1914, and Circular 61, dated June 15, 1914, will cease to be accountable officials upon completing transfer of property.

H. A. A. SMITH,
Auditor, Panama Canal.

Approved:
GEO. W. GOETHALS,
Governor.

Act of Congress.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., July 29, 1914.

CIRCULAR No. 600-9:

EXTENDING APPROPRIATIONS FOR LAST HALF OF JULY, 1914.

The extract quoted below from an Act of Congress is published for the information of all concerned.

GEO. W. GOETHALS,
Governor.

JOINT RESOLUTION to continue the provisions of a joint resolution, approved June 30, 1914, entitled "Joint resolution extending appropriations for the necessary operations of the Government and of the District of Columbia under certain contingencies."

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, that the provisions of a joint resolution entitled "Joint resolution extending appropriations for the necessary operations of the Government and of the District of Columbia under certain contigencies," approved June 30, 1914, are extended and continued in full force and effect for and during the last half of the month of July, fiscal year 1915.

* * * * * * *

Approved July 16, 1914.

Barred from Further Employment.

THE PANAMA CANAL,
THE PANAMA RAILROAD COMPANY,
OFFICE OF SUPERINTENDENT,
COLON, R. P., August 6, 1914.

ALL CONCERNED:

Westmore Manners, a native of St. Vincent, and Luther Campbell, a native of Jamaica, employed as laborers on Balboa docks were arrested, tried, and convicted of petit larceny in the Magistrate's Court, Ancon, they being arrested for pilfering freight on Balboa docks. They should not be reemployed in any capacity.

C. H. MOTSETT,
Superintendent.

Jurisdiction of Yardmasters over Conductors and of Roundhouse Foremen over Engineers at Terminals.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., July 13, 1914.

CIRCULAR No. 678:

1. All Panama Canal and Panama railroad conductors and engineers will report to the transportation department, Panama railroad. Conductors at terminals will be under tbe jurisdiction of yardmasters and must obey their instructions. Engineers at terminals will be under the jurisdiction of roundhouse foremen until they have passed out of the latters' territory.

2. Yardmasters will be responsihle for calling train crews and seeing that they report for duty 30 minutes before leaving time.

3. Roundhouse foremen will be responsible for calling engine crews and seeing that they report for duty 30 minutes before the leaving time of their engines.

4. All correspondence from the transportation department of the Panama railroad to the Mechanical Division, relative to handling of enginemen, will pass through the roundhouse foremen.

5. The transportation department of the Panama railroad will bulletin and assign all conductors and engineers through yardmasters and roundhouse foremen, respectively.

6. When firemen are needed at any point, they will be secured through the traveling engineer's office.

7. All discipline for enginemen will be applied through the roundhouse foremen, and all discipline for trainmen will be applied through the general yardmasters.

8. When regularly assigned runs are vacant temporarily for a period of 30 days, or more, such vacancies will be advertised and assigned to the oldest applicants, who will be accorded the same conditions as the regularly assigned men. In case there are no applicants, the temporary vacancy will be filled hy the youngest man in the "Chain gang," provided he is eligible for passenger service. It will not be in order for men holding regular runs to bid on these temporary assignments.

9. In case of official or other specials, where crews are picked by the officials, these crews should be held on the work until finished. All other specials should be run first in first out of the home terminal.

10. Permanent work trains will be advertised for a period of five days. Temporary work trains ordered from day to day will be handled by the first crew out. Men on vacation have a right to take what their age entitles them to when they return, provided the runs which they desire were advertised during the time of their absence.

11. Tbe "Chain gang" crews will run first in and first out, and no changing off will be allowed, unless permission is received from the transportation office.

GEO. W. GOETHALS,
Governor, The Panama Canal,
President, The Panama Railroad Company.

Rainfall, August 1 to August 8, 1914, Inclusive.

STATIONS.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	1.37	7	2 23
Balboa	.94	7	2.59
*Miraflores	1.72	7	3 74
Pedro Miguel	1.21	4	3.16
Rio Grande	1 03	4	3.03
Central Section—			
Culebra	1.15	3	3 39
*Camacho	1.08	3	3.07
Empire	1.52	6	3.24
Gamboa	1.44	6	2.71
*Juan Mina	1.99	8	4.14
Alhajuela	1.37	8	3.02
*El Vigia	.70	8	1.26
Frijoles	.66	6	1.15
*Monte Lirio	.31	8	.72
Atlantic Section—			
Gatun	.40	8	.63
*Brazos Brook	.24	8	.65
Colon	.39	2	.84
Porto Bello			

*Standard rain gage—readings at 5 p. m. daily. Automatic rain gage at unstarred stations—values. midnight to midnight.

July Rainfall for Three Years.

STATIONS.	1912	1913	1914	Station Av.	Years of record	Rai'y days, '14
Pacific Section–						
Ancon	10 25	4.85	4.32	7.76	18	13
Balboa	9.76	4.22	5.00	9.22	16	15
Miraflores	8.37	5.41	4.81	7.83	6	15
Pedro Miguel	11 54	6.80	7.15	8.50	7	12
Rio Grande	9.11	5.74	5.80	9.98	10	13
Central Section–						
Culebra	10.12	5 52	5.28	9.17	23	14
Camacho	10 87	4.01	4.94	9.27	8	11
Empire	9.15	4 87	5.02	8 45	10	11
Gamboa	14 27	8.06	3 91	10.18	34	17
Juan Mina	9 96	6.99	9 72	8.78	4	17
Alhajuela	10 17	6 99	7.21	12.46	16	14
El Vigia	13 95	6.32	8.23	11.09	6	13
Frijoles	9 87	6.52	4 06	6.82	3	17
Trinidad	11.80	8 36	2 42	8.34	7	13
Monte Lirio	11.60	8.70	3.54	11.84	7	11
Atlantic Section–						
Gatun	11 84	9.73	4 28	11.21	9	19
Brazos Brook	16 85	11 51	10.30	15.55	9	21
Colon	13 13	15.13	10.74	16.22	44	20
Porto Bello	24 21	20.83	7.90	18.08	7	20

WEATHER CONDITIONS, CANAL ZONE, JULY, 1914.

The weather for the month was abnormally warm and dry. Rainfall was below the station averages at all stations, except Juan Mina. The monthly totals ranged from 2.42 inches at Trinidad to 10.74 inches at Colon. The maximum precipitation recorded in one day was 3.27 inches at Porto Bello on the 28th. The estimated rainfall over the Gatun Lake watershed was but 46 per cent of the July average based on 14 years' record.

Monthly mean air temperatures were two degrees F. above normal, and the highest record for tbe montb of July at each station.

The average hourly wind velocity also was the highest of record for July at all stations, while the relative humidity, atmospheric pressure, and daytime cloudiness were deficient.

Few fogs were observed during the month. Of the fogs observed 39 per cent were dissipated by 6.30 a. m., 96 per cent by 7.30 a. m., and 100 per cent by 8.30 a. m.

The following table summarizes the weather conditions for the month:

STATION.	Press're (reduced to mean of 24 hourly).	Temperature.					Mean relative humidity.	Precipitation.			Wind.				
		Mean.	Maximum.	Date.	Minimum.	Date.		Total inches.	Station average.	Days of .01 inch or more.	Total movement (miles).	Prevailing direction.	Max. velocity in (miles).	Direction.	Date.
Colon	29.834	82.0	88	July 3	74	July 15	86	10.74	16.22	20	8,503	N.	26	N.	July 2
Culebra	29.821	81,3	93	July 6	70	July 28	91	5.28	9.17	14	6,164	N.W.	25	N.E.	July 23
Ancon	29.794	82.4	94	July 2	70	July 28	87	4.32	7.76	13	6,024	N.W.	23	N.	July 16

Elevations of Gatun Lake, (feet above mean sea level)—Mean for the month 84.78 feet; maximum 84.98 feet on tbe 15th; minimum 84.54 feet on the 21st. Evaporation from lake surface 5.520 incbes.

COMMISSARY DEPARTMENT.

Special Sales.

The following sales are announced:

DRY GOODS.

At Ancon, for the week beginning August 14.

SHOES.

At Cristobal, for the week beginning August 13.

MEN'S AND WOMEN'S FURNISHINGS.

At Balboa, for the week beginning August 13.

HATS.

At Pedro Miguel and Gatun, for the week beginning August 13.

SHOES, HATS, COLLARS, BELTS, FLANNEL AND WHITE TROUSERS.

At Culebra, for the week beginning August 13.

Washing Ice on Delivery.

THE PANAMA CANAL,
SUPPLY DEPARTMENT,
CULEBRA, C. Z., August 3, 1914.

CIRCULAR NO. 177:

District quartermasters and commissary storekeepers.—The following copy of letter addressed to the district quartermaster at Cristobal, under date of August 3, 1914, is quoted for your information and guidance:

> "Complaint has been received at this office that your ice men refuse to wash ice before putting same in ice boxes. Kindly see that they begin doing so at once, wherever the sink is adjacent to the ice box, or where a bucket of water is left out in which the ice may be dipped."

R. E. WOOD,
Chief Quartermaster.

Commissary Hours.

The commissary stores are open during the following hours: From 8 a. m., to 12.30 p. m., and 3 to 6.30 p. m.

The gold departments of the Cristobal store will open at 2 p. m., on Saturdays and sailing days of Panama railroad vessels.

In rush periods, all stores will remain open until 7 p. m.

Cold Storage Prices.

Retail prices of cold storage provisions for the week beginning August 13, 1914:

FRESH MEATS.	*Price.*
Mutton—Stewing, per pound	8
Shoulder, trimmed, per pound	12
Leg (8 to 10 pounds), per pound	19
Cutlets, per pound	20
Short cut chops, per pound	23
Shoulder, chops, per pound	14
Lamb—Stewing, per pound	10
Shoulder trimmed, per pound	15
Leg (5 to 8 pounds), per pound	24
Chops, per pound	29
Shoulders, chops, per pound	18
Cutlets, per pound	29
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	18
Chops, per pound	27
Loin, for roasting, per pound	27
Cutlets, per pound	31
Beef—Suet, per pound	3
Soup, per pound	7
Stew, per pound	11
Plate, per pound	12
Corned, No. 1, per pound	18
Corned, No. 2, per pound	15
Chuck roast, 3 lbs., and over, special, per pound	12
Chuck roast, 3 lbs., and over, choice, per pound	15
Rib roast, second cut (not under 3½ pounds), special, per pound	16
Rib roast, second cut (not under 3½ pounds), choice, per gouud	21
Rib roast, first cut, (not under 3 pounds), special, per pound	19
Rib roast, first cut (not under 3 pounds). choice, per pound	24
Pot roast, special, per pound	20
choice, per pound	25
Rump roast, special, per pound	20
choice, per pound	25
Porterhouse roast, special, per pound	22
choice, per pound	27
Steak, chuck, special, per pound	13
choice, per pound	16
Round, bottom, special, per pound	13
choice, per pound	17
Round, top, special, per pound	15
choice, per pound	19
Rib, special, per pound	20
choice, per pound	24
Sirloin, special, per pouud	20
Sirloin, choice, per pound	25
Sirloin, choice cut, special, per pound	23
Sirloin, choice cut, choice, per pound	28
Rump, special, per pound	20
choice, per pound	25
Porterhouse (not less than 1½ pounds), special, per pound	23
Porterhouse (not less than 1½ pounds), choice, per pound	30
Porterhouse, short, Delmonico, special, per pound	20
Porterhouse, short, Delmonico, choice, per pound	25
Tenderloin, Western, special, per pound	35
Tenderloin, Western, choice, per pound	40
Pork—Hams, fresh, per pound	§23
Shoulders, fresh, per pound	§19
Loin, chops or roast, per pound	20
Pigs' feet, each	7
Pigs' head, whole	83
Pigs' head, ½-head	42
Sausage, home made, per pound	23

MISCELLANEOUS.	
Livers—Beef, per pound	12
Calf, each	62
Half, each	31
Steak, Hamburger, package	17
Hamburger, 20-pound containers, per pound	14
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	12
Pure pork, 1-lb. carton, per pound	17
Sweetbread, beef, per pound	26
Eggs, fresh, per dozen	35
per ½-dozen	18
Bluefish, per pound	†8
Halibut, fresh, per pound	5
Salmon, per pound	7
Yeast, per pound	31
per cake	2

POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, per pound.	28
Fancy roasting, corn fed, per pound.	25
Fowls, per pound	24
Fowls, light, per pound	20
Ducks, Western, per pound	22
Capons, per pound	33
Broilers, milk fed, per pound	25
Broilers, corn fed, per pound	21
Turkeys, per pound	29
Squabs, each	42
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30

CURED AND PICKLED MEATS.	
Ham—Real York and Cumberland, per pound	43
Genuine Westphalia, per pound	50
Sugar cured, per pound	23
Sliced, per pound	30
Half, for boiling, per pound	25
Boiled, per pound	32
Hocks, per pound	9
Butt end, about 1½ pounds to butt, per pound	11
Bacon—Breakfast, whole piece, per pound	*3
Sliced, per pound	*31
Ham, lunch, per pound	40
Port, salt, family, per pound	14
Ox tongues, each	*1.45
Pigs' feet, per pound	7
Tongues, per pound	23

DAIRY PRODUCTS.	
Butter—Creamery, special, per pound	39
Sheffield Farms, extra fancy, per lb	54
Cheese—Philadelphia cream, cake	09
Roquefort, per pound	35
Young America, per pouud	22
Swiss, per pound	27
Edam, each	72
Edam, tin	29
Parmesan, per pound	38
Gouda, per pound	26
Snappy, per cake	9
Milk (certified), bottle	**24
Fer-mil-lac, bottle	**25
Ice cream, quart	‡25
½-gallon	‡50
Cream, Sheffield Farms, quart	**33

VEGETABLES.	
Beets, per pound	4
Celery, per head	†4
Cabbage, per pound	4
Carrots, per pound	†3½
Cucumbers, per pound	*2½
Lettuce, per pound	*11
Peas, green, per pound	*11
Onions, per pound	†5
Peppers, per pound	8
Potatoes. white, per pound	3½
sweet, tropical, per pound	2
sweet, American, per pound	3½
Yams—Tropical, per pound	3
Parsley, per bunch	*3
Eggplant, per pound	†4½
Rhubarb, per pound	2½
Turnips, per pound	†2
Tomatoes, per pound	6
Spinach, per pound	7
Squash, per pound	2
Kale, per pound	†4

FRUITS.	
Apples, per pound	7
Apricots, per pound	13
Canteloupes, each	7
Grape fruit—American, each	†5
Tropical, each	4½
Lemons, per dozen	13
Limes, per 100	50
Oranges—American, each	2½
Jamaican, per dozen	18
Peaches, per pound	†5
Plums, per pound	*9
Watermelons, each	38
Bananas, per bunch	†38
Bananas, each	0½
Apples, evaporated, per pound	16
Apricots, evaporated, per pound	23
Pears, evaporated, per pound	23
Pears, alligator, each	5

* Indicates advance from preceding list.

† Indicates reduction from preceding list.

**Indicates 5 cents allowed for return of bottle.

‡Sold only from commissaries; no orders taken for delivery.

§Sold only from cold storage and not from commissaries.

Porterhouse roast includes any cut of hind quarter down to rump, and will not be cut if orders for steak will consume the supply.

Tenderloins on porterhouse will not be cut and sold separately.

Not less than ½ ham or ½ shoulder of fresh pork will be sold.

Daily cold storage orders will be filed and kept for at least one month.

Misdirected Letters.

ANCON, C. Z., August 10, 1914,

The following insufficiently addressed letters originating in the United States and its possessions, have been received at the office of the Director of Posts, and may be secured upon the request of the addressee:

Alexander, Fred (2)
Chaddock, C. W.
Edge, Charles E.
Davis, C. E.
Facey, Inez
Gist, W. B.
Gibson, A. M.
Johnston, W. Caley
Kayser, W. H.
Kmoilk, Voltime (?)
Lock, W.
Lamont, Walter G.
Mitchel, Edward Waldo
Martin, Mrs. Cap. M.
McCloud, J. J.
MacPherson, Lansing
O'Connell, Mrs. H. E.
Pyoroo, Givipon
Russell, John (2)
Sinclair, J. McDonald (2)
Smalls, W. C.
Thornley, Howard A.
Thompson, Samuel L.
Wood, Wm.
White, Louis

Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes for the week ending midnight, Saturday, August 8, 1914. All heights are in feet above mean sealevel:

DAY AND DATE	STATIONS.				
	Vigia.	Alhajuela	Gamboa.	Gatun Lake.	Miraflores Lake.
Sun., Aug. 2	125.65	92.03	84.92	84 92	53.86
Mon., Aug. 3	125.50	91.97	84.97	84.94	53.75
Tues., Aug. 4	125.45	91.89	84.89	84.87	53.92
Wed., Aug. 5	125.40	91.85	84.90	84.85	53.97
Thurs., Aug. 6	125.40	91.80	84.95	84 92	54.17
Fri., Aug. 7	125 85	92.23	84 97	84.97	54.14
Sat., Aug. 8	125.75	92 49	85.05	85 00	54.17
Height of low water to nearest foot	125.0	91.0			

Legal Notice.

United States of America
Canal Zone } In the District Court.

The following named American citizens died intestate leaving personal property within the Canal Zone to the amount stated:

	U.S.C.
Nelson Wheeler	$ 28.99
George Wagner	179.09

The Administrator of Estates has filed a petition for the escheat of the abovenamed estates, in accordance with Section 779 of the Code of Civil Procedure.

Notice is hereby given to all heirs or creditors of the above estates to appear before this Court in the courthouse at Ancon, on September 26, 1914, at 9 o'clock, a. m., to establish their claims, or to show cause why the said estates should not escheat to the Government of the Canal Zone.

E. M. GOOLSBY,
Clerk of District Court.

CANAL CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

The motion picture dates for the week August 17 to 22 is, as follows: Monday, Gatun; Tuesday, Balboa; Wednesday, Pedro Miguel; Thursday, Cristobal; Friday, Culebra; Saturday, Corozal.

BALBOA.

A meeting was held on Monday evening, August 3 to elect captains for the track and water teams to represent Balboa in the coming meet at Corozal on Labor Day. P. Hulsebosch was elected captain of the track team, and J. R. Bingaman was elected captain of the water team, Training for the Labor Day meet was started immediately after the meeting, the track team taking a short run to the new radio station and back.

Permission has been requested to use the space next to the corral at Balboa for a baseball diamond, and as soon as possible it will be put in condition for the use of the ball players.

COROZAL.

The following high scores were made on the bowling alleys last week:

Duckpins—Sims, 110; Boesen, 104; Brien, 103; Briscoe, 103; Harper, 102; Hanna, 102; Thirsk, 100; Davis, 100.

Tenpins—Thirsk, 214; Gustavson, 211, 203; Territtier, 210; White, 208; Parkis, 202; Barlow, 202.

A list of library books is being made up, and those having suggestions may drop them in the "Suggestion box" at the secretary's desk.

PEDRO MIGUEL.

The mixed bowling match which was played on Thursday evening resulted, as follows: First high doubles, Mrs. Landers and Mr. Margeson, 187; second high doubles, Mrs. Landers and Mr. Whiston, 175; high score for the ladies, Mrs. Landers, 89; high score for the men, Mr. Margeson, 104. The prizes offered are the pennants of the various clubhouses.

A committee of young ladies of Paraiso and Pedro Miguel are preparing a social for the children of both towns to be held at the clubhouse on Tuesday evening, August 18, from 4 to 7 o'clock. All children of both towns are invited. A program of games is being arranged. Refreshments will be served.

A farewell social was given for the company of soldiers stationed at Pedro Miguel Lock, on Thursday evening, by the ladies of Paraiso and Pedro Miguel. Refreshments, consisting of sandwiches cakes, and punch were served to all present by the ladies of the village. The Tenth Infantry band was a feature of the program, and the soldiers entertained with recitations, mimicries, songs, etc. A pie and watermelon contest was held.

GATUN.

A number of the members of the Pedro Miguel clubhouse, with their wives and friends, visited the Gatun association on Saturday evening, August 18. The duckpin contest resulted in Gatun winning two out of three games played. For the pool match, the results were:

Gatun.		*Pedro Miguel*	
A. J. Heitman	100	J. J. Campbell	25
V. A. Kerruish	100	S. P. Dennis	81
J. W. Ludlum	100	J. Smith	83
S. C. McKee	83	Wm. Edwards	100
Total	383		289

A farewell reception will be given to Companies F and G of the Tenth Infantry on Saturday, August 15. Various athletic contests will be held, together with an entertainment, at which refreshments will be served.

Señor Alcindo Barcellos, the concert pianist from Brazil, gave a recital at the Gatun clubhouse on Tuesday evening, August 11. He was assisted by Madame Faure, contralto. The program was, as follows:

Part 1.

1. Fenster—First Sonata.
    - (*a*) Allegro moderato.
    - (*b*) Andante.
    - (*c*) Scherzo.
    - (*d*) Presto ....Señor Barcellos
2. Contralto solo....................Mrs. Crook
3. Bach—*Fuga*....................Señor Barcellos
4. Proveri—Gavotas (2)............Señor Barcellos
5. Roos—Paraphrase de Opera Rigoletto de Verdi.................Señor Barcellos

Part 2

6. Chopin—*Fantasia, Romance*......Señor Barcellos
7. Contralto solo.................... Mrs. Crook
8. Brahms—Hungarian rhapsody,....Señor Barcellos
9. Thalberg—Variations of airs Ingleses.................Señor Barcellos
10. Liapunon—Polonaise............Señor Barcellos

A class for the study of German held its initial lesson on Thursday, August 6. Herr Aufmwasser of Berlin, Germany, is the instructor. The fee is 25 cents per lesson. Fifteen have enrolled so far.

CRISTOBAL.

The first game of basketball played this season at Cristobal resulted in a victory for Mount Hope, with the coaling station as the opposing side. The score was 19 to 16.

Twenty-three players participated in the all-Isthmian chess tournament, on Saturday, August 8. Mr. Wm. DuBois of Culebra led in number of points, with Messrs. Warner, McClure, Kingsbury, Rattiner, and L. E. DuBois following in the order named.

Messrs. Scheid, Clark, Ashton, Roberts, Roscoe, Franklin, Tuttle, Brugge, Raymond, Burgoon, and Gibson have entered for a local straight pool tournament.

A large map of Europe, 13 feet six inches by eight feet six inches, has been made and placed in the lobby of the clubhouse on which will be shown the movements of the troops taking part in the European war. Acknowledgement is made for Mr. A. Papio's kindness in drawing the map.

The members of the boys' department expect to spend Friday, August 14, in trip to Cruces.

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Supplies for the Canal.

The following steamers, with supplies for The Panama Canal and Panama Railroad Company, arrived at the ports of Colon and Cristobal during the week ending August 1:

Prinz August Wilhelm, July 27, from New York, with 117 kegs bolts, for stock.

Colon, July 28, from New York, with 15 kegs paint, 32 kegs bolts, 25 rolls wire fencing, 24 boxes toe calks, 80 pieces pipe, 81 cases lead pipe and plumbing supplies, eight cases envelopes, 526 bundles pipe, 1,000 garbage cans, 15,040 bags cement, for stock; eight reels wire rope, three boxes mining machinery, one propeller wheel, two pieces machinery, for Dredging Division; 10 packages welding apparatus, four cases pneumatic riveting machinery, two reels wire, 62 crates fire brick, 18 crates plumbing fittings, 11 cases electrical machinery and lubricating oil, nine boxes incandescent lamps, for Mechanical Division; three crates hyposulphite of lime, one piece pipe fitting, two cases electrical machinery, 230 barrels leadite, for Division of Municipal Engineering; one case hardware, two boxes ranges, eight boxes marble, one case machinery, one case sandpaper, for permanent buildings; one piece cast iron pipe, one box safety treads, for lock erection; one box brass cleats, 44 packages junction boxes, for electrical division; one box machinery, two boxes storage batteries, one box wicks, for Division of Terminal Construction; 12 boxes fire extinguisher apparatus, three boxes photographic supplies, for Executive Secretary; 81 packages medical supplies, for Health Department; and a miscellaneous cargo, the whole consisting of 17,756 packages, weighing approximately 268 tons.

Evelyn, July 29, from New York, with 10 packages medical supplies, for Health Department; 34.896 bags cement, 265 barrels and 250 drums gasoline, for stock.

Jupiter, July 29, from Mobile, with 177 pieces creosoted piles, for Division of Fortifications; 5.040 barrels paving brick, for Division of Terminal Construction; 50 boxes varnish, 6,662 picees sewer pipe, 7,364 pieces yellow pine lumber for stock.

Zacapa, July 29, from New York, with seven crates carts, for Health Department; 51 boxes caustic soda, 210 pieces wagon wheels and axles, 120 packages paint, five bundles sandpaper, for stock.

Heredia, July 30, from New Orleans, with 250 sacks dairy feed, for stock; 21 reels cable, for Panama railroad; 82 pieces, 7,711 board feet, white oak lumber, 1,107 pieces, 30,058 board feet, yellow pine car lumber, for Mechanical Division.

Calamares, July 31, from New York, with 12 cases iron pipe fittings and brass valves, 65 kegs galvanized boat spikes, six reels wire rope, 354 packages structural steel, for stock; 32 packages structural material, 12 cases machinery, for Division of Fortifications; three cases telephone material, for Panama railroad; 15 crates sprinklers and sweepers, for Health Department; three pieces fender chains, for lock erection; three cases sheet copper, for permanent buildings.

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Estate of W. G. Gillingham.

ANCON, C. Z., August 8, 1914.

The undersigned has been appointed administrator of the estate of William George Gillingham, deceased, and any claims against this estate, or any information which might aid in the recovery of money or property belonging to it, should be presented at once to John K. Baxter, Ancon, C. Z. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted *in duplicate*.

JOHN K. BAXTER.
Administrator of estate of William George Gillingham, deceased.

MOVEMENTS OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and the United Fruit Company's Line:

NEW YORK TO CRISTOBAL.

		Sails.	*Arrives.*
*Allianca	P. R. R.	Aug. 10	Aug. 16
*Colon	P. R. R.	Aug. 15	Aug. 21
*Advance	P. R. R.	Aug. 22	Aug. 29
*Panama	P. R. R.	Aug. 28	Sept. 3
*Allianca	P. R. R.	Sept. 3	Sept. 9
*Colon	P. R. R.	Sept. 9	Sept. 15
*Advance	P. R. R.	Sept. 15	Sept. 22
*Panama	P. R. R.	Sept. 22	Sept. 28

CRISTOBAL TO NEW YORK.

†Panama	P. R. R.	Aug. 16	Aug. 22
†Allianca	P. R. R.	Aug. 22	Aug. 28
†Colon	P. R. R.	Aug. 27	Sept. 2
†Advance	P. R. R.	Sept. 3	Sept. 10
†Panama	P. R. R.	Sept. 9	Sept. 15
†Allianca	P. R. R.	Sept. 15	Sept. 21
†Colon	P. R. R.	Sept. 22	Sept. 28

NEW YORK TO COLON.

*Santa Marta	U. F. C.	Aug. 5	Aug. 12
*Tenadores	U. F. C.	Aug. 8	Aug. 14
§Prinz Eitel Friedrich	H.-A.	Aug. 8	Aug. 18
*Metapan	U. F. C.	Aug. 12	Aug 19
Calamares	U. F. C.	Aug. 15	Aug 21
Danube	R. M.	Aug. 15	Aug. 23
§Pr. August Wilhelm	H.-A.	Aug. 15	Aug. 24
*Zacapa	U. F. C.	Aug. 19	Aug. 26
*Calamares	U. F. C.	Aug. 22	Aug. 28
§Prinz Sigismund	H.-A.	Aug. 22	Sept. 1
*Almirante	U. F. C.	Aug. 26	Sept. 2
*Tenadores	U. F. C.	Aug. 29	Sept. 4
Tagus	R. M.	Aug. 29	Sept. 6
§Prinz Joachim	H.-A.	Aug. 29	Sept. 7
*Santa Marta	U. F. C.	Sept. 2	Sept. 9
*Calamares	U. F. C.	Sept. 5	Sept. 11
Metapan	U. F. C.	Sept. 9	Sept. 16
*Pastores	U. F. C.	Sept. 12	Sept. 18
Oruba	R. M.	Sept. 12	Sept. 20
Zacapa	U. F. C.	Sept. 16	Sept. 23

COLON TO NEW YORK.

†Pastores	U. F. C.	Aug. 12	Augl 18
Almirante	U. F. C.	Aug. 13	Aug. 20
Tagus	R. M.	Aug. 18	Aug. 26
§Prinz Joachim	H.-A.	Aug. 18	Aug. 26
†Tenadores	U. F. C.	Aug. 19	Aug. 25
Santa Marta	U. F. C.	Aug. 20	Aug. 27
§Prinz Eitel Friedrich	H.-A.	Aug. 23	Sept. 1
†Calamares	U. F. C.	Aug. 26	Sept. 1
Metapan	U. F. C.	Aug. 27	Sept. 3
Oruba	R. M.	Sept. 1	Sept. 9
§Prinz August Wilhelm	H.-A.	Sept. 1	Sept. 9
†Pastores	U. F. C.	Sept. 2	Spet. 8
Zacapa	U. F. C.	Sept. 3	Sept. 10
§Prinz Sigismund	H.-A.	Sept. 6	Sept. 15
Tenadores	U. F. C.	Sept. 9	Sept. 15
Almirante	U. F. C.	Sept. 10	Sept. 17
Trent	R. M.	Sept. 15	Sept. 23
†Calamares	U. F. C.	Sept. 16	Sept. 22
Santa Marta	U. F. C.	Sept. 17	Sept. 24

NEW ORLEANS TO COLON.

Cartago	U. F. C.	Aug. 5	Aug. 12
*Turrialba	U. F. C.	Aug. 8	Aug. 13
Heredia	U. F. C.	Aug. 12	Aug. 19
*Abangarez	U. F. C.	Aug. 15	Aug. 20
Parismina	U. F. C.	Aug. 19	Aug. 26
*Atenas	U. F. C.	Aug. 22	Aug. 27

COLON TO NEW ORLEANS.

‡Atenas	U. F. C.	Aug. 13	Aug. 18
Parismina	U. F. C.	Aug. 13	Aug. 20
‡Turrialba	U. F. C.	Aug. 20	Aug. 25
Cartago	U. F. C.	Aug. 20	Aug. 27
‡Abangarez	U. F. C.	Aug. 27	Sept. 1
Heredia	U. F. C.	Aug. 27	Sept. 3

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

§Sailings temporarily suspended.

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Tide Table.

The following table shows the time of high and low tides at Panama for the week ending August 22, 1914:

DATE.	High	Low	High	Low	High
	A.M.	A.M.	A.M.	P.M.	P.M.
August 16	......	4.38	10.31	5.24	11.22
August 17	......	5.53	11.47	6.32	......
			P.M.		
August 18	12.40	6.58	12.58	7.30	......
August 19	1.41	7.56	1.57	8.21	......
August 20	2.32	8.46	2.48	9.10	......
August 21	3.17	9.32	3.34	9.54	......
August 22	4.00	10.16	4 18	10.37	......

75th meridian time.

CANAL RECORD

Volume VII. ANCON, CANAL ZONE, WEDNESDAY, AUGUST 19, 1914. No. 52.

The Canal Record

Official publication of The Panama Canal.

The Canal Record is published weekly free of charge, one copy each, to all employes of The Panama Canal and Panama Railroad Company whose names are on the gold roll. Extra copies and back numbers can be obtained from the news stands of the Panama Railroad Company for five cents each.

Address all Communications,

THE CANAL RECORD,

Ancon, Canal Zone,

Isthmus of Panama.

No communication either for publication or requesting information will receive attention unless signed with the full name and address of the writer.

NOTES OF PROGRESS.

CANAL OPENED TO TRAFFIC.

Message of Congratulation from the Secretary of War.

The following cable message has been received:

WASHINGTON, D. C.,
August 15, 1914.

COL. GEORGE W. GOETHALS,
Culebra, Canal Zone.

On behalf of the Government and the people of the United States I express to you and through you to all concerned in the achievement, the intense gratification and pride experienced today. By the successful passage of vessels through the Canal the dream of the centuries has become a reality. Its stupendous undertaking has been finally accomplished and a perpetual memorial to the genius and enterprise of our people has been created. The fully earned and deserved congratulations of a grateful people go out to you and your colaborers.

LINDLEY M. GARRISON,
Secretary of War.

Official Trip of the "Ancon."

Commercial traffic between the Atlantic and Pacific Oceans by way of The Panama Canal was inaugurated on Saturday, August 15, by the Government steamship *Ancon*, which made the trip from entrance to entrance in approximately nine hours, well within the previously estimated time for the passage of a ship through the Canal. The complete trip from the ship's berth at dock No. 9, Cristobal, to the end of the dredged channel, five miles out in the Bay of Panama, was made in approximately nine hours and 40 minutes. There were no unscheduled delays, and the handling of the vessel in the locks and through the channel sections characterized the entire operation as one of the smoothest up to that time.

The *Ancon* carried, as guests of the Secretary of War, about 200 people, the list including President Porras and his cabinet and other Panama Government officials, the members of the diplomatic corps and resident consuls-general, officers of the Tenth Infantry and Coast Artillery Corps, officials of The Panama Canal, and a few others. A special train was run, leaving Panama at 5 a. m., on Saturday, conveying the guests from the Pacific end direct to the dock at Cristobal.

The vessel left its berth at about 7.10 a.m., arrived in the Atlantic entrance at 7.30, and at Gatun Locks at 8 o'clock. It entered the lower lock at Gatun at the same hour and passed out of the upper lock on the water of Gatun Lake about one hour and a quarter later. The entrance to the Culebra Cut section at Gamboa was reached at about 11.15, and Cucaracha slide was passed at 12.20 p. m. Pedro Miguel Lock was reached at 12.56, and the vessel passed into Miraflores Lake at about 1.19. It entered Miraflores Lock at about 1.56, and passed out of the lower lock into the sea channel at 3.20. It arrived off Balboa docks at 4 o'clock, and reached the end of the dredged channel at 4.30. This completed the official trip, and the vessel returned to Balboa, anchoring in the channel at about 5.10 p. m. People gathered to witness the passage at various points along the route, and at Balboa as many as 2,000 were present.

The *Ancon* is practically a twin ship to the *Cristobal*. Both were formerly owned by the Boston Steamship Company, and at one time were in the trade between Puget Sound and the Orient under the names of the *Shawmut* and the *Tremont*. They were purchased under authority of Congress contained in the Sundry Civil Appropriation Act of May 27, 1909, and were turned over to the United States Government on January 1, 1909. At the same time their names were changed, the *Shawmut* to the *Ancon*, and the *Tremont* to the *Cristobal*. They are steel twin screw steamers of 9,606 gross and 6,195 net tons each, and were constructed by the Maryland Steel Company. They were originally purchased for use as cement carrying ships and were in that service, under the management of the Panama Railroad Company, during the period of lock construction. The *Ancon* on its first trip through the Canal carried a quantity of cargo for delivery at Balboa. It will return to the Atlantic side on Sunday, August 23, and will sail on its voyage to New York on Monday, August 24.

Commercial Vessels Using the Canal.

The following commercial vessels, which had been waiting at the terminals, were passed through the Canal on Sunday, August, 16:

Northward, Balboa to Cristobal—*Pleiades*, Luckenbach Steamship Company; *Pennsylvanian* and *Arizonian*, American-Hawaiian Steamship Company, *en route* from San Francisco to New York.

Southward, Cristobal to Balboa—*Missourian* and *Nebraskan*, American-Hawaiian Steamship Company, and the yacht *Lasata*, a pleasure craft, *en route* from New York to Pacific ports.

The *Isabella* of the Luckenbach Steamship Company, and the *Admiral Dewey*, now owned by the Pacific Alaska Navigation Company, passed from Cristobal to Balboa, on their way from New York to San Francisco, on August 17 and 18, respectively.

The *Santa Catalina*, W. R. Grace and Company, and the *Kentuckian* and *Montanan*, American-Hawaiian Steamship Company, are now due at Balboa from Pacific ports and upon their arrival will pass directly through the Canal, for New York.

All of the abovenamed vessels are of American register.

Mr. Charles H. Boucher, representative of the American-Hawaiian Line has advised that his company expects to have a vessel pass through the Canal northbound every 72 hours, and in like manner, one southbound at the same intervals of time, which will mean the passage of one of this company's vessels through the Canal every 36 hours.

First Vessel of War Through the Canal.

The Peruvian torpedo destroyer *Teniente Rodriguez* arrived at Colon on Sunday, August 16, and was passed through the Canal on Tuesday, August 18, making it the first vessel of war to use the waterway. The destroyer has been on a trip up the Amazon River as far as Iquitos, stopping on the return trip at Para, Trinidad, and Curaçao. It is a vessel of 460 tons, built in France about two years ago for the Peruvian Government, and is manned by a crew of 54.

Panama Railroad Not a Cocarrier After November 15.

Following the opening of the Panama Canal to commerce, a 90-day notice, dating from August 15, will be served on all cocarriers of the Panama Railroad Company to the effect that the existing working arrangement whereby the railroad acts as an intermediate carrier will be terminated. After the expiration of the 90-day period the steamship lines to the Isthmus will be expected to make their own arrangements for the transfer of cargo, either at Cristobal or Balboa, as may be most advantageous, and the railroad will serve as a cocarrier only in case of emergency.

Heavy Fall of Rain Around Gatun.

An unusually heavy rain fell in the vicinity of Gatun on the afternoon of August 12. The maximum fall for one hour, 3.45 p. m. to 4.45 p. m., at Gatun, amounted to 4.72 inches. This hourly record has been exceeded but twice on the Isthmus since automatic records have been kept, namely, 5.86 inches in one hour at Balboa on June 2, 1906, and 4.90 inches at Colon on October 8, 1908. The heaviest fall on August 12 occurred at Agua Clara reservoir, amounting to seven inches in a little less than two hours.

Stations at which the precipitation exceeded three inches in the 24 hours ending at 8 a. m., August 13, were:

STATIONS.	RAINFALL. *Inches.*
Brazos Brook	3.50
Agua Clara	7.00
Gatun	6.11
Gatun evaporation station	6.83
Monte Lirio	5.75

The record at Gatun has been exceeded but twice since the station was established in 1905; 10.48 inches fell on December 3, 1906, and 6.70 inches on November 28-29, 1909.

A rise of but two and one-half feet was recorded in the Rio Chagres at Vigia, the heaviest rainfall being confined to the lower lake basin. Three of the 14 spillway gates at Gatun, kept open throughout the night, were sufficient to take care of the excess water supplied to Gatun Lake.

Heavy Rain Causes Washout on Panama Railroad.

The heavy rain that fell on the Atlantic side of the Isthmus on Wednesday afternoon, August 12, resulted in a washout and several mud slides on the Panama railroad, south of Gatun, temporarily interrupting traffic. The principal damage was caused by the washout, which occurred at a point about one and three-fourths miles south of Gatun station, and involved a section of track about 80 feet in length. The track bed was entirely undermined on both sides, and the material composing the embankment was carried into the lake, leaving a gap about 15 feet deep, with rails and ties hanging suspended in the air over the water. The two abutments of the track-span bridge at this point were also undermined, causing the towers to fall across the track and partly down the bank into the water. Some of the slides occurred about one and one-fourth miles south of Gatun, and others farther south, near the site of former Camp Totten. These covered the track in places to the depth of several feet, but were soon cleared away.

Passenger train No. 7, which leaves Colon at 4.25 p. m., was held at Gatun, and a boat special, which was due to follow it, was held at Mount Hope. The passengers on the special were subsequently taken to Gatun where they were transferred to No. 7. The latter train left Gatun at about 8.30 p. m., and proceeded as far as the washout where its passengers were transferred to No. 8 northbound. The passengers transferred from No. 8 arrived at Colon at about 9.20 p. m., and those transferred to No. 8 arrived at Panama at about 10.45 p. m.

The construction of a track around the washout was begun at once, and at 3.35 a. m., on the following morning, the commissary train passed over it. The work of dumping rock and earth in rebuilding the embankment was started immediately, and is so far advanced as to permit the use of the main line track again.

Notice of Limitation of Time within which to File Claims with the Joint Land Commission.

To all claimants, attorneys for claimants, and to all persons interested in claims now pending, or to be presented to the Joint Land Commission appointed by the United States and the Republic of Panama—

You are hereby notified that the time fixed by the Governments of the United States and the Republic of Panama within which claims may be filed with the Joint Land Commission for damages which have accrued to any person, or persons, on account of the construction of the Panama Canal and under the Treaty between the United States and the Republic of Panama, under Rule 3, lately adopted and as amended by the two Governments, will expire on December 27, 1914.

By order of the Joint Land Commission.

WILLIAM TAYLOR, *Secretary.*

ANCON, C. Z., August 17, 1914.

Notice to Motorcyclists.

All motorcyclists, and those interested in the sport, are requested to attend a meeting to be held at Ancon lodge hall on Sunday, August 23, at 1.30 p. m., for the organization of an all-Isthmian motorcycle club; also, to arrange details for an endurance or sociability run to be held on Labor Day.

Vacancy in Joint Land Commission Filled.

A cable message has been received from the Secretary of State by the Hon. William Jennings Price, American Minister to Panama, announcing the appointment of Mr. R. Cornett as a member of the Joint Land Commission to succeed the late David Marks. The message further stated that Mr. Cornett was in Switzerland, but that he would return to the United States by the first available ship, and sail for the Isthmus as soon thereafter as possible.

Deceased Employes.

Name.	*Check No.*	*Native of*	*Isthmian residence.*	*Employed by*	*Date of death*
Bamos, José Isabel	36734	Panama	New Gatun	Oper. and Mtce.	August 8.
Cox, James	43346	Barbados	Colon	Supply Dept	August 8.
Davis, Ellerton	47419	Barbados	Panama	Term. Dock, Bal.	August 9.
Emile, Joseph	51925	Martinique	La Boca	Terminals	August 10.
Robertson, George	62340	Grenada	Gatun	Panama railroad	August 6.
Sherwood, William	58033	Jamaica	Colon	Panama railroad	August 8.
Stuert, Stephen B.	3235	United States	Ancon	Mun. Eng.	August 12.
Thompson, Alphaeus	42308	Barbados	New Gatun	Per. Bldgs.	August 7.
Williams, Thomas	47018	St. Lucia	Gatun	Oper. and Mtce.	August 7.

The estates of these deceased employes of the Panama Canal or the Panama Railroad Company are now in process of settlement, and any claims against these estates, or any information which might lead to the finding of heirs or to the recovery of property, bank deposits, postal savings or postal money order deposits, or any other moneys due them, should be presented at once to the Administrator of Estates, Ancon, C. Z. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted in duplicate. These names will be published but once.

JOHN K. BAXTER,
Administrator of Estates.

SOCIAL LIFE OF THE ZONE.

Sunday School Entertainment at Gatun.

The Gatun Union Sunday school entertained the children of the village at a party held in the Government chapel on Thursday evening, August 13. There was a program, the children of the Sunday school singing choruses and giving recitations, a special feature being the performance of feats of simple magic by Señor Magnocci of Mexico, and his wife. Games were played, and refreshments, consisting of ice cream, home made cookies, and home made candies, were served.

Camp Fire Girls' Outing.

The Cristobal Camp Fire Girls, recently organized, with Mrs. E. S. Waid as guardian, has a membership of 18. The meetings are held in the Cristobal clubhouse. Much interest is being displayed by the girls in the work of the society. The first outing was held on Wednesday, August 19, when the camp fire girls, accompanied by the guardian and other chaperones, canoed up Folks River to the village of Majagual, where a ceremonial meeting was held.

A Successful Bazaar.

The receipts of the bazaar held at Ancon hall by the Woman's Altar Guild of St. Luke's hospital chapel were found to be beyond the expectation of the workers, amounting to nearly $96, exclusive of the $21 earned by the junior auxiliary booth, which was independent of the guild booths. The regular meetings of the guild will be resumed on the first Tuesday in September. The receipts of the bazaar held by the Woman's Guild of Christ Church, Colon Beach, on Saturday afternoon and evening, August 8, amounted to about $80.

Subscription List for War Sufferers.

At Christ Church, Colon Beach, the congregation of which is largely composed of West Indians, solemn processional litany was sung at evensong on Sunday evening, August 9 and 16. The rector of the church has circulated a subscription list for the collection of funds for St. John's Ambulance Society, an organization in London, England, which corresponds to the Red Cross Society. The money will be used for the relief of the sufferers from the war. The list was opened on Friday, August 14, and by evening of the following day the sums subscribed amounted to $85, United States currency.

The annual parish outing of Christ Church will be held at Brazos Brook on Labor Day, September 7.

PERSONAL.

Hon. John Barrett of Washington, Director of the Pan-American Union, arrived on the Isthmus on the *Tenadores* on Friday, August 14, and was one of the party of invited guests that passed through the Canal on the *Ancon.* His nephew was a passenger on the *Ancon* from New York, and accompanied him on the trip through the Canal.

Mr. B. F. Harrah, who has charge of the legal affairs of The Panama Canal in Washington, arrived on the Isthmus on the *Ancon,* on Thursday, August 13, and was one of the invited guests on the official trip of that vessel through the Canal.

EXECUTIVE ORDER

Setting Aside Area of Land for Use and Purposes of a Radio Station.

The area of land hereinafter described, situated in the Canal Zone, is hereby set apart and assigned to the uses and purposes of a radio station and other naval purposes under the control of the Secretary of the Navy, but said area shall be subject to the civil jurisdiction of the Canal Zone authorities in conformity with the Panama Canal Act.

The said area is described, as follows:

DARIEN NAVAL RADIO STATION.

Beginning at a point A on the map, which is the point at which the water level of Gatun Lake meets a line parallel to the center line of the Panama railroad and 100 feet distant therefrom on the side toward the Canal, this meeting point being the first such point south of Station 1051 plus 70.3 of the Panama railroad, which latter point is marked by an iron rail monument noted P on the map; continuing thence on the line A, B, C, D, E, F, G, H, I, which line is at the water level of Gatun Lake, and is a meandered line extending southwesterly, south, and easterly, to point I, where the said water level intersects a traverse line shown on the map as of azimuth 250° 02′; thence for a distance of about 130 feet to point J, which is the intersection of two traverse lines indicated on the map as of azimuth 250° 02′ and 1° 54′, respectively; thence for a distance of 433.8 feet on an azimuth of 1° 54′ to point K on the map, this point being the intersection of the 1° 54′ azimuth line with the aforesaid parallel to and 100 feet distant from the center line of the Panama railroad, immediately south of Station 1074 plus 52 on the Panama railroad, which latter point is marked with an iron rail monument and is noted Q on the map; thence along the aforesaid line parallel to the Panama railroad to the point of beginning; in all, 87.5 acres, more or less.

The areas below lake level forming indentations into the general area of the site beyond lines B - C, C- D, E - F, G - H, and J - K, are included in the area hereby set aside;

all as shown by the blue print No. 3846, dated March 30, 1914, issued by the Department of Construction and Engineering, Isthmian Canal Commission, Office of the Assistant to the Chief Engineer.

WOODROW WILSON.

THE WHITE HOUSE,
July 30, 1914.
[No. 2006.]

EXECUTIVE ORDER

To Reorganize the Board of Health of the Canal Zone.

By virtue of the authority vested in me, I hereby establish the following Executive Order for the Canal Zone:

1. There is hereby established a Board of Health, under the jurisdiction of the Health Department, consisting of the following officials heretofore appointed by the Governor:

The Chief Health Officer, who shall be the chairman of the board, the General Inspector, the Chief Quarantine Officer, the chief of laboratories, and the chief of the Division of Municipal Engineering.

Three members of the board shall constitute a quorum for the transaction of business and each member of the board shall be entitled to a vote, and, in the event of a tie, the presiding officer shall cast the deciding vote.

The Governor shall fix the time for the regular meetings of the board, and the Chief Health Officer may call special meetings of the board when he deems it necessary.

2. The Board of Health shall have power to make sanitary rules and regulations for the Canal Zone, not inconsistent with existing laws or Orders, which rules must be approved by the Governor before they become effective, and the board shall perform such other duties as may be assigned to it by the Chief Health Officer from time to time.

3. Sections 13, 14, 15, and 16 of Act 8 of the Isthmian Canal Commission, of September 2, 1904, are hereby repealed.

4. This Order shall take effect from and after this date.

WOODROW WILSON.

THE WHITE HOUSE,
August 6, 1914.
[No. 2014.]

EXECUTIVE ORDER

Prescribing the Duties of Constables.

By virtue of the authority vested in me, I hereby establish the following Order for the Canal Zone:

The constables of the magistrates' courts of the Canal Zone are hereby declared to be peace officers, with the powers and duties imposed by law upon such officers. They shall attend all sessions of the magistrate's court for the town and subdivision to which they may be assigned by the Governor of The Panama Canal; shall preserve order therein; shall receive and receipt for all moneys collected by them upon any process, or paid into or deposited with said magistrate's court as fees, fines, costs, forfeitures, or bail; and shall duly account therefor in accordance with rules and regulations to be prescribed by the Governor of The Panama Canal.

All laws or Orders, or parts thereof, in conflict with this Order are hereby repealed.

WOODROW WILSON.

THE WHITE HOUSE,
August 3, 1914.
[No. 2007.]

Agricultural Opportunities.

The Department of Agriculture of the State of New York has forwarded to the Isthmus a series of bulletins describing the agricultural opportunities and advantages in the State of New York. These bulletins are available for distribution and will be furnished employes of The Panama Canal and Panama Railroad Company upon application to the Office of the Governor.

Obituary.

Stephen B. Stuert, employed at the Miraflores pump station in the Division of Municipal Engineering, died on Wednesday, August 12, of organic disease of the heart. He was 34 years of age, unmarried, and had been on the Isthmus since May 9, 1907. His mother resides at No. 461 Humboldt street, Buffalo, N. Y. The body will be shipped to the United States on August 22, on the *Allianca*.

ALONG COAST AND CHANNEL

Information for Navigators Bound for the Atlantic Terminal Ports or The Panama Canal.

The following sailing directions have been prepared by the Superintendent of Canal Transportation, for the benefit of navigators who make Colon or Cristobal ports of call, or who enter the Canal from the Atlantic side. A similar article on the precautions to be observed at the Pacific end will follow shortly:

Bearings—The bearings given in these sailing directions are true; for navigational purposes the variation of the compass in the vicinity of the Panama Canal can be taken at 4° 25′ easterly, in 1914. Vessels bound to Colon from the northward and eastward will make Isla Grande light, off Manzanillo Point, and then Toro Point light at the west entrance to Limon Bay, while those from the westward will make Toro Point light only.

Isla Grande light—Isla Grande light is on an island of the same name, off Manzanillo Point. It is shown from a white cylindrical tower, at an elevation of 305 feet, and flashes red and white alternately every five seconds; it is visible 24 miles. The island is steep to the northward and eastward, and is connected to Tambor Island to the northward by a line of reefs, some of which are sunken and some project three or four feet above water. Tambor Island, from a northeasterly direction, looks like an inverted dishpan, and is higher at its northern than at its southern end. It may be approached by the largest vessels, though there should be no occasion to do so; there is always a confused sea and swirling current in its vicinity.

Manzanillo Point—Manzanillo Point constitutes the northern extremity of the coast of the Republic of Panama, and is the termination of a ridge that runs along the seaward side of Porto Bello promontory. Immediately south of it there is an extremely steep point, the seaward face of which is nearly vertical. South and west of Manzanillo Point is Cerro Pavo, a conical peak with a shoulder on its west side, about one-third of the way down the peak. Cerro Pavo is a little east of Puerto Garrote, which forms a break in the ridge abovementioned. West of Puerto Garrote the range continues in the more elevated land of Porto Bello promontory, the highest point of which is Cerro Vigia, which can probably be seen at a great distance in nearly all weathers. Cerro Pavo and Cerro Vigia, in 1914, were marked by lone trees, with a thin feathery foliage.

Farallón Sucio—Farallón Sucio is the name given to the northernmost of a cluster of five small rugged rocks, which occupy a space of about one-fourth of a mile east and west. It is steep to, but from the easternmost rock, a foul ledge extends 300 yards to the southeastward. The northernmost islet lies to the westward of Tambor Island, distant about four miles. These rocks from a distance are blended and appear as one island, and they are remarkable for their barren whiteness, in contrast with the Duarte islets, or the mainland, which are dark. This aspect makes them an excellent landmark from all directions.

Duarte Islets—The Duarte islets are four in number, extending NNW and SSE for a distance of three-fourths of a mile. They are close to the coast, about four miles to the southwestward of Farallón Sucio, and three miles to the northeastward of the north entrance to Porto Bello.

Salmedina Bank—Salmedina Bank lies off the north entrance to Porto Bello, distant about one mile, and is a dangerous reef.

Navigation around Manzanillo Point to Colon—In general, the navigation from Manzanillo Point, around the promontory, is simple if a good lookout be kept, as all of the dangers, except one or two between the Duarte islets and Salmedina Bank, break in nearly all weathers, but it is a safe rule to give this part of the coast a berth of from two to four miles outside of all visible islands and land during the day, and five miles at night; this precaution also applies to the coast until Colon is reached.

Coast—From seaward, the coast between Manzanillo Point and Colon has the appearance of being mountainous and well wooded, though in places there is low land along the shore. It is sometimes difficult to distinguish the contour of the mountains, owing to the mists and low hanging clouds, which frequently spread over the land.

Currents—The course from Farallón Sucio to the seaward end of the west breakwater is 224° 30′ true. The currents over this course are extremely variable, especially during the wet season. In 1914, the *U. S. S. Hannibal*, at a speed of seven knots, made several runs over it, and found that the currents varied sufficiently to make a difference of about two points in the course made good. With a westerly wind, the current runs parallel to the shore at Colon, and, therefore, is on the starboard bow of a vessel bound from Farallón Sucio to Colon, and will set it inshore an amount depending upon its speed, whereas steaming in the opposite direction would have little effect on it, as at first it would set the vessel inshore, and then offshore, the current changing as Porto Bello is approached from the west.

With a west wind the current between Salmedina Bank and Isla Grande runs about northeast. With a northeast wind, the current is less in amount, and not so variable. A west wind generally brings rain, so that the rivers are flooded, and driftwood appears along the shore, sometimes 30 to 50 miles out at sea. Therefore, if, while approaching Colon, driftwood in large quantities be seen, it is generally an indication that the winds have been westerly, and that the current is running to the northward and eastward. Tide rips are often observed in the vicinity of Farallón Sucio and Isla Grande, and should serve as a warning of existing currents.

Soundings—The soundings between Isla Grande and the entrance to Limon Bay are not regular, but are variable, and should not be depended upon for a fix, unless the changes compared with the chart are as shown by the reckoning.

It would be well to steer for a point two and one-half miles due north of the entrance between the Colon Harbor breakwaters, until Toro Point light bears 205° (SSW ¼ W), and then change course to south, when the range lights at Gatun, which mark the entrance between the breakwaters, as well as the axis of the dredged channel of the Canal, are in line.

If it be thick, or at night, or if any doubt exists as to position, or if the ends of the breakwaters or the lights that mark them cannot be readily distinguished, a vessel should stop when the 10-fathom curve is reached, or when Toro Point light bears 220°, and not bring it to the westward of this bearing.

LIGHTS.

The following lights will be maintained, established, or discontinued in Colon Harbor, depending upon the condition and stage of the work in connection with harbor improvements:

Toro Point light—On Toro Point, west entrance to Colon and Cristobal Harbors, at the inshore end of the west breakwater, cylindrical structure, upper two-thirds white and the lower one-third red, elevation 108 feet, a white light showing a flash of five seconds every 30 seconds, visible 16 miles. The light has a background of deep green foliage, with a coconut grove in the immediate vicinity, and is unmistakable from seaward.

West breakwater light—At the seaward or northeast end of the west breakwater, in a bight immediately behind the elbow on the inshore side, a white cylindrical shaft on a square pedestal, elevation 30 feet, light red, making a double flash in one second and then eclipsed for one second, visible eight miles.

East breakwater light—This breakwater is now in course of construction and upon its completion a similar structure will be erected to that on the west breakwater, carrying a white light with the same characteristics. The distance between these lights will be about three-eighths of a mile, and the entrance into the harbor and the dredged channel of the Canal will be halfway between them.

East breakwater temporary light—During the course of construction of the east breakwater, a gas buoy showing a flashing white light, visible one second, eclipsed two seconds, will be moored off the seaward end (NW) of the breakwater. It will be moved from time to time as the work progresses, and will be discontinued upon the completion of the breakwater and the erection of the permanent light above referred to.

Gatun range lights—Situated in the vicinity and to the eastward of Gatun Locks. The rear tower is in the town of Gatun, near the crest of the ridge, a little below and to the eastward of a conspicuous black water tank, on the sky line, which makes an excellent landmark. The front range tower is just to the westward of New Gatun, abreast of and to eastward of the northern extremity of the approach wall of Gatun Locks. Both towers are white, cylindrical, and show white electric lights; the front range light is fixed, the rear range flashing and showing two flashes per second. The rear light is elevated 155 feet, and the front light 93 feet; they are both visible 15 miles. These lights mark the center of the opening between the breakwaters and the axis of the dredged channel of the Canal, from the seaward entrance to beacons Nos. 3 and 4, which are situated at the first angle or bend of the Canal, about one mile below Gatun Locks.

Dredged channel lights and beacons—The dredged channel from the seaward entrance, Atlantic end, to Gatun, is marked by gas and spar buoys, and by electric lighted beacons. The buoys and beacons are in pairs. The buoys on the starboard hand on entering, on the western edge of the dredged channel, are painted red; those on the port hand are painted black, but on account of the numerous birds which continually light on them and leave their droppings, most of the buoys, especially those toward the upper end of the bay, are more apt to be white than their proper color. The beacons on both sides, throughout the Canal, are painted white, but their lights are red or white, depending upon the side of the channel on which they may be situated, in accordance with the system of lighting the buoys.

The red gas buoys on the starboard hand show a red light, one-half second lighted, one second eclipsed; the black gas buoys show white lights with the same characteristics as the red. The four electric beacons between the shore line at the southern end of the bay, and Gatun, show fixed red lights on the starboard hand, and fixed white on the port.

The first pair of black and red gas buoys, Nos. 1 and 2, will be established on their respective sides of the dredged channel at a point about seven-eighths of a mile inside of the entrance between the breakwaters. The second pair of gas buoys, Nos. 3 and 4, will be established on their respective sides of the main dredged channel, immediately to the southward of the entrance of the dredged channel leading up to the Cristobal piers, and distant about one and one-half miles south of the first pair.

The third pair of gas buoys, Nos. 7 and 8, will be off Mindi Point, Telfer's Island, to the westward of Broken Reef. A pair of spar buoys, Nos. 5 and 6, will be established about halfway between the second and third pairs of gas buoys, namely, between the pair numbered 3 and 4, and the pair numbered 7 and 8.

Between gas buoys Nos. 7 and 8, and beacons Nos. 1 and 2, there are two pairs of spar buoys, spaced equidistantly, and numbered, respectively, 9 and 10, and 11 and 12.

Beacons Nos. 1 and 2 are situated close to the point where the dredged channel pierces the shore line at the southern end of the bay, and Nos. 3 and 4, at the first bend of the Canal, where the old French canal intersects it, about one mile to the northward and below Gatun Locks.

All lighted buoys are surmounted by a steel framework, about 12 feet high, which, with the lantern, gives a focal plane of 15 feet, and are visible five miles. The beacons are erected on shore, on the banks of the Canal, and consist of a white rectangular structure on a square base, carrying a vertical shaft, the light being elevated at an altitude of 15 feet.

West breakwater lighted buoy—At present, a gas buoy painted red and showing a flashing white light is maintained immediately off the seaward end of Toro Point breakwater, and will continue to be so maintained until the light structure, now in course of erection at the seaward end, shall have been completed. This buoy will be discontinued about September 1.

Twenty-two foot shoal gas buoy—A black gas buoy showing a flashing white light is established on the western side of the 22-foot shoal, which lies about one mile to the northward of Manzanillo Point, Colon Harbor, and will be maintained until the east breakwater and light shall have been completed. Manzanillo Point, Colon Harbor, should not be confused with the other point of the same name, hereinbefore mentioned as in the vicinity of Isla Grande light. They are about 28 miles apart.

Cristobal Mole gas buoy—A black buoy showing a fixed white light, visible two miles, has been established about 930 feet to the westward of Cristobal Mole, and vessels are warned not to pass between it and the mole.

Cristobal dredged channel—The southern side of the Cristobal dredged channel, and the western side of the same channel, which bends to the southward in the direction of Mount Hope, is marked by a number of red buoys. These buoys are subject to change, owing to improvements which are being made in their vicinity, but should always be left on the starboard hand when entering Cristobal, or the old French canal channel.

Construction marks—Near the southern end of Limon Bay, near the edges of the dredged channel, a number of buoys and dolphins have been left, all of which were for construction purposes. These should not be confused with the buoys which are established as aids to navigation to mark the dredged channel.

Dumping ground buoy—A white buoy, which is shown on some of the charts, and which was established to mark the old French dumping ground in the western part of the bay, opposite Colon, will be discontinued when the dredging operations to remove this shoal shall have been completed.

Features—The dredged channel of the Canal, which is marked by buoys and beacons hereinbefore mentioned, begins about one mile inside the breakwaters where the chart shows 41 feet depth at mean low water, and runs due north and south from the entrance to beacons Nos. 3 and 4, a distance somewhat less than five miles. The channel into the Cristobal docks leaves the main channel at approximately right angles, abreast Cristobal Point; it is 600 feet wide, and will be dredged to a depth of 41 feet, as will be the slips in and around the new piers. With the exception of the 22-foot shoal to the northward of Manzanillo Point, and the old French dumping ground, which is being dredged to the average depth around it, the entire bay is free from obstructions, and there is a gradual and uniform rise from the 10-fathom curve outside of the breakwaters to the head of the bay. The locality, however, to the northward and eastward of Manzanillo Island, on which Colon is situated, should be avoided, and vessels drawing 30 feet of water should anchor inside the west breakwater, and northward of a line joining Manzanillo Point (Colon) and Toro Point light, for the reason that until the east breakwater shall have been completed, a heavy swell occasionally sets into the harbor and necessitates a depth of at least six feet greater than the draft of the vessel, for an anchorage berth, to prevent the vessel striking bottom.

Anchorage—It is believed that upon the completion of the east breakwater (probably 1916), this swell will no longer be such as to cause danger to vessels. Vessels of lighter draft may anchor anywhere in the bay to the westward of the dredged channel, where the chart shows sufficient water. Anchorage to the eastward of the dredged channel is prohibited, but, provided the weather permits, there is no reason why vessels should not anchor outside of the breakwaters, if occasion requires.

Bottom—The bottom, in general, offers good holding ground, particularly inside of the breakwaters. The southern end of the bay terminates in very shallow water for a distance of a mile or more from shore, with the botton muddy and sticky. There seems to be evidence of shoaling in this locality, and the shore line is making farther out into the bay; the dredged channel in this vicinity is showing signs of silting, and, as the wind blows directly into the bay, this part of it is generally rough, and not infrequently breakers extend for quite a distance from shore, making it unsafe for small boats or launches. The silting of the channel is kept in check by dredging.

Manzanillo Bay—Manzanillo Bay, which is practically a part of Limon Bay, is to the eastward of Colon. It is an unimportant body of water, with extensive coral reefs skirting its shores, and is not used by deep water craft, through small boats sometimes find shelter in the upper part of it.

Breakwaters—It is assumed that the two breakwaters will fully protect the harbor in any weather, and afford ample and safe anchorage room for vessels using the Canal and the Atlantic terminal ports. The west breakwater has been completed, and extends from Toro Point north 58° east, for a distance of one and seven-eighths miles, terminating in an elbow which bends to the south and east, in the bight of which is situated the west breakwater light. The east breakwater, now in course of construction, does not connect with land, but starts over one mile offshore from Coco Solo Point, and runs 294° true (N 68° W), for a distance of slightly over one mile, until its seaward end is flush with that of the west breakwater, when it bends to the south and west and forms a short elbow like the west breakwater, in the bight of which will be erected a similar beacon to that on the west breakwater.

General directions—There are no difficulties for vessels entering Limon Bay day or night, provided they keep on the Gatun range until the ends of the breakwaters have been passed. Owing to the fact that the light at the seaward end of the Toro Point breakwater is built in an elbow, and that, therefore, part of the breakwater lies between the light and the channel, vessels entering at night should give the light and breakwater a wide berth, at least 250 yards.

When the Gatun lights have been picked up and brought in range, bearing south, a vessel should proceed at slow, or half speed, keeping the lights in range, and passing halfway between the breakwater lights, noting at the same time that the Gatun range lights are kept in the middle of the space between the red and white flashing buoys and the fixed beacons, which mark the dredged channel, and which will naturally show in perspective toward the foot of the bay.

Pilots—All vessels entering the harbor will be boarded by a pilot. Whether or not a fee will be collected will depend upon the subsequent movement of the vessel. The pilot will give the necessary information in regard to anchoring, mooring, probable time of entering the Canal, and other matters of interest or importance. If there be no pilot aboard, a vessel should anchor under the west breakwater, and await one. Rules and regulations governing pilotage were published in The Canal Record of August 5, 1914.

Quarantine—The quarantine laws and restrictions are very rigid, and no communication will be allowed with the shore until *pratique* has been granted. The quarantine officer will board all vessels immediately upon their arrival, provided it be in the daytime.

Office of the captain of the port—The office of the captain of the port is now in the Panama railroad freight building, near the Royal Mail dock, Colon, but it is to be removed to a new building in Cristobal, at the head of the slip between Piers 8 and 9, in the near future. The new building will contain the offices of the Canal authorities that will handle shipping affairs, including the captain of the port, measurers, customs, collector, and Panama railroad; and it is probable that many of the steamship agencies will be in the same vicinity. The captain of the port will furnish information upon application in writing, or otherwise, relating to the Canal, harbor, navigation, weather, lights, tolls, measurements, supplies, provisions, fuel, or other matters of interest.

Manzanillo Point signal station—Manzanillo Point is at the northwest point of Colon, and is readily distinguishable by the Hotel Washington, a large concrete building, with its seaward face to the northward. The building is supported by a series of arches, and the upper stories present a number of dark square windows and spaces; there is a low, round cupola on its western end, which is used for the present as a signal station, with which ships can exchange signals. All arrivals are reported from this station as soon as a vessel is sighted.

Light discontinued—The fixed white light, which was formerly maintained on an open framework structure, 60 feet high, at this point, has been discontinued, and the structure demolished.

Anchoring vessels—Vessels are forbidden under any conditions to anchor on the ranges, or in the axis of the Canal, and, as previously stated, should invariably anchor to the westward of it.

Tides—Tides can be practically neglected in Colon Harbor from a navigational standpoint; the mean rise and fall is about one foot, and the greatest variation about two feet. The height is more affected by the direction of the wind than by any other factor.

Weather—The seasons are divided into the wet and dry; the dry begins about January, and lasts until May; the wet during the remainder of the year.

Climate—The climate is characterized by a small range in temperature, moderate wind movement, excessive humidity, and abundant rainfall.

Rainfall—The average yearly rainfall at Colon is about 130 inches; February is the month of lightest, and November, the month of greatest rainfall. Over 50 per cent of the precipitation occurs between 6 a. m. and 6 p. m.; the percentage of night rains is low early in the rainy season, and heavier during November and December.

Temperature—There is but little variation in temperature throughout the year, the mean being about 80° Fahrenheit. April is usually the month of highest mean temperature, and November the lowest. The diurnal range is from 6° Fahrenheit, to 10° Fahrenheit, being smaller in the dry season.

Wind movement—Steady, fresh trade winds prevail during the dry season, generally between north and northeast, with an average velocity of about 15 miles an hour, but frequently exceeding 20 miles an hour for a period of 24 consecutive hours, or longer. The rainy season winds are variable and have a lower velocity, coming generally from the southeastward, and averaging about eight miles an hour. The maximum velocity is frequently as high as during the dry season, but usually continues for but a few minutes, during the passage of local rain squalls, and, therefore, do not cause any sea or danger to navigation; they are generally strongest about 1 or 2 p. m., and lightest about 5 to 7 a. m.

Northers—The socalled "Northers" occasionally reach as far south as Colon during the season from October or November to April, inclusive, the season of the northeasterly trade winds. They are strong steady blows, from northeast to northwest, from an anticyclonic area of high pressure to the northward, toward the equatorial belt of low pressure, and are generally from about north northwest when at their worst. There is no marked indication of their approach, barometric, or otherwise; they last from one to five days, but their maximum strength rarely exceed 24 hours duration, when the wind may reach a velocity of 30 to 40 miles per hour; they hardly average one a year. It is not so much the wind as the heavy swell and seas that accompany these blows, that formerly did so much damage to the wharves and shipping in Colon Harbor. The Toro Point breakwater, now completed, and the east breakwater, now under construction, should afford ample protection to vessels of any class, at all times, anchored in the harbor or moored to the wharves.

Cloudiness and fog—The cloudiness is greater during the rainy season, and ordinarily greater during the day than at night. Fogs are rare, and hardly average more than four or five a year; they are of short duration.

Barometer—Barometric changes are ordinarily too slight to be of use in forecasting weather, and may, therefore, be neglected.

Rainfall, August 1 to August 15, 1914, Inclusive.

Stations.	Maximum in one day.	Date.	Total for period.
Pacific Section—	*Ins.*		*Ins.*
Ancon	1.37	7	4.14
Balboa	.94	7	3.50
*Miraflores	1.72	7	5.13
Pedro Miguel	1.21	4	4.88
Rio Grande	2.27	12	6.42
Central Section—			
Culebra	1.89	12	6.13
*Camacho	1.10	10	5.07
Empire	1.93	12	6.05
Gamboa	1.44	6	5.39
*Juan Mina	1.99	8	7.75
Alhajuela	1.60	11	6.34
*El Vigia	3.49	11	5.66
Frijoles	2 08	12	4.61
*Monte Lirio	5.45	12	9.21
Atlantic Section—			
Gatun	6.72	12	9.15
*Brazos Brook	3.45	12	4.78
Colon	2 44	15	7.27
Porto Bello	4.28	12	9.99

*Standard rain gage—readings at 5 p. m. daily. Automatic rain gage at unstarred stations—values, midnight to midnight.

Stages of the Chagres River, Gatun Lake, and Miraflores Lake.

Maximum heights of the Chagres River, Gatun, and Miraflores Lakes for the week ending midnight, Saturday, August 15, 1914. All heights are in feet above mean sealevel:

Day and Date.	Stations.				
	Vigia.	Alhajuela	Gamboa.	Gatun Lake.	Miraflores Lake.
Sun., Aug. 9	125.50	92.17	84.93	84.98	53.85
Mon., Aug. 10	125.80	92.35	84.91	84.91	53.91
Tues., Aug. 11	130.00	95.30	84.97	84.91	53.99
Wed., Aug. 12	128.80	94.50	85.16	85.05	54.13
Thurs., Aug. 13	128.50	94.50	84.98	84.98	54.09
Fri., Aug. 14	125.90	92.52	84.95	84.94	54.19
Sat., Aug. 15	132.10	96.55	85.08	85.04	54.06
Height of low water to nearest foot	125.0	91.0			

Estate of W. G. Gillingham.

ANCON, C. Z., August, 8, 1915.

The undersigned has been appointed administrator of the estate of William George Gillingham, deceased, and any claims against this estate, or any information which might aid in the recovery of money or property belonging to it, should be presented at once to John K. Baxter, Ancon, C. Z. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted *in duplicate.*

JOHN K. BAXTER,
Administrator of estate of William George Gillingham, deceased.

OFFICIAL CIRCULARS.

Executive Order.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., July 17, 1914.

CIRCULAR No. 601-13:

CIVIL SERVICE RULE GOVERNING TRANSFERS.

The extract from an Executive Otder quoted below is published for the information of all concerned.

GEO. W. GOETHALS,
Governor.

AMENDING THE CIVIL SERVICE RULES.

* * * * * * * *

The following sections are hereby added to Rule X:

* * * * * * *

12. No person appointed in the Isthmian Canal Service otherwise than through competitive examination, or by transfer or promotion from a competitive position, shall be transferred to a competitive position, unless he was classified by the Executive Order of November 15, 1904, in a position which was then and is at the time of the proposed transfer in the competitive service: *Provided*, that artisans who are citizens of the United States, who have rendered one year's satisfactory service on the Isthmus of Panama, and who may be recommended, upon discharge, for transfer, may be transferred without examination within three years to corresponding classified positions in or under any department or office, subject to the provisions of these rules.

* * * * * * *

The foregoing provisions are now contained in Executive Orders and are made a part of the Civil Service Rules upon recommendation of the Civil Service Commission that they may be more easily referred to and greater publicity given to their existence.

WOODROW WILSON.

THE WHITE HOUSE,
June 15, 1914.

Act of Congress.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., July 18, 1914.

CIRCULAR No. 600-7:

EXTENDING APPROPRIATIONS FOR FIRST HALF OF JULY, 1914.

The extract from an Act of Congress quoted below is published for the information of all concerned.

GEO. W. GOETHALS,
Governor.

Joint Resolution extending appropriations for the necessary operations of the Government and of the District of Columbia under certain contingencies.

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That all appropriations for the necessary operations of the Government, and of the District of Columbia, which shall remain unprovided for on the 30th day of June, 1914, are continued and made available for and during the first half of the month of July, 1914, unless the regular appropriations provided therefor in bills now pending in Congress shall have been previously made for the service of the fiscal year ending June 30, 1915; and a sufficient amount is appropriated, out of any money in the Treasury not otherwise appropriated, to carry on the same: *Provided*, that no greater amount shall be expended for such operations than as the sum of one twenty-fourth of the appropriations made for the fiscal year 1914 bears to the whole of the appropriations of said fiscal year: *Provided further*, that the total expenditures for the whole of the fiscal year 1915 under the several appropriations hereby continued, and under the several appropriation bills now pending, shall not exceed in the aggregate the amounts finally appropriated therefor in the several bills now pending, except in cases where a change is made in the annual, monthly, or per diem compensation, or in the numbers of officers, clerks, or other persons authorized to be employed by the several appropriations hereby continued, in which cases, the amounts authorized to be expended shall equal one twenty-fourth of the appropriations for the fiscal year 1914, and twenty-three twenty-fourths of the appropriations contained in the several bills now pending when the same shall have been finally passed, unless the salary or compensation of any office shall be increased or diminished without changing the grade or the duties thereof, in which case, such salary or compensation shall relate to the entire fiscal year and run from the beginning thereof * * * .

Approved, June 30, 1914.

Steamship "Cristobal" Out of Service.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., August 14, 1914.

HEADS OF DEPARTMENTS AND DIVISIONS:

The steamship *Cristobal* will be taken out of service on August 16 for an indefinite period. All requests fo transportation issued to date for the September sailing of the *Cristobal*, will be automatically transferred to the steamship *Panama*, sailing September 9, unless advised at once to the contrary.

In view of the large number of passengers on northbound Panama railroad steamships at this time, employes are urged to submit their requests for transportation as soon as possible and arrange their reservations immediately upon receipt of same.

GEO. W. GOETHALS,
Governor.

Drafts of Executive Orders.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., August 13, 1914.

HEADS OF DEPARTMENTS AND DIVISIONS:

In order that there may be complete uniformity in the preparation of Executive Orders to be submitted for the President's signature, I desire that all drafts of such Orders be submitted to the Special Attorney, who will prepare the final draft and forward same for my consideration, together with such explanatory memoranda as may be deemed necessary.

GEO. W. GOETHALS,
Governor.

Notice to Mariners.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., August 8, 1914.

CIRCULAR No. 643-4:

WEST BREAKWATER LIGHT, LIMON BAY, COLON AND CRISTOBAL HARBOR.

1. On or about August 15, 1914, the red lights which have been shown on a pole at the seaward end of the west breakwater, Limon Bay, Colon harbor, will be discontinued, and a red light, flashing twice in one second, and then eclipsed one second, will be thrown from a permanent concrete structure with a square base cylindrical column, at a height of 30 feet, visible eight miles.

2. The structure is erected in the elbow of the breakwater, on the inshore side, and vessels should give it a berth of at least 250 yards when entering. This light will be known as the west breakwater light.

3. On September 1, 1914, the gas buoy which shows a flashing white light, off the seaward end of the west breakwater, will be discontinued.

GEO. W. GOETHALS,
Governor.

Appointments.

THE PANAMA CANAL,
EXECUTIVE OFFICE,
CULEBRA, C. Z., May 6, 1914.

CIRCULAR No. 661-4 (Corrected):

1. The following appointments are hereby made:

BOARD OF LOCAL INSPECTORS.

Commander Douglass E. Dismukes, Chairman.
Lieut.-Commander H. V. Butler, member.
Mr. J. MacFarlane, member.

BOARD OF ADMEASUREMENT.

Capt. Hugh Rodman, U. S. N., Chairman.
Commander Douglass E. Dismukes, member.
Lieut.-Commander H. V. Butler, member.

INSPECTORS OF BOILERS AND HULLS.

Commander Dismukes, Inspector of Boilers.
Lieut.-Commander Butler, Inspector of Hulls.

GEO. W. GOETHALS,
Governor.

Requests for Time Vouchers.

THE PANAMA CANAL,
OFFICE OF THE AUDITOR,
EMPIRE, C. Z., July 30, 1914.

TO ALL CONCERNED:

Upon the termination of service of an employe, or when entering upon leave of absence, notation to that effect must be made in the time book and "Request for time voucher" shall be furnished by person in charge to the chief timekeeper, Balboa Heights.

Care should be used in making time vouchers, as they must show in all cases time shown in the time book for the current period. For instance, a request issued for an employe who has worked from the 5th to the 7th of the month should read, "Time for period 5-7, 24 hours," if an hourly man, or "Time for period 5-7, three days," if a monthly man, providing work has been performed for this full period of time. In the case of a monthly man who has not worked the full time for the current period, the absent dates must be shown on the time voucher request.

H. A. A. SMITH,
Auditor, The Panama Canal.

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FOUND—One watch fob. Owner can have same upon proper identification, at police and fire headquarters, Ancon, C. Z.

COMMISSARY DEPARTMENT.

Special Sales.

The following special sales are announced:

DRY GOODS.

Complete sale at Cristobal, week beginning August 21, 1914.

SHOES.

At Corozal, week beginning August 21, 1914.

MEN'S AND WOMEN'S FURNISHINGS.

At Balboa and Corozal, week beginning August 21, 1914.

HATS.

At Corozal and Cristobal, week beginning August 21, 1914.

Fresh Cream.

Sheffield Farms fresh cream will be bottled at the cold storage plant and sold at the following prices Half-pint, seven cents; pint, 14 cents; quart, 28 cents. An additional charge of five cents will be made for each bottle, which will be refunded upon return of bottle in good condition.

Cake Schedule.

THE PANAMA CANAL,
SUPPLY DEPARTMENT,
CULEBRA, C. Z., August 8, 1914.

CIRCULAR No. 176–2:

District quartermasters and commissary storekeepers—The following cake schedule is published for the information and guidance of storekeepers and patrons in placing their orders, cakes to be delivered on days shown:

DAY OF WEEK.	*Kind.*	*Price (Cents)*
Monday	Wine cake	20
Tuesday	Egg jumble	15
Wednesday	Macaroons, package	18
	Coffee cake	10
Thursday	Duchess cake	20
Friday	Lemon snaps	15
	Ginger snaps	8
	Coffee cake	10
Saturday	Macaroons, package	18
	Raisin cake	20
	Sugar cookies	8

R. E. WOOD,
Chief Quartermaster.

Commissary Hours.

The commissary stores are open during the following hours: From 8 a. m., to 12.30 p. m., and 3 to 6.30 p. m.

The gold departments of the Cristobal store will open at 2 p. m., on Saturdays and sailing days of Panama railroad vessels.

In rush periods, all stores will remain open until 7 p. m.

Cold Storage Prices.

Retail prices of cold storage provisions for the week beginning August 20, 1914:

FRESH MEATS.	*Price.*
Mutton—Stewing, per pound	8
Shoulder, trimmed, per pound	12
Leg (8 to 10 pounds), per pound	19
Cutlets, per pound	20
Short cut chops, per pound	23
Shoulder, chops, per pound	14
Lamb—Stewing, per pound	10
Shoulder trimmed, per pound	15
Leg (5 to 8 pounds), per pound	24
Chops, per pound	29
Shoulders, chops, per pound	18
Cutlets, per pound	29
Veal—Stewing, per pound	10
Shoulder, for roasting (not under 4 pounds), per pound	13
Chops, shoulder, per pound	18
Chops, per pound	27
Loin, for roasting, per pound	27
Cutlets, per pound	31
Beef—Suet, per pound	3
Soup, per pound	7
Stew, per pound	11
Plate, per pound	12
Corned, No. 1, per pound	18
Corned, No. 2, per pound	15
Chuck roast, 3 lbs., and over, special, per pound	12
Chuck roast, 3 lbs., and over, choice, per pound	15
Rib roast, second cut (not under 3½ pounds), special, per pound	16
Rib roast, second cut (not under 3½ pounds), choice, per gouud	21
Rib roast, first cut, (not under 3 pounds), special, per pound	19
Rib roast, first cut (not under 3 pounds). choice, per pound	24
Pot roast, special, per pound	20
choice, per pound	25
Rump roast, special, per pound	20
choice, per pound	25
Porterhouse roast, special, per pound	22
choice, per pound	27
Steak, chuck, special, per pound	13
choice, per pound	16
Round, bottom, special, per pound	13
choice, per pound	17
Round, top, special, per pound	15
choice, per pound	19
Rib, special, per pound	20
choice, per pound	24
Sirloin, special, per pouud	20
Sirloin, choice, per pound	25
Sirloin, choice cut, special, per pound	23
Sirloin, choice cut, choice, per pound	28
Rump, special, per pound	20
choice, per pound	25
Porterhouse (not less than 1½ pounds), special, per pound	23
Porterhouse (not less than 1½ pounds), choice, per pound	30
Porterhouse, short, Delmonico, special, per pound	20
Porterhouse, short, Delmonico, choice, per pound	25
Tenderloin, Western, special, per pound	35
Tenderloin, Western, choice, per pound	40
Pork—Hams, fresh, per pound	§23
Shoulders, fresh, per pound	§19
Loin, chops or roast, per pound	20
Pigs' feet, each	7
Pigs' head, whole	83
Pigs' head, ½-head	42
Sausage, home made, per pound	23

MISCELLANEOUS.	
Livers—Beef, per pound	12
Calf, each	62
Half, each	31
Steak, Hamburger, package	17
Hamburger, 20-pound containers, per pound	14
Sausage—Bologna, per pound	13
Frankfurter, per pound	13
Lieberwurst, per pound	12
Pure pork, 1-lb. carton, per pound	17
Sweetbread, beef, per pound	26
Eggs, fresh, per dozen	35
per ½-dozen	18
Bluefish, per pound	8
Halibut, fresh, per pound	5
Salmon, per pound	7
Yeast, per pound	31
per cake	2

POULTRY AND GAME.	
Chickens—Fancy roasting, milk fed, per pound.	28
Fancy roasting, corn fed, per pound.	25
Fowls, per pound	24
Fowls, light, per pound	20
Ducks, Western, per pound	22
Capons, per pound	33
Broilers, milk fed, per pound	25
Broilers, corn fed, per pound	21
Turkeys, per pound	†27
Squabs, each	42
Partridges, per pair	1.30
Grouse, per pair	1.30
Pheasants, per pair	1.30

CURED AND PICKLED MEATS.	
Ham—Real York and Cumberland, per pound	43
Genuine Westphalia, per pound	50
Sugar cured, per pound	23
Sliced, per pound	30
Half, for boiling, per pound	25
Boiled, per pound	32
Hocks, per pound	9
Butt end, about 1½ pounds to butt, per pound	11
Bacon—Breakfast, whole piece, per pound	30
Sliced, per pound	31
Ham, lunch, per pound	40
Port, salt, family, per pound	14
Ox tongues, each	1.45
Pigs' feet, per pound	7
Tongues, per pound	23

DAIRY PRODUCTS.	
Butter—Creamery, special, per pound	39
Sheffield Farms, extra fancy, per lb.	54
Cheese—Philadelphia cream, cake	09
Roquefort, per pound	35
Young America, per pound	22
Swiss, per pound	27
Edam, each	72
Edam, tin	29
Parmesan, per pound	38
Gouda, per pound	26
Snappy, per cake	9
Milk (certified), bottle	**24
Fer-mil-lac, bottle	**25
Ice cream, quart	‡25
½-gallon	‡05
Cream, Sheffield Farms, quart	**33
Cream, Sheffield Farms, pint	**19
Cream, Sheffield Farms, ½-pint	**12

VEGETABLES.	
Beets, per pound	†2
Celery, per head	4
Cabbage, per pound	†2½
Carrots, per pound	†2½
Cucumbers, per pound	2½
Lettuce, per pound	11
Peas, green, per pound	†9
Onions, per pound	5
Peppers, per pound	†6
Potatoes, white, per pound	†3
sweet, tropical, per pound	2
sweet, American, per pound	*4
Yams—Tropical, per pound	3
Parsley, per bunch	†2½
Eggplant, per pound	4½
Rhubarb, per pound	2½
Turnips, per pound	2
Tomatoes, per pound	6
Squash, per pound	2
Kale, per pound	*6

FRUITS.	
Apples, per pound	7
Canteloupes, each	†6
Grape fruit—American, each	5
Tropical, each	4½
Lemons, per dozen	13
Limes, per 100	50
Oranges—American, each	2½
Jamaican, per dozen	18
Peaches, per pound	5
Plums, per pound	9
Watermelons, each	38
Bananas, per bunch	38
Bananas, each	0½
Apples, evaporated, per pound	16
Apricots, evaporated, per pound	23
Pears, evaporated, per pound	23
Pears, alligator, each	5

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* Indicates advance from preceding list.

† Indicates reduction from preceding list.

**Indicates 5 cents allowed for return of bottle.

‡Sold only from commissaries; no orders taken for delivery.

§Sold only from cold storage and not from commissaries.

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Examinations by Board of Local Inspectors.

THE PANAMA CANAL,
BOARD OF LOCAL INSPECTORS.
ANCON, C. Z., August 17, 1914.

The Board of Local Inspectors will conduct examinations at the Administration Building, Ancon, on Wednesday, August 26, 1914, beginning promptly at 2 p. m., for persons desiring the following classes of licenses: Pilots, masters, mates, marine engineers, chauffeurs, and navigators of motor boats. All applicants for license must procure from the office of the Board, Ancon, forms of application and information respecting the filling out of same, not later than the day previous to the examination. In addition, all persons desiring chauffeurs' licenses must provide themselves with automobiles with which to demonstrate their ability to properly operate the same. The demonstration test for applicants for chauffeurs' licenses will be given on Tuesday, the day preceding the regular examination, at 2 p. m., at the Administration Building, Ancon, on Wednesday, the day of the regular examination; for out-of-town applicants, at 2 p. m., at the Administration Building, Ancon.

Applicants for licenses as navigators of motor boats will be required to give a demonstration of their ability to operate such boats, and will be obliged to provide themselves with boats for this purpose. The test will be given on Thursday, the day following the written examination, as follows: At Cristobal, upon arrangement with the captain of the port; at Gamboa, at 8 a. m.; and at Balboa, at 2 p. m. Applicants for the test at Cristobal or Balboa should present themselves at the office of the captain of the port; at Gamboa, the deputy inspector will be present at the Panama railroad station at the hour abovementioned.

By direction of the chairman of the board.

W. H. HYDE,
Clerk of the Board.

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Tide Table.

The following table shows the time of high and low tides at Panama for the week ending August 29, 1914:

DATE.	Low	High	Low	High	Low
	A.M.	A.M.	A.M.	P.M.	P.M.
August 23	......	4.41	10.58	5.01	11.18
August 24	......	5.22	11.42	5.43	......
			P.M.		
August 25	12.01	6.04	12.25	6.26	......
August 26	12.44	6.47	1.10	7.11	......
August 27	1.30	7.32	1.58	7.58	......
August 28	2.20	8.22	2.52	8.54	......
August 29	3.18	9.20	3.54	10.03	......

75th meridian time.

CANAL CLUBHOUSES.

Activities of the Young Men's Christian Association.

GENERAL.

Through the courtesy of a Panama paper a news service has been established whereby important cables concerning the European war are furnished the clubhouses during the afternoon and evening until 10 o'clock. The news is procured by one of the secretaries and relayed to various clubhouses along the line.

The following is taken from the statistical report for the month of July: Total membership, 1,785; total number of bowling games, 9,380; average per day, 347; total number of pool games, 21,049; average per day, 779; total number tournament players, 138; total income from refreshment parlors, $4,034.40; different men using gymnasiums, 118; number enrolled in chess and checker clubs, 40; number of local entertainments, 42; total attendance, 8,479; total number enrolled in educational classes, 49.

LABOR DAY ATHLETIC MEET.

An athletic and aquatic meet will be held on Labor Day, September 7. The field events will take place at Corozal and the aquatic events at Balboa. The meet will be in charge of a games committee, composed of Messrs. Russell, Kjellander, Dwelle, Woolworth, and Dickson. The following events will be held:

TRACK AND FIELD EVENTS.

One hundred-yard dash, 220-yard dash, 440-yard dash, 880-yard dash, one mile run, one mile relay (four men), running high jump, running broad jump, pole vault, 12-pound shot put, 120-yard high hurdles, 220-yard low hurdles.

AQUATIC EVENTS.

Four hundred and forty-yard swim, 880-yard swim, back swim (50 yards), one mile swim, fancy diving, plunge for distance, one-half mile relay swim (four men).

Gold, silver, and bronze medals will be given as first, second, and third prizes, except in relay events in which each member of winning team receives a gold medal; there are no second and third prizes. A. A. U. rules will govern the contest. Entry blanks are in the hands of the printer. P. T. Woolworth of the Corozal Y. M. C. A. will act as clerk of course.

BALBOA.

R. Watson won the local checker tournament on Saturday evening.

Culebra defeated Balboa in a match checker game on Friday evening. The high score was made by Dr. Dunn of Culebra.

Special music, consisting of violin and piano, was furnished at the motion picture entertainment on Tuesday evening, August 11, by Messrs. Gray and Barker.

COROZAL.

High scores on the bowling alleys for the past week were, as follows: *Tenpins*—Boesen, 236, 217, 201; Davis, 216, 211; White, 210; Parkis, 208; Territtier, 203, 200; Edwards, 203. *Duckpins*—Thirsk, 119, 103, 100; Ryan, 117; Davis, 109, 104; Gustavson, 105.

The moving picture show this week takes place on Saturday evening, August 22.

On Thursday evening, August 20, there will be a recital by the Brazilian pianist, Señor Alcindo Barcellos.

The Cristobal basketball team came to Corozal and played the local team on Saturday evening, August 15. The visitors won by a score of 25 to 16.

PEDRO MIGUEL.

The following program was given at the soldiers' farewell social, on Thursday evening, August 13: Selection, Tenth Infantry band; sketch, "Troubles of an Army cook," members of Company H; Black faced comedian and Dutch comedian, Privates Winfrey and Steffen; reading, "The family history," Corporal Wright; vocal solo in French, Private Theriault; Butt's manual drill, six members of Company H; vocal solo, Private Morosco; reading, "The Dutch version of Barbara Frietchie," Corporal Wright; regulation Army bugle calls, Musicians Keigle and Gorr; reading, "Woodman, spare that tree;" Corporal Wright; pie eating contest, soldiers; watermelon contest, soldiers; selection, Tenth Infantry band; refreshments. The winners in the pie eating contest were Privates Verellea and Strayner, and in the water melon contest Privates Verellea and Sergeant Dupre. Appropriately inscribed medals were presented to the winners. The ladies of Paraiso and Pedro Miguel furnished the sandwiches and home made cakes.

The high score on the bowling alleys during the past week, in duckpins, was made by Davis, 130; tenpins, Vandeburgh, 202.

Beginning August 15, and running for a month, a pool and billiard contest will be held. Pennants will be given to the one making the highest percentage in 20 games of 50 points each.

CULEBRA.

Mr. B. A. Armstrong, who has been secretary of the Culebra clubhouse since November 3, 1912, has resigned. He sailed for the United States on August 16. The work of the local association will be looked after by the General Secretary during the next few weeks.

The work of taking down the schoolhouse has been begun, and motion pictures will be exhibited in the old time office in the second story of the administration building for the next few weeks. The other activities for the present will be continued as usual.

GATUN.

There was an attendance of about 150 at the song service on Sunday evening, August 16. Miss Maybelle James of Corozal sang Tosti's "Goodbye" and Mr. Wm. Booz of Cristobal sang "A perfect day." Miss James and Mr. Booz were also heard in a duet. Miss Goodhue of Cristobal was accompanist.

A farewell reception was given in honor of Companies F and G, Tenth Infantry, at the clubhouse on Saturday evening, August 15. The program was in two parts, the first was given in the gymnasium, and the second on the first floor.

Part 1—Selection by orchestra; manual of arms; bayonet drill; flag signaling; bayonet fencing; bugle calls; 20-yard dash; relay race; sack race; 3-legged race; pumpkin pie eating contest; flour ducking contest; baseball, Corozal *vs.* Gatun.

Part 2—Selection by orchestra; popular songs, Private Dempsey; song and dance, Private Leary; cornet solo, Musician Murphy; violin solo, Private Durham; story telling, Corporal Baker; march, Prochaska's orchestra; Kipling, Private McGee; comedy, Private Thompson; music and refreshments.

Professor Magnocci and wife will appear in a night of magic and motion pictures on Thursday evening, August 20.

Ladies' night will be opened in the bowling alleys on Friday, August 21.

J. Heitman of Gatun challenges any pool player on the Isthmus to a match game of pool. Send acceptances to the secretary, Y. M. C. A., Gatun, C. Z.

CRISTOBAL.

On Thursday night, August 13, Commander D. E. Dismukes addressed a crowded house, under the auspices of the discussion club, on the "Causes leading to the present war in Europe." He drew attention to the important part the navies are to take in the war, and gave it as his opinion that the victorious navy will decide the issue.

Twenty-one members of the boys' department spent Thursday, August 14, at Cruces. Through the kindness of Capt. C. A. Black, the boys were permitted to make the trip from Gamboa to Cruces on a clapet. On returning to Gamboa, the boys had a swim in the Chagres River. Capt. MacPherson of the clapet showed the boys every kindness.

A luncheon will be served to the men who took part in the indoor baseball league on Friday night, August 21. The basketball season and the field meet at Corozal on Labor Day will be discussed.

An indoor baseball team and basketball team from Corozal will play at Cristobal on Saturday night, August 22.

High duckpin scores for the week were: Sloan, 124, Henry, 105; Scheid, 102; Peterson, 100; Lucas, 100. High tenpin scores were Barte, 230; Bevington, 209; Collins, 204; Levy, 200.

Mr. Charles Cotton was awarded a box of cigars for rolling high average in the ragtime tournament in July.

Movements of Vessels at Port of Balboa.

The arrivals and departures of steamships at the port of Balboa during the week ending at noon, August 15, were, as follows:

Arrivals—August 8, *Quilpue*, from Guayaquil; August 11, *Oberon*, oil vessel, from Port San Luis; *Panama* from Colon; August 12, *Huasco*, from Valparaiso; *Pleiades*, from San Francisco; *Pennsylvania*, from San Francisco; *Pachitea*, from Callao.

Departures—August 8, *Quito*, for Colombian ports; August 8, *San Joaquin*, to Port San Luis; August 10, *Huallaga*, to Callao; *Orduna*, to Guayaquil; August 11, *Guatemala*, to Guayaquil; *Panama*, to Colon; August 12, *Peru*, (P. M.) to San Francisco; August 13, *Lyra*, to San Francisco; August 14, *Oberon*, to Port San Luis.

Legal Notice.

United States of America, Canal Zone. } In the District Court.

The following named American citizens died intestate leaving personal property within the Canal Zone to the amount stated:

	U.S.C.
Nelson Wheeler	$ 28.99
George Wagner	179.09

The Administrator of Estates has filed a petition for the escheat of the abovenamed estates, in accordance with Section 779 of the Code of Civil Procedure.

Notice is hereby given to all heirs or creditors of the above estates to appear before this court in the courthouse at Ancon, on September 26, 1914, at 9 o'clock, a. m., to establish their claims, or to show cause why the said estates should not escheat to the Government of the Canal Zone.

E. M. GOOLSBY,
Clerk of District Court.

MOVEMENTS OF OCEAN VESSELS.

The following is a list of sailings and scheduled arrivals of the Panama Railroad Steamship Line; of the Royal Mail Steam Packet Company; of the Hamburg-American Line, and the United Fruit Company's Line:

		Sails.	*Arrives.*
NEW YORK TO CRISTOBAL.			
*Colon	P. R. R.	Aug. 15	Aug. 21
*Advance	P. R. R.	Aug. 22	Aug. 29
*Panama	P. R. R.	Aug. 28	Sept. 3
*Allianca	P. R. R.	Sept. 3	Sept. 9
*Colon	P. R. R.	Sept. 9	Sept. 15
*Advance	P. R. R.	Sept. 15	Sept. 22
*Panama	P. R. R.	Sept. 22	Sept. 28
*Allianca	P. R. R.	Sept. 28	Oct. 4
CRISTOBAL TO NEW YORK.			
†Allianca	P. R. R.	Aug. 22	Aug. 28
†Ancon	P. R. R.	Aug. 24	Aug. 31
†Colon	P. R. R.	Aug. 27	Sept. 2
†Advance	P. R. R.	Sept. 3	Sept. 10
†Panama	P. R. R.	Sept. 9	Sept. 15
†Allianca	P. R. R.	Sept. 15	Sept. 21
†Colon	P. R. R.	Sept. 22	Sept. 28
§Advance	P. R. R.	Sept. 28	Oct. 5
NEW YORK TO COLON.			
*Metapan	U. F. C.	Aug. 12	Aug 19
Calamares	U. F. C.	Aug. 15	Aug 21
Danube	R. M.	Aug. 15	Aug. 23
§Pr. August Wilhelm	H.-A.	Aug. 15	Aug. 24
*Zacapa	U. F. C.	Aug. 19	Aug. 26
*Calamares	U. F. C.	Aug. 22	Aug. 28
§Prinz Sigismund	H.-A.	Aug. 22	Sept. 1
*Almirante	U. F. C.	Aug. 26	Sept. 2
*Tenadores	U. F. C.	Aug. 29	Sept. 4
Tagus	R. M.	Aug. 29	Sept. 6
§Prinz Joachim	H.-A.	Aug. 29	Sept. 7
*Santa Marta	U. F. C.	Sept. 2	Sept. 9
*Calamares	U. F. C.	Sept. 5	Sept. 11
Metapan	U. F. C.	Sept. 9	Sept. 16
*Pastores	U. F. C.	Sept. 12	Sept. 18
Oruba	R. M.	Sept. 12	Sept. 20
Zacapa	U. F. C.	Sept. 16	Sept. 23
*Tenadores	U. F. C.	Sept. 19	Sept. 25
*Almirante	U. F. C.	Sept. 23	Sept. 30
*Calamares	U. F. C.	Sept. 26	Oct. 2
Trent	R. M.	Sept. 26	Oct. 4
COLON TO NEW YORK.			
†Tenadores	U. F. C.	Aug. 19	Aug. 25
Santa Marta	U. F. C.	Aug. 20	Aug. 27
§Prinz Eitel Friedrich	H.-A.	Aug. 23	Sept. 1
†Calamares	U. F. C.	Aug. 26	Sept. 1
Metapan	U. F. C.	Aug. 27	Sept. 3
Oruba	R. M.	Sept. 1	Sept. 9
§Prinz August Wilhelm	H.-A.	Sept. 1	Sept. 9
†Pastores	U. F. C.	Sept. 2	Sept. 8
Zacapa	U. F. C.	Sept. 3	Sept. 10
§Prinz Sigismund	H.-A.	Sept. 6	Sept. 15
Tenadores	U. F. C.	Sept. 9	Sept. 15
Almirante	U. F. C.	Sept. 10	Sept. 17
Trent	R. M.	Sept. 15	Sept. 23
†Calamares	U. F. C.	Sept. 16	Sept. 22
Santa Marta	U. F. C.	Sept. 17	Sept. 24
§Pastores	U. F. C.	Sept. 23	Sept. 29
Metapan	U. F. C.	Sept. 24	Oct. 1
Orotava	R. M.	Sept. 29	Oct. 7
NEW ORLEANS TO COLON.			
Heredia	U. F. C.	Aug. 12	Aug. 19
*Abangarez	U. F. C.	Aug. 15	Aug. 20
Parismina	U. F. C.	Aug. 19	Aug. 26
*Atenas	U. F. C.	Aug. 22	Aug. 27
Cartago	U. F. C.	Aug. 26	Sept. 2
*Turrialba	U. F. C.	Aug. 29	Sept. 3
COLON TO NEW ORLEANS.			
‡Atenas	U. F. C.	Aug. 13	Aug. 18
Parismina	U. F. C.	Aug. 13	Aug. 20
‡Turrialba	U. F. C.	Aug. 20	Aug. 25
Cartago	U. F. C.	Aug. 20	Aug. 27
‡Abangarez	U. F. C.	Aug. 27	Sept. 1
Heredia	U. F. C.	Aug. 27	Sept. 3
‡Atenas	U. F. C.	Sept. 3	Sept. 8
Parismina	U. F. C.	Sept. 3	Sept. 10

*Will carry mail from the United States.

†Will carry mail to the United States.

‡Will carry mail for Alabama, Arkansas, Louisiana, Mississippi, and Texas.

§Sailings temporarily suspended.

Estate of Joseph Cavanaugh.

ANCON, C. Z., August 18, 1914.

The undersigned has been appointed administrator of the estate of Joseph Cavanaugh, deceased, and any claims against this estate, or any information which might aid in the recovery of money or property belonging to it, should be presented at once to E. Frederick Quimby, Ancon, C. Z. All claims should be itemized, sworn to before a notary public, or other public officer having a seal, and submitted *in duplicate*

E. FREDERICK QUIMBY,
Administrator of estate of Joseph Cavanaugh, deceased.

UNIVERSITY OF ILLINOIS-URBANA
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